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ADAPTATION NATION: THREE PIVOTAL TRANSITIONS IN AMERICAN LAW & SOCIETY SINCE 1886

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Political competition, demography and migration, and evolving technologies all but guarantee that countries from every region experience constant change—both within the societies they encompass and in relation to the world beyond their borders. As countries adapt to these changes or seek to resist them, they face recurring dilemmas about the legitimacy and capacity of domestic institutions meant to resolve societal disputes, the role of immigrants in their society, and the social and economic tradeoffs triggered by technological innovation. In the United States, our responses to these dilemmas have come with major consequences for the country's history, its legal system, and its place in the world.

What follows is an effort to explore three major transitions associated with these dilemmas in the United States since approximately 1886, the

* Justice, Supreme Court of California; former Stanley Morrison Professor, Stanford Law School; affiliated scholar, Freeman Spogli Institute for International Studies at Stanford University. I have benefited greatly from ongoing conversations and collaborations with Margaret Levi and Barry Weingast that have contributed to a larger project from which many of the ideas presented in Part I are drawn. I am also grateful for conversations with Alex Aleinikoff, Kevin Johnson, Jennifer Chacon, and Dave Martin about the topics addressed in Part II, and for conversations with Ed Feigenbaum, Fei-Fei Li, Mark Wolfson, Kate Crawford, Roberta Katz, and John Seely Brown concerning some of the ideas presented in Part III. I am indebted to Larry Kramer and Gerhard Casper for their feedback on an earlier version of this project. I appreciate the assistance of Elissa Winters, Leah Yaffe, and Shannon Galvin, and generous invitations from the University of Oklahoma College of Law to present the 2016 Henry Family Lecture based on these ideas and the American Academy in Berlin to present aspects of this project. This Article also benefited from excellent editorial assistance from the staff of the Oklahoma Law Review.

date of the Haymarket Square riot in Chicago. First, between roughly the last decade of the nineteenth century and the middle of the twentieth century, the United States made great strides in the use and capacity of its institutions. At the outset, the United States could be reasonably described as a developing country constrained by labor conflicts explosive enough to spark incidents such as the Haymarket Square riot, fragile institutions, and economic uncertainty. By the end of this period the United States was a preeminent global power making routine use of courts and agencies to resolve societal disputes. Second, in the latter half of the twentieth century and the early twenty-first century, Americans saw their country experience major demographic changes arising from the United States' distinctive approach to immigration. And third, the United States now faces emerging legal and governance challenges as technological developments involving networked computers and so-called “artificial intelligence” affect society and the nature of work.

My purpose here is to describe these transitions, along with some of their lesser-known legal implications and interrelationships. I reflect on some of their similarities and differences and place them in the context of related legal developments. By considering how law and society have affected each other during these transitions, we can better appreciate the choices advanced industrialized countries face as they adapt to a world replete with new risks and opportunities. More specifically, we can learn much about how the United States' historical legacies and arrangements for pluralist governance affected its own distinctive process of adaptation.

In exploring these three particular transitions, my claim is not that these are the *only* changes that mattered to American law or society over the last 120 years, or that Americans have fashioned optimal responses in these domains—indeed, the process of even defining what “optimal” means in the context of these transitions continues still today. Nor are these transitions unique to the United States, either in terms of the forces shaping the law or the specific responses that arose to those forces. But in their own ways, all of these transitions prove revealing of the United States' distinctive strengths, preoccupations, and challenges.

No serious account of American society, law, or institutions, for example, can ignore the prominent role Americans assign to litigation and administrative agencies in resolving conflict. Nor does American economic or political history make sense without understanding the waves of immigrants that arrived on American shores during the nineteenth and twentieth centuries, or the institutional framework for technological innovation the United States funded in earnest during the Cold War and

developed into a sophisticated computing infrastructure that proliferated around the world in the late twentieth and early twenty-first centuries. What we gain by understanding these transitions is not only indispensable context for the United States' early twenty-first century institutional dilemmas, but also an appreciation of how a pivotal geopolitical power forged—however imperfectly—legal arrangements incorporating norms of non-arbitrariness in different settings where law affects development.

I. Channeling Conflict Through Institutions

Imagine a child growing up in the heartland of the United States in 1928. His or her world was replete with contradictions. America was a vast country that had survived a civil war and more than a century and a half of history to become a massive, international creditor.¹ But across the heartland, many Americans were living in poverty.² The country's leaders were divided about our role in the world.³ And storm clouds of economic and security crises loomed on the horizon. By 1933, the unemployment rate would rise from 4.4% to almost a quarter of the labor force, and net personal income would plummet from \$79.8 billion to \$47.2 billion.⁴ Across the Atlantic, a secret analysis from the British Foreign Office

1. Between 1923 and 1930, European countries signed over \$22.2 billion in war debt agreements with the United States. ADAM TOOZE, *THE DELUGE: THE GREAT WAR AND THE REMAKING OF THE GLOBAL ORDER, 1916-31*, at 467 (Allen Lane 2014).

2. The United States government did not publish an official poverty rate until 1959, but some researchers estimate the poverty rate to be roughly sixty percent in 1929. *See, e.g.*, JOHN ICELAND, *POVERTY IN AMERICA: A HANDBOOK* 82 (3d ed. 2013) (showing poverty rates in the United States from 1929 to 2010). For more statistics illustrating the economic struggle of many Americans in the late 1920s, see U.S. BUREAU OF THE CENSUS, *HISTORICAL STATISTICS OF THE UNITED STATES: COLONIAL TIMES TO 1957*, at 165 (1960), https://www2.census.gov/library/publications/1960/compendia/hist_stats_colonial-1957/hist_stats_colonial-1957.pdf (showing that 67.2% of American families had an income of less than \$3000 in 1929 (calculated as 1950 dollars)); Lee J. Alston, *Farm Foreclosures in the United States During the Interwar Period*, 43 *J. ECON. HIST.* 885, 888 (1983) (finding that farm foreclosures averaged 17.6 per thousand farms in 1928, whereas the farm foreclosure rate averaged 3.2 per thousand in the time periods from 1913–1920 and 1941–1950).

3. RONALD E. POWASKI, *TOWARD AN ENTANGLING ALLIANCE: AMERICAN ISOLATIONISM, INTERNATIONALISM, AND EUROPE, 1901-1950*, at 28–29 (1991) (describing how the United States expanded its role in world affairs during the 1920s while different American administrations simultaneously sought to avoid political entanglements with European nations); Bernard Fensterwald, Jr., *The Anatomy of American "Isolationism" and Expansionism. Part 1*, 2 *J. CONFLICT RESOL.* 111, 122–24 (1958) (describing the Harding, Coolidge, and Hoover administrations' foreign involvement from 1920 through 1932).

4. U.S. BUREAU OF THE CENSUS, *supra* note 2, at 73, 139 (comparing 1928 to 1933).

written in November of that year captured the growing importance of America as it wrestled with domestic challenges and its role in the world.

“Great Britain is faced in the United States of America with a phenomenon for which there is no parallel in our modern history—a state twenty-five times as large [as Britain], five times as wealthy, three times as populous, twice as ambitious, almost invulnerable, and at least our equal in prosperity, vital energy, technical equipment, and industrial science. This state has risen to its present state of development at a time when Great Britain is still staggering from the effects of the superhuman effort made during the [First World War], is loaded with a great burden of debt, and is crippled by the evil of unemployment.” However frustrating it might be to search for cooperation with the United States, the conclusion could not be avoided: “in almost every field, the advantages to be derived from mutual co-operation are greater for us than for them.”⁵

People say the British are prone to understatement, but there was none here. The memo is interesting because it emerged at roughly the midpoint of a remarkable transition the United States was experiencing, from relative international weakness and domestic instability to preeminent geostrategic power with relatively reliable institutions and domestic quiescence, particularly on labor and economic issues. Recall that the United States in the years between 1890 and the 1930s struggled with problems that bedevil many developing countries. Life in America during the first half of the twentieth century involved a mix of security, prosperity, instability, and violence.⁶ The Jim Crow regime in the South—backed by formal violence from the state and informal violence from groups such as the Ku Klux Klan—maintained African-Americans in a state of quasi-servitude.⁷

5. TOOZE, *supra* note 1, at 463–64 (quoting *Documents on British Foreign Policy, 1919-1939*, series 1a, col. 5, ed. E.L. Woodward and Rohan Butter (London, 1973), 857-75; B. MCKERCHER, *THE SECOND BALDWIN GOVERNMENT AND THE UNITED STATES, 1924-1929: ATTITUDES AND DIPLOMACY* 174 (Cambridge 1984).

6. See, e.g., Peter Turchin, *Dynamics of Political Instability in the United States, 1780-2010*, 49 J. PEACE RES. 577, 584 (2012) (showing a peak in political instability in the late 1910s, using a database of instability events compiled from previous researchers and electronic media archives).

7. Legally sanctioned segregation, violence, and disenfranchisement in the South persisted well into the twentieth century. See GRETA DE JONG, *A DIFFERENT DAY: AFRICAN AMERICAN STRUGGLES FOR JUSTICE IN RURAL LOUISIANA, 1900-1970*, at 116-43 (2002) (describing persistent segregation and discrimination in Louisiana during and after World

Meanwhile, labor-related riots and violent strikes were the stuff of daily life.⁸ In 1886, the Haymarket Square bombing in Chicago began as a peaceful demonstration of workers, but exploding dynamite and a haze of bullets turned it deadly.⁹ The exploding dynamite was an apt metaphor for the labor-related tensions that played out in the ensuing decades. The Chicago clothing workers' strike in 1910 mobilized 41,000 workers,¹⁰ and the coal miners' strikes in 1913 and 1914 led to the shooting of strikers and, in Ludlow, Colorado, the deaths of eleven children who were suffocated or burned.¹¹ In 1922, after negotiations failed to deliver higher wages, 600,000 mine workers went on strike.¹² In June of that year, a company guard allegedly shot a striker in Herrin, Illinois, leading to violence and explosions at the mine headquarters.¹³ Across a variety of divisions, people did not necessarily expect major disputes about key issues like labor to be resolved in courtrooms and administrative agencies.

War II); Grace Elizabeth Hale, "*For Colored*" and "*For White*": *Segregating Consumption in the South*, in *JUMPIN' JIM CROW: SOUTHERN POLITICS FROM CIVIL WAR TO CIVIL RIGHTS* 162, 173–78 (Jane Dailey et al. eds., 2000) (describing Jim Crow laws throughout the south as captured by Farm Security Administration photographs); NEIL R. McMILLEN, *DARK JOURNEY: BLACK MISSISSIPPIANS IN THE AGE OF JIM CROW* 3-32 (1989) (describing Jim Crow laws and disenfranchisement in Mississippi from 1890 to 1940); Bryant Simon, *Race Reactions: African American Organizing, Liberalism, and White Working-Class Politics in Postwar South Carolina*, in *JUMPIN' JIM CROW: SOUTHERN POLITICS FROM CIVIL WAR TO CIVIL RIGHTS*, *supra*, at 239, 239–55 (describing the legally-backed segregation, violence, and disenfranchisement that persisted in South Carolina through the 1930s and 1940s). Lynching increased dramatically in both frequency and intensity after the Civil War and Reconstruction, peaking from the 1890s through the first decade of the twentieth century. AMY LOUISE WOOD, *LYNCHING AND SPECTACLE: WITNESSING RACIAL VIOLENCE IN AMERICA, 1890–1940*, at 3 (2009). Although determining the exact number of lynchings is difficult, one researcher estimates that white mobs in the South killed at least 3200 black men between 1880 and 1940. *Id.* For United States government records of lynchings during this time period, see U.S. BUREAU OF THE CENSUS, *supra* note 2, at 216.

8. Melvyn Dubofsky, *Labor Unrest in the United States, 1906-90*, 18 *REV.: FERNAND BRAUDEL CTR.* 125, 126 (1995) (describing labor unrest in the early twentieth century, with the highest recorded level of strikes in 1917 and continued labor unrest in the 1930s); Turchin, *supra* note 6, at 585 fig.5 (showing a peak in political violence, particularly in riots and lynchings, around 1920).

9. *LABOR CONFLICT IN THE UNITED STATES: AN ENCYCLOPEDIA* 166–68 (Ronald L. Filippelli ed., 1990).

10. *Id.* at 98–100.

11. *Id.* at 297–300.

12. *Id.* at 232–34.

13. *Id.*

By the time American soldiers entered World War II, a different picture had emerged. Labor-related riots and mass demonstrations were quite rare.¹⁴ Scholars measuring labor-related violence document a stark drop in such unrest between 1910 and 1940.¹⁵ Measuring corruption is more difficult, but analyses based on media coverage and qualitative accounts converge in suggesting that crass corruption became substantially less common between 1900 and the mid-1930s—by one measure there was a drop of about eighty percent during that time.¹⁶

It is tempting to think that as societies become wealthier and institutions become more familiar, their norms and legal arrangements simply mature to a different stage of development.¹⁷ But as the stories of countries ranging from Brazil to Thailand indicate, there's little to support that idea.¹⁸ Instead, we might tell a more nuanced story—one that I suspect goes something like this.

14. Turchin, *supra* note 6, at 585 fig.5 (showing an average of approximately fifteen riots per five years in the 1940s, compared to a peak of roughly eighty riots per five years in the 1920s).

15. Dubofsky, *supra* note 8, at 131 fig.1 (showing steep decline in the early 1940s in the three-year moving average of labor unrest, based on mentions in newspaper database).

16. Edward L. Glaeser & Claudia Goldin, *Introduction* to CORRUPTION AND REFORM: LESSONS FROM AMERICA'S ECONOMIC HISTORY 3, 15 (Edward L. Glaeser & Claudia Goldin eds., 2006) (demonstrating a roughly eighty percent decline in explicit corruption, calculated on the basis of newspaper coverage, between 1890 and 1930).

17. *See generally* WALT M. ROSTOW, *POLITICS AND THE STAGES OF GROWTH* (1971).

18. Brazil, for example, experienced significant economic growth and democratization after the end of military rule in 1985. Yet recently, this “supposed . . . vanguard of fast-growing emerging economies . . . faces political dysfunction and perhaps a return to rampant inflation.” *Brazil's Fall: Disaster Looms for Latin America's Biggest Economy*, *ECONOMIST* (Jan. 2, 2016), <http://www.economist.com/news/leaders/21684779-disaster-looms-latin-americas-biggest-economy-brazils-fall>.

Similarly, Thailand experienced rapid economic growth in the 1980s and 1990s, as its growth rate almost doubled between 1987 and 1995. INT'L MONETARY FUND, *IMF STAFF COUNTRY REPORT NO. 00/21, THAILAND: SELECTED ISSUES 2* (2000), <https://www.imf.org/external/pubs/ft/scr/2000/cr0021.pdf>. But this rapid growth, due in part to over-investment after regulatory and economic policy reforms in the 1980s, threatened the sustainability of Thailand's economy. *Id.* Unsustainable growth given the country's actual institutional conditions, coupled with Thailand's financial crisis in 1997, led to an estimated seventy percent cumulated fall in gross investment between 1996 and 1998. *Id.* at 7. Since 1997, the government has passed significant reforms to tax administration and the welfare state. Tomas Larsson, *The Strong and the Weak: Ups and Downs of State Capacity in Southeast Asia*, 5 *ASIAN POL. & POL'Y* 337, 345–46 (2013); *see also id.* at 351 (observing “that Thai legal-administrative state capacity has been transformed in tandem with the county's economic and industrial structures”).

One reasonable way to begin understanding the United States' remarkable transformation between roughly 1890 and 1950 is to first look to changes in the prevalence of crass corruption—the kind involving bags of cash paid to a judge in a county courthouse or a public official in a government agency. Such corruption was no small part of American life, but it appears to have begun a steady decline in most parts of the legal system sometime between the time of the Haymarket Square bombing in 1886 and the 1930s.¹⁹ Scholars continue to debate the extent to which the declines reflected changes in politics, law enforcement, or culture.²⁰ The media-enabled backlash of the American Progressive Era in the late nineteenth and early twentieth centuries almost certainly made it more difficult to ignore this kind of corruption.²¹ Spurred in part by public concern over sprawling conglomerates and in part by distrust of big-city political machines, that backlash was felt strongly in California, for

19. Glaeser & Goldin, *supra* note 16, at 15 (estimating a roughly eighty percent decline in explicit corruption, calculated on the basis of a metric leveraging newspaper coverage, between 1890 and 1930).

20. For a discussion of the literature on the relationship between corruption, poor government, and growth, see *id.* at 18 (describing three major theories of reform, looking at the roles of institutions, certain producers, and political entrepreneurs in shaping reform against corruption), and Rebecca Menes, *Limiting the Reach of the Grabbing Hand: Graft and Growth in American Cities, 1880 to 1930*, in CORRUPTION AND REFORM: LESSONS FROM AMERICA'S ECONOMIC HISTORY, *supra* note 16, at 63, 69–73 (discussing academic literature on the relationship between corruption, poor government, and growth). The rise and fall of corruption, for instance, roughly follows the rise and fall of political machines. *Id.* at 85–89. In addition, the decline of corruption corresponded with the rise of the independent press, as newspapers became demonstrably less connected to political parties. Matthew Gentzkow et al., *The Rise of the Fourth Estate: How Newspapers Became Informative and Why It Mattered*, in CORRUPTION AND REFORM: LESSONS FROM AMERICA'S ECONOMIC HISTORY, *supra* note 16, at 187, 190–91. In the same period, American cities competed with each other to attract businesses by adopting good government and pro-growth policies. Menes, *supra*, at 70.

21. “The decades from the 1890s into the 1920s produced reform movements . . . that resulted in significant changes to the country's social, political, cultural, and economic institutions.” Maureen A. Flanagan, *Progressives and Progressivism in an Era of Reform*, OXFORD RES. ENCYCLOPEDIA: AM. HISTORY, 1 (Aug. 2016), <http://americanhistory.oxfordre.com/view/10.1093/acrefore/9780199329175.001.0001/acrefore-9780199329175-e-84?print=pdf>. Many political progressives attacked patronage politics and advocated for a shift to a merit-based civil service. *Id.* at 7. Other progressive initiatives aimed to limit the power of political parties. Governor Robert La Follette's “Wisconsin Idea,” for example, exemplified these efforts by instituting reforms in Wisconsin that replaced party control of nominations with a popular direct primary and gave voters the power to hold referenda on proposed legislation. *Id.*

example. In the Golden State, anxiety over the political power of the railroads led to a state constitutional provision in force to this day providing that any public official accepting free transportation forfeits his or her office.²²

Federalism was also likely important in changing norms about crass corruption. Both state-level and federal authorities can enforce laws against corruption, and federal officials may have different strengths and priorities in pursuing corruption compared to state officials. Implicit in robust federalism is sufficient institutional independence to make possible a degree of competition between sovereigns. Federal officials can do more than critique—they can investigate and prosecute state-level corruption. Conversely, state officials can offer alternatives to federal investigation and prosecution, and indeed, the careers of some law enforcement officials reflect involvement in anti-corruption enforcement in both systems.²³

More fundamentally, the distribution of land and wealth in the United States was also markedly different than in other developing countries. In contrast to the pattern observed in countries like Argentina and Mexico that emerged from the Spanish colonial empire, land distribution and control in many parts of the United States was dispersed enough to facilitate the rise of a relatively large merchant and artisan middle class wary of corruption.²⁴

Of course, crass corruption of the kind involving outright deal making to sell official power never disappeared entirely in the United States. All too many examples still arise—for instance, in this decade, a Pennsylvania judge was convicted of colluding with a private prison company to fill more

22. CAL. CONST. art. XII, § 7; *id.* art. XII, § 19 (repealed 1974); JOSEPH R. GRODIN ET AL., *THE CALIFORNIA STATE CONSTITUTION* 15–16 (2d ed. 2016) (describing growth and consolidation of railroads in California under the Central Pacific Railroad, which by the late 1870s controlled over eighty-five percent of the state's rail line and was both the largest landowner and largest employer in the state). During the late 1990s, a legal opinion from the California Attorney General clarified that this provision does not extend to frequent flyer tickets earned through programs available to the general public. 80 Cal. Op. Att'y Gen. 146 (1997) (finding that a public official does not forfeit an office under article XII, section 7 of the California Constitution if the officeholder exchanges frequent flyer miles for an airplane ticket).

23. Robert Morgenthau, for example, was the United States Attorney for the Southern District of New York before being fired by President Richard Nixon and becoming the Manhattan District Attorney. John Leland, *Robert Morgenthau on His Years as District Attorney: 'I Don't Look Back,'* N.Y. TIMES (Nov. 23, 2016), https://www.nytimes.com/2016/11/23/nyregion/robert-morgenthau-manhattan-district-attorney.html?_r=0. Morgenthau prioritized public corruption prosecutions in both roles. *Id.*

24. *See generally* DAVID ROCK, *ARGENTINA, 1516-1987: FROM SPANISH COLONIZATION TO ALFONSÍN XXV-XXVI* (1987).

beds by sending juveniles into detention.²⁵ And to the extent norms changed, they undoubtedly did so more quickly in some areas of the country and institutions compared to others. Moreover, we can distinguish crass corruption from other practices where concentrated power gains advantage—sometimes through official channels, as through lobbying or campaign contributions. Offering a broader treatment of the concept of corruption would be a subtle enterprise requiring considerable taxonomic stamina. What is enough for present purposes is to emphasize that crass corruption among public officials is something the public can occasionally still witness, but in no small measure because such corruption is often detected and punished.

Corruption weakens both public support for the capacity of public institutions and the ability of bureaucrats and judges to operate with integrity. Who would trust a court or government clerk who can be easily bought or sold? Without change in norms about the integrity of institutions, courts and agencies could not have become more legitimate or powerful as institutions able to determine how much of a voice workers might have in a workplace, or whether certain dealings between companies violated antitrust law. Yet from changes in media coverage and case studies, it appears crass corruption gradually ebbed to the point that it could not be described as a nationally pervasive, routine practice. This at least opened the door to capacity building and adaptation that could not have happened otherwise. As a consequence, the United States headed into World War I—and, eventually, into the period of intense economic dislocation of the 1930s—with new laws arising from the Progressive Era and gradually changing norms about the propriety of blatant crass corruption such as holding unofficial auctions to see who can more handsomely pay off a judge or bureaucrat to deliver the desired result.

Just how greater institutional capacity came to matter in this period of American history becomes clearer when we turn our attention to labor. Labor disputes were central to American history in the late nineteenth and early twentieth centuries as the United States strengthened the concept of national citizenship. As the American political theorist Judith Shklar puts it, in the United States, citizenship is as powerfully connected to the idea of work and the dignity that comes from it as it is to anything else. “The opportunity to work and to be paid an earned reward for one’s labor was a

25. See Eyder Peralta, *Pa. Judge Sentenced to 28 Years in Massive Juvenile Justice Bribery Scandal*, NAT’L PUB. RADIO (Aug. 11, 2011), <http://www.npr.org/sections/thetwo-way/2011/08/11/139536686/pa-judge-sentenced-to-28-years-in-massive-juvenile-justice-bribery-scandal>.

social right, because it was a primary source of public respect.”²⁶ Yet as the participants in the Haymarket Square riots could certainly appreciate, the rise of unions made work not only a source of dignity and shared belonging but also a setting for intense disagreement.

Early agreements allowing government agencies to play a larger role in resolving such conflict depended on accommodation of the legal changes necessary to channel disputes into formal institutions. Rulings of the National Labor Relations Board, as well as decisions splitting institutional advantages between labor and business in light of the Wagner Act and the Taft-Hartley Act, were accepted by emerging union leaders, corporate managers, and the lawyers who represented each side. Yet by World War II, labor conflict had become largely a legal and administrative conflict. Indeed, by the early 1940s, courts were dealing with issues such as whether decisions of the National Labor Relations Board to certify collective bargaining units could be reviewed by the DC Circuit,²⁷ and under what circumstances a union could challenge an employer’s decision not to bargain collectively with employee representatives.²⁸ Meanwhile, social insurance, carefully crafted to survive the legislative process and legal constraints, promised to take the edge off some of the economic risk that could exacerbate labor conflict and damage internal cohesion.

Important as it is to understand shifting strategies among business and labor leaders and social policies to mitigate economic risk, the channeling of labor-related conflicts depended on more than just a change in attitudes among the elite or the ameliorative promise of social insurance. Rather, the agencies into which conflicts were being channeled had to be capable of gathering information, adjudicating, issuing decisions, and crafting and implementing regulations. Without some degree of capacity, labor disputes cannot be meaningfully adjudicated, nor can wars be won. As labor conflict spread and threatened to cast a pall over prospects for the stability of public institutions, American society gradually entered into a series of compromises to build institutional capacity while imposing limits on how that capacity was controlled and used. As institutions became more reliable, and as elites at the time became more comfortable with the risks and benefits of channeling, disputes—and especially labor disputes—moved from the factory floor and the street to courts and administrative agencies.

26. JUDITH N. SHKLAR, *AMERICAN CITIZENSHIP: THE QUEST FOR INCLUSION* 1–2 (1991).

27. *See Am. Fed’n of Labor v. NLRB*, 308 U.S. 401 (1940).

28. *Pittsburgh Plate Glass Co., v. NLRB*, 313 U.S. 146 (1941).

But as institutions acquired greater capacity for resolving labor disputes, providing social insurance, collecting taxes on a massive scale, or fighting a war, it became more urgent to determine who controls them and how much power they have. Understanding these heightened stakes puts in perspective the importance not only of reducing crass corruption that could buy and sell decisions of courts and agencies, but also the United States Supreme Court's separation of powers cases from the 1920s to the 1940s. To understand decisions in cases like *Humphrey's Executor*,²⁹ *Schechter Poultry*,³⁰ and, eventually, the *Steel Seizure* cases,³¹ we must take account of both the immediate disagreements presented by the cases and the growing and more powerful machinery of state capacity that made control of the federal government a higher-stakes game. Though in some ways the majority opinions in these cases were doctrinally awkward, one might understand them as part of a compromise enabling a more powerful federal state, but with limits on executive power to control agencies, delegate agency power to the private sector, or justify the use of state coercive capacity—even on national security grounds—through executive actions lacking some statutory authority.

It is surely true that some hostility to the New Deal agenda existed in the courts. Such antipathy was familiar among the societal networks from which many judges were drawn. What neither the simple hostility story nor the focus on the inter-branch politics of the so-called "switch in time that saved nine" fully captures are the nuances—including those playing out inside the Supreme Court. Justice Cardozo's canny persuasive efforts, rather than responses to external political pressures, may have nudged Justices Hughes and Roberts to join in the majority in *Nebbia v. New York*, for example.³² Some adaptation in legal position and legislative design occurred on different sides, and government lawyers sometimes erred both in the selection of cases and their approach to advocacy—as when Assistant Attorney General Harold Stephens botched the government's position at oral arguments.³³ As I describe in a piece called *Securing the Nation*, President Franklin D. Roosevelt faced steep political costs from the so-called court packing plan, making it a less credible threat than some

29. *Humphrey's Ex'r v. United States*, 295 U.S. 602 (1935).

30. *A.L.A. Schechter Poultry Corp. v. United States*, 295 U.S. 495 (1935).

31. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952).

32. See BARRY CUSHMAN, *RETHINKING THE NEW DEAL COURT* 170 (1998).

33. See Seth Waxman, *The Physics of Persuasion, Arguing the New Deal*, 88 GEO. L.J. 2399 (2000).

scholars have suggested.³⁴ And structurally the courts were navigating a time of expanding capacity in American national government that made somewhat more urgent questions of who controlled that capacity.

Taking these nuances more seriously, we can see the New Deal-era court decisions challenging the Roosevelt administration as more than simply a rejection of certain New Deal policies. Instead, they can also be understood as an attempt to demarcate a space for policies that might generate only limited friction when reconciled with prevailing doctrine, and even the kinds of legal arguments that would help achieve at least some of the administration's goals without creating quite as much risk to the emerging institutional equilibrium. The *Jones & Laughlin Steel* case in 1937 is often seen as pivotal, as it signaled the end of the Court's tendency to strike down New Deal legislation and recognized the extent of congressional power under the Commerce Clause. As professor Barry Cushman points out, though, the Supreme Court had already recognized the ambiguity of the public/private distinction and expanded the scope of businesses that could be deemed to affect interstate commerce in *Nebbia v. New York*.³⁵ Even as the court set structural limits on legislative and executive power, it also recognized that appropriate federal legislation could regulate workplace relations, since interstate commerce was affected and advocates had persuaded the court that liberty of contract was in conflict with workers' freedom of association to join a union.

This measure of partial continuity in doctrine—along with continuing judicial efforts to balance their doctrinal commitments with the practical challenges faced by an expanding federal government—fits with an argument Seth Waxman advanced at a Yale Law School lecture nearly two decades ago, though he used somewhat different language.³⁶ True to his experience as a consummate advocate, Waxman reminds us to consider the technical changes in legal argument that almost certainly facilitated later victories of Justice Department lawyers defending legal arrangements reflecting expanded federal power.³⁷ He also emphasized that the administration itself learned a thing or two, and managed to avoid the more provocative institutional arrangements delegating, for example, public

34. Mariano-Florentino Cuéllar, 'Securing' the Nation: Law, Politics, and Organization at the Federal Security Agency, 1939-1953, Stanford Public Law Research Paper No. 942447 (2006).

35. Barry Cushman, *A Stream of Legal Consciousness: The Current of Commerce Doctrine from Swift to Jones & Laughlin*, 61 *FORDHAM L. REV.* 105, 130 (1992).

36. See Waxman, *supra* note 33.

37. *Id.* at 2400.

power almost directly into private hands.³⁸ Hence, *Yakus v. United States*—playing out a few years later against the backdrop of World War II—was not just a rerun of *Schechter Poultry*.³⁹ Rather, price controls affecting business, labor, and consumers involved more limited authority, were subject to public oversight, and gave courts some basis for judicial review.⁴⁰ And the executive made the case for these in terms of America’s interests as a newly emerged geopolitical power.⁴¹

The internal cohesion to which channeling of disputes contributes allows a country to develop greater capacity to respond to international crises. But those crises also test leaders and citizens in novel ways. President Roosevelt, on the eve of World War II, faced daunting challenges. The public was deeply divided and quite skeptical about foreign entanglements. The American army was the eighteenth-largest in the world in the spring of 1940, just behind the Dutch army that had surrendered to the Nazis a short time before.⁴² The federal government had few, if any, agencies that operated with truly nationwide scope, and only about ten percent of the population paid any federal income taxes.⁴³ How Roosevelt and his administration navigated the transition from New Deal to wartime footing is revealing. As previously mentioned, greater state capacity made separation of powers a much higher-stakes game, hence the importance of the norms that developed between the early New Deal and World War II. Upsetting those norms was never more possible than during the wartime apogee of presidential power. Roosevelt ally Clifford Durr, from his perch as FCC Chair, urged the president to treat the wartime period as a second bite at the

38. *Id.* at 2402.

39. *See id.* at 2405-08 (describing legal developments post-*Schechter Poultry*).

40. *See Yakus v. United States*, 321 U.S. 414, 423-24, 427 (1944) (describing the Emergency Price Control Act as a valid exercise of Congress’s legislative power in that “Congress has stated the legislative objection, has prescribed the method of achieving that objective . . . and has laid down standards to guide the administrative determination of both the exercise of the price-fixing power, and the particular prices to be established” and comparing the regime to legislative acts in a number of post-*Schechter Poultry* cases).

41. *See id.* at 426-27.

42. Arthur Herman, *The FDR Lesson Obama Should Follow*, WALL ST. J., May 9, 2012, at A15.

43. JOHN F. WITTE, *THE POLITICS AND DEVELOPMENT OF THE FEDERAL INCOME TAX* 126 (1985) (showing a sharp increase in taxable returns as a percentage of the labor force, from roughly ten percent in 1940 to sixty-five percent in 1946).

apple to reshape the American social compact further, as he'd sought to do with the National Industrial Recovery Act.⁴⁴

Such a path is not the one Roosevelt ultimately countenanced. Instead, he worked with an ideologically heterodox group of advisers including James Byrnes and the indispensable Harry Hopkins to forge a broad coalition of business and industry that also accommodated the interests of the military, agriculture, and consumers.⁴⁵ Familiar features of today's administrative state became commonplace: broad delegations of legislative power to agencies with nationwide scope, administrative subpoenas, mass federal taxation, and White House supervision of administrative agencies.⁴⁶ Even more remarkable was what did *not* change: there was no move to nationalize industrial sectors or displace the private sector, price controls took account of political realities (particularly agricultural interests), and norms involving judicial review and pluralist accommodation in administrative decision-making took hold.⁴⁷

Roosevelt's actions proved important because they helped the country navigate the legally complex and politically fraught thicket of mobilization. But even more fundamentally, the mix of wartime capacity building and restraint evinced by the administration mattered because it was part of a sequence. In fits and starts, leaders in labor, business, and government came to trust institutions enough to channel conflict through them. A sharp break with American norms would almost certainly have put at risk that trust. Rather, Roosevelt kept in place a kind of centrist compromise that respected certain unwritten but almost quasi-constitutional norms that came to constitute the core of the administrative state during World War II and remained the core of the administrative state through the Cold War and into

44. At the time, Durr called for more dramatic and long-term reforms in the relationship between government and private industry:

We have learned already that we cannot obtain the production we need for waging the war as an undirected by-product of what we commonly refer to as "sound business principles." Neither can we expect such by-product to furnish us after the war with the standard of living we shall be warranted in expecting . . . There must be some over-all source of direction more concerned with [these] objectives . . . than with the profits or losses of individual business concerns.

Clifford J. Durr, *The Postwar Relationship Between Government and Business*, 33 AM. ECON. REV. (PAPERS & PROC.) 45, 47 (1943).

45. Mariano-Florentino Cuéllar, *Administrative War*, 82 GEO. WASH. L. REV. 1343, 1356–62 (2014).

46. *Id.* at 1425.

47. *Id.* at 1422–28.

today. When societies are riven by riots, internal conflict, and instability, these forces do not dissipate by themselves because of something in the water or some unavoidable teleological progression. Even with favorable geography and the right international circumstances—and the strength of an extraordinary generation that found itself embroiled in the Depression and World War II—institutional progress is contingent and partially dependent on state capacity, which contributes to channeling that conflict.⁴⁸ As state capacity grew during the World War II era, the country was able to avoid the problems of the interwar era—described as a period where the United States was largely unable to assert the kind of global leadership the period demanded.⁴⁹

The role the United States played in the decades after World War II, during the Cold War, provides the backdrop for a more recent episode of channeling contentious disputes into institutions: civil rights. Even after labor-related violence abated, intense episodes of violence associated with race persisted in the American South.⁵⁰ It took the Civil Rights Movement of the 1960s to achieve the next major step, by eventually—through a combination of extensive social mobilization and legal change—helping to

48. As institutions transform and state capacity increases, confidence in these institutions steadily increases. WORLD BANK, *WORLD DEVELOPMENT REPORT 2011: CONFLICT, SECURITY, AND DEVELOPMENT* 103 (2011). The development community has recognized how this feedback loop drives a state from violence and fragility to institutional resilience and growth. *Id.* Accordingly, development agencies increasingly focus on building state capacity to channel conflict. In Afghanistan, for example, donors attempted to build state capacity by establishing more than 22,500 community development councils through the National Solidarity Program. *Id.* at 133. These local councils invested in critical infrastructure projects, increasing state capacity. *Id.* Research suggested these councils increased villagers' trust in all levels of government. *Id.* For further discussion on how institutional progress and state capacity are linked, see generally ASHRAF GHANI & CLARE LOCKHART, *FIXING FAILED STATES: A FRAMEWORK FOR REBUILDING A FRACTURED WORLD* (2008); DARON ACEMOGLU & JAMES A. ROBINSON, *WHY NATIONS FAIL: THE ORIGINS OF POWER, PROSPERITY, AND POVERTY* (2012).

49. See, e.g., TOOZE, *supra* note 1, at 515–16 (describing American impulse in the interwar period as “fundamentally, in its view of America itself, in its conception of what might be asked of America . . . profoundly conservative”).

50. See, e.g., *20th Bombing Here Against Negroes*, BIRMINGHAM POST-HERALD (Sept. 16, 1963), <http://bplonline.edmhost.com/digital/collection/p4017coll2/id/545>. These attacks often targeted African Americans who moved into traditionally “white” neighborhoods, and African-American churches were frequently the target of such violence, particularly in the 1950s and 1960s. See *Mapping Violence Against African American Churches*, STORYMAP, <https://s3.amazonaws.com/uploads.knightlab.com/storymapjs/0bf95573598f0b95125a529e591dbabf/black-church-bombings/index.html> (last visited July 31, 2017) (documenting attacks on African American houses of worship in chronological order).

move disputes about equality and race into the more structured world of federal courts, state tribunals, and federal and state agencies like the EEOC. As with labor conflicts, the schisms over race in the United States spurred enormous upheaval, encompassing targeted organizing in the South and urban centers, mass protests, and violence that featured prominently on the new medium of television. The Cold War context loomed in the background, but so did the experience of channeling labor conflict largely into institutions, making it more plausible to marchers in Selma, Alabama, that legal changes could quench at least some of their thirst for justice. Throughout the process, federalism has been an important subtext because dual sovereignty creates both constraints—by engendering conflict between governments, for example—and competitive pressures. That legacy takes time to fully describe, but suffice to say that channeling involved a process of state and federal change that gave rise to new institutions and dilemmas. And some of the tensions of course persist.

Such friction underscores the importance of how legal and societal changes affected a previous set of societal tensions. The institutional compromises forged in the early decades of the twentieth century allowed for the channeling of labor disputes into formal institutions and did much to distinguish America from other middle-income countries trying to build their institutions and economies. Without the channeling of labor conflicts or the Roosevelt administration's observance of limits on government arbitrariness and control of industry, the United States would likely be a fundamentally different country.

II. Picking the System for Picking Americans

It was through another transition implicating matters of arbitrariness and the interplay of domestic and global concerns that the United States indeed became a fundamentally different country. During the decades preceding the New Deal, the United States transitioned from being a relatively high immigration country to one with only a trickle of legal immigrants, going from over 1.2 million new immigrants in 1907 to about 29,000 in 1934.⁵¹ The Chinese Exclusion Act had been made permanent early in the century and was in full force.⁵² No program existed to resettle refugees,⁵³ and even

51. *Table 1: Persons Obtaining Lawful Permanent Resident Status: Fiscal Years 1820 to 2014*, DEP'T OF HOMELAND SECURITY: 2014 YEARBOOK OF IMMIGRATION STAT. (Nov. 1, 2016), <https://www.dhs.gov/immigration-statistics/yearbook/2014/table1>.

52. The Chinese Exclusion Act, passed in the spring of 1882, provided an absolute ten-year moratorium on Chinese labor immigration. Chinese Exclusion Act, ch. 126, 22 Stat. 58,

when a small number of immigrants were permitted entry (as with the 97,000 who arrived in 1931),⁵⁴ effectively no path existed for legal immigration from the Western Hemisphere. Only with the stark pressures of World War II did the picture start to change. A small number of Jewish refugees began to arrive in America; a thirteen-year-old Judith Shklar, whose family had escaped Latvia through Norway and arrived in Seattle, was one of them.⁵⁵ Belatedly, in 1944, the United States began structured efforts to resettle some refugees.⁵⁶ And the so-called Bracero Program allowed for legal immigration to the United States by Mexican laborers who could take up the farm jobs that had been left vacant as soldiers left for the war and men and women filled factory jobs.⁵⁷

The Cold War and the economic and strategic scope of American interests changed the picture significantly. Even as American leaders came to accept that the country's global role and economic interests called for a different approach to migration, Americans passed the mid-century mark with a statutory framework that deliberately tied limited flows of legal immigrants to quotas reflecting the national origins of the American population in the 1920s.⁵⁸ It took until 1965 for something closer to the existing system to emerge. That system was forged by President Lyndon B. Johnson and his allies in Congress like Representatives Emmanuel Hart of

55-61 (repealed 1943); see also *Chinese Exclusion Act (1882)*, WWW.OURDOCUMENTS.GOV, <https://ourdocuments.gov/doc.php?flash=false&doc=47> (last visited July 21, 2017). When the moratorium expired in 1892, Congress extended it for another ten years and then permanently under the Geary Act until 1943. *Id.* Under the Act, Chinese immigrants who had already entered the country could not receive citizenship and had to obtain certifications to re-enter. *Id.*

53. STUART ANDERSON, IMMIGRATION 152-55 (2010).

54. *Table 1: Persons Obtaining Lawful Permanent Resident Status: Fiscal Years 1820 to 2014*, *supra* note 51.

55. JUDITH N. SHKLAR, ACLS OCCASIONAL PAPER NO. 9, A LIFE OF LEARNING 1-2 (1989), https://www.acls.org/uploadedFiles/Publications/OP/Haskins/1989_JudithNShklar.pdf (Charles Homer Haskins Prize Lecture at the American Council of Learned Societies annual meeting, Apr. 6, 1989).

56. FDR established the War Refugee Board in 1944 as an independent agency tasked with the rescue of refugees. *United States Policy and Its Impact on European Jews*, HOLOCAUST ENCYCLOPEDIA, <https://www.ushmm.org/wlc/en/article.php?ModuleId=10007652> (last visited Feb. 14, 2017).

57. The World War II-era Bracero agricultural program lasted from 1942 to 1947, with a peak of 62,000 workers in 1944. PHILIP L. MARTIN, PROMISE UNFULFILLED: UNIONS, IMMIGRATION AND THE FARM WORKERS 47 (2003). Between 1942 and 1964, some 4.6 million Mexicans were admitted to do farm work. *Id.*

58. ANDERSON, *supra* note 53, at 11-12.

Massachusetts and Phil Celler of Michigan, many of whom had strong ties to urban political networks. At the time, the logic of broad immigration reform had at least three major components: (1) getting the United States away from a system with explicit racial classifications and low levels of permitted immigration, which painted the country in a negative light amidst Cold War competition; (2) expanding the country's workforce with people who had either special ties to the country or special skills; and (3) addressing the concerns of political participants representing urban regions of the country with interests in expanded migration.

At the core of America's present mix of immigration policy compromises is the system forged in the mid-1960s. As modified by the 1976 Western Hemisphere Act,⁵⁹ the 1980 Refugee Act,⁶⁰ and the 1990 Immigration Act,⁶¹ the resulting system laid the foundation for America to return to higher levels of immigration⁶²—though even now, the percentage of the United States population that is foreign born is only 13.1%, compared to 14.7% in 1910.⁶³ Instead of mechanically focusing on keeping national origins at a level from decades earlier, the new system had at its core two factors: country of origin, and whether a visa was sought for work or other reasons (such as family preference).⁶⁴ Of course, choosing people to join American society is a task deeply reflective of our country's values and priorities, but it also reflects the twists and turns of our politics.

Little did anyone suspect that the changes made to mollify Ohio Representative Michael Feighan would exert such a powerful effect on the United States. A tenacious adversary who controlled a subcommittee

59. Immigration and Nationality Act Amendments of 1976, Pub. L. No. 94-571, 90 Stat. 2703 (1976).

60. Refugee Act of 1980, Pub. L. No. 96-212, § 201(a), 94 Stat. 102, 102-03 (1980).

61. Immigration Act of 1990, Pub. L. No. 101-649, 104 Stat. 4678 (1990).

62. As of 2015, the United States had resettled more than three million refugees since 1975. *Cumulative Summary of Refugee Admissions*, U.S. DEP'T OF STATE (Dec. 31, 2015), <https://2009-2017.state.gov/j/prm/releases/statistics/251288.htm>. Since the Refugee Act of 1980, the United States saw a high of 207,116 refugees admitted in 1980 and a low of 27,100 in the year following September 11, 2001. *Id.*

63. PEW RESEARCH CTR., MODERN IMMIGRATION WAVE BRINGS 59 MILLION TO U.S., DRIVING POPULATION GROWTH AND CHANGE THROUGH 2065, at 65 (2015), http://assets.pewresearch.org/wp-content/uploads/sites/7/2015/09/2015-09-28_modern-immigration-wave_REPORT.pdf (describing the share of the U.S. population that is foreign born as 13.1% in 2013, the most recent year of data from the U.S. Census Bureau); *Slideshow: The Foreign-Born Population in the United States*, U.S. CENSUS BUREAU, 3, https://www.census.gov/newsroom/pdf/cspan_fb_slides.pdf (last visited Feb. 13, 2017) (showing the foreign-born population at 14.7% of the United States population in 1910).

64. Immigration and Nationality Act of 1965, Pub. L. No. 89-236, 79 Stat. 911 (1965).

critical to the passage of the Immigration and Nationality Act of 1965 (President Johnson's proposed reform), Feighan insisted that the bill allocate the majority of legal immigrant visas to family-based immigrants as the price of his support.⁶⁵ Feighan thought that allocating most visas to family-based immigrants would keep the composition of the country similar to what it had been.⁶⁶ This turned out not to be the case, showcasing yet again how legal change implicates the complexity of a changing world. Demand to take up newly available visas was greater among some populations than others, in part because those who came through economic or refugee routes also had access to those visas. Since family-based immigration constituted a substantial majority of the visas in the revised bill, the United States has welcomed generations who forged strong ties—often through family—to their new nation.

Around that system, the country developed subtle ways of promoting a process for incorporating immigrants into the fabric of American society. In the United States, integration has often benefited from a feeling of certainty resulting from the relatively settled understanding of legal doctrine establishing and protecting the rights of immigrants, even unlawful ones.⁶⁷

65. See Gabriel J. Chin, *Were the Immigration and Nationality Act Amendments of 1965 Antiracist?*, in *THE IMMIGRATION AND NATIONALITY ACT OF 1965: LEGISLATING A NEW AMERICA* 11, 43, 45, 55 (Gabriel J. Chin & Rose Cuison Villazor eds. 2015).

66. *Id.*

67. See, e.g., *Zadvydas v. Davis*, 533 U.S. 678, 689 (2001) (deploying constitutional avoidance to interpret a statute as not permitting indefinite detention but rather limiting an alien's post-removal-period detention to a period reasonably necessary to bring about that alien's removal from the United States); *Yick Wo v. Hopkins*, 118 U.S. 356, 374 (1886) (invalidating San Francisco ordinance that banned the laundries operated by Chinese immigrants as “[n]o reason for it is shown, and the conclusion cannot be resisted that no reason for it exists except hostility to the race and nationality to which the petitioners belong, and which, in the eye of the law, is not justified”); *Plyer v. Doe*, 457 U.S. 202, 230 (1982) (finding a Texas statute in violation of the Equal Protection clause where it withheld from school districts any state funds for the education of children who were not “legally admitted” into the United States and that authorized local school districts to deny enrollment to such children). This protection afforded immigrants contrasts with countries where the extension of rights to unlawful migrants is far less pronounced. Italy, for instance, imposes harsh penalties on unlawful migrants, whom authorities can detain for up to six months, and those who house unlawful migrants, who can face up to three years in prison. *Italy's Immigrants Despair at New Laws*, BBC NEWS (July 27, 2009), <http://news.bbc.co.uk/2/hi/europe/8170187.stm>. Switzerland recently voted on a referendum that would have required mandatory expulsion of foreigners convicted of even minor offenses, such as speeding or disorderly conduct, although the referendum ultimately failed to pass. *A Rare Setback for Immigrant-Bashing in Switzerland*, ECONOMIST (Feb. 29, 2016), <https://www.economist.com>.

Together with these legal protections for immigrants, regional networks form what is essentially the third pillar of the immigration system; allocation of visas and enforcement, however imperfect, constitute the other two pillars. In the United States, the integration network includes community colleges and adult English language instruction, faith-based organizations and NGOs, and the family ties that most immigrants have as they arrive. Because of this third pillar, according to one study, citizenship among a fixed cohort of adult legal immigrants rose from seven percent in 1990 to fifty-six percent in 2008, and English-language proficiency rose from fifty-six percent to sixty-four percent.⁶⁸

The American experience with immigration also encompasses more complicated—and, in some cases, darker—facets, particularly surrounding the contentious issue of unlawful migration. Regardless, the legal changes wrought in the 1960s have certainly been enormously consequential in making America what it is today—a country that accepts a higher number of legal immigrants on average than any other country in modern times, that boasts the most innovative economy on the planet, and that looks to bring talented people into the fold while also striving to unite families and take in a measured number of refugees. What was once a process that brought outsiders to large, trade-oriented metropolitan areas near the coasts and the Great Lakes has now delivered demographic change across the Southeast and the Midwest, too.

Immigration has also given America certain features that many countries envy. First, America's economy is innovative, not only in Silicon Valley but in many parts of the country where skilled and entrepreneurial migrants promote new ventures. Indeed, immigrant populations have marked effects on geographic areas: according to one study, a one percent increase in college-educated immigrants is associated with a six percent increase in patents per capita,⁶⁹ and immigrant workers often bring distinctive skills that create economic benefits for large majorities of the population.⁷⁰

com/news/europe/21693768-swiss-voters-knock-down-referendum-proposal-deport-foreign-ers-who-commit-even-minor-crimes.

68. Dowell Myers & John Pitkin, *Assimilation Today: New Evidence Shows the Latest Immigrants to America Are Following in Our History's Footsteps*, CTR. FOR AM. PROGRESS 16 (2010), https://cdn.americanprogress.org/wp-content/uploads/issues/2010/09/pdf/immigrant_assimilation.pdf.

69. Jennifer Hunt & Marjolaine Gauthier-Loiselle, *How Much Does Immigration Boost Innovation?*, AM. ECON. J.: MACROECONOMICS, Apr. 2010, at 31, 33.

70. Giovanni Peri et al., *STEM Workers, H-1B Visas, and Productivity in US Cities*, 33 J. LABOR ECON. S225, S227 (2015) (finding that “inflows of foreign STEM workers explain

Second, America enjoys relatively high levels of cohesion and societal peace for such a diverse society, partly because of family ties and partly because of faith-based and adult education institutions like community colleges. Third, the United States boasts an engaged labor force bolstered by immigration that is not, as in most other industrialized countries, rapidly aging and beginning to shrink. This demographic reality allows the American economy to avoid—without making assumptions about automation that, at best, raise separate legal and policy dilemmas—the kind of “population inversion” where a shrinking group of working adults supports a growing number of retirees.⁷¹ As an additional benefit, the resulting population has reservoirs of knowledge about almost every corner of the world.

The transition has admittedly also left Americans with persistent legal and practical dilemmas. In some parts of the United States, especially rural communities and small cities, the presence of immigrants has heightened anxiety about globalization; moreover, local organizations have not always played the same integration-facilitating role of teaching English and promoting cohesion. Nationally, Americans must consider how to adapt their system to a world of greater competition for highly knowledgeable migrants, addressing an unlawful side of migration that generates tension and risks and keeping the concept of citizenship vital and meaningful by supporting assimilation—knowledge of a common language, English, and belief in our civic institutions and an open society.

The extent of integration does not mean it has been easy or straightforward to forge a dynamic, innovative, and eclectic democracy including immigrants in the pluralist milieu. It's worth remembering that the national origin quotas largely overcome by the Hart-Celler immigration bill had emerged decades earlier in a country keen to exclude immigrants, particularly Asians. The prejudice against Asians ran deep.⁷² In 1854, my

between 30% and 50% of the aggregate productivity growth that took place in the United States between 1990 and 2010”).

71. See Gerard F. Anderson & Peter Sotir Hussey, *Population Aging: A Comparison Among Industrialized Countries*, HEALTH AFFAIRS, May 2000, at 191, 200-01.

72. See, e.g., *Plessy v. Ferguson*, 163 U.S. 537, 561 (1896) (Harlan, J., dissenting) (“There is a race so different from our own that we do not permit those belonging to it to become citizens . . . I allude to the Chinese race.”); *Chae Chan Ping v. United States (The Chinese Exclusion Case)*, 130 U.S. 581, 595 (1889) (condoning legislators’ rationales for the Chinese Exclusion Act, including “that the presence of Chinese laborers had a baneful effect . . . upon public morals; that their immigration was in numbers approaching the character of an Oriental invasion, and was a menace to our civilization; [and] that the discontent from this cause was not confined to any political party . . . but was well-nigh

own court issued a particularly embarrassing decision in *People v. Hall*, a case appealing a murder conviction in which the California Supreme Court ruled that Chinese-Americans and immigrants had no right to even testify against citizens.⁷³ California's Alien Land Law, passed in 1913, restricted any ownership of real property by "aliens ineligible to citizenship."⁷⁴ State Attorney General Ulysses S. Webb explained that the restriction, although it did not specifically name an immigrant group, targeted Japanese immigrants based on concern for their "race undesirability."⁷⁵

Over the decades, as immigration enforcement has become a subject of greater public discussion, it's likely that neither policymakers nor the larger public fully appreciate the intricate mechanics of integration.⁷⁶ In particular, they may not appreciate how those dynamics likely connect the capacity of countries to attract talented immigrants who become scientists and entrepreneurs with a country's treatment of working-class immigrants who may have arrived through family-based or refugee admissions—or perhaps even without documents.⁷⁷ Either at the national or regional level, societies that prioritize discretionary enforcement against migrants may encounter not only the financial costs of enforcement, but also the difficulties associated with erroneous targeting of lawful immigrants and citizens and disrupted families and communities.⁷⁸

universal"); *In re Tetsubumi Tano's Estate*, 206 P. 995, 1001 (Cal. 1922) (admitting that the Alien Land Law was framed so as "to discourage the coming of Japanese into [California]" and noting that this purpose "may be a proper one, and . . . even desirable").

73. 4 Cal. 399, 405 (1854).

74. Alien Land Law of 1913, 1913 Cal. Stat. 206; *see also* *Frick v. Webb*, 263 U.S. 326, 334 (1923) (upholding California's Alien Land Law).

75. RONALD TAKAKI, *STRANGERS FROM A DIFFERENT SHORE: A HISTORY OF ASIAN AMERICANS* 204 (2d ed. 1998).

76. For example, immigrant integration "has unfolded almost entirely without the help of policy intervention." Tomás R. Jiménez, *Immigrants in the United States: How Well Are They Integrating into Society?*, MIGRATION POLICY INST. 1 (2011), <http://www.migrationpolicy.org/sites/default/files/publications/integration-Jimenez.pdf>. Immigrants, with the exception of refugees, have received relatively little federal funding for integration programs. *Id.*

77. *See id.* at 19 (noting that while the United States' laissez faire approach to achieving integration has generally worked, "its functionality may be threatened by the precarious state of public education [and] immigration policies that leave far too many in an unauthorized status").

78. *See* Demetrios G. Papademetriou & Madeleine Sumption, *Attracting and Selecting from the Global Talent Pool: Policy Challenges*, MIGRATION POLICY INST. 5–8 (Sept. 2013), <http://www.migrationpolicy.org/pubs/GlobalTalent-Selection.pdf> (discussing how immigrants chose a destination and how the rules and regulations of the immigration system play a distinctive role); *see also* *Arizona v. United States*, 567 U.S. 387, 408 (2012)

In recent years, the American system for choosing immigrants has been less arbitrary in some ways, giving more weight to family ties and economic factors. Though even as unlawful migration has declined,⁷⁹ it remains a subject of public concern and threatens to engender further cycles of arbitrary enforcement and restriction. In even more recent days, the questions that arise are about the viability of the United States' status as an immigration "superpower" in light of potentially growing interest in restricting legal immigration.⁸⁰ I suspect these restrictionist impulses will be tamed somewhat by economic concerns and the difficulty of enacting major legislative changes, but the possibility for change is greater now than at any point in the last few decades.⁸¹ Yet, caught somewhere between principles and policy in the 1960s, lawmakers and the president began writing a different chapter with its own benefits and burdens—one that says America over the decades is able to embrace change while remaining dedicated to the ideal that citizenship comes with both rights and responsibilities.

("[Arizona's S. B. 1070] would allow the State to achieve its own immigration policy. The result could be unnecessary harassment of some aliens (for instance, a veteran, college student, or someone assisting with a criminal investigation) whom federal officials determine should not be removed. This is not the system Congress created.").

79. After reaching a peak of 12.2 million in 2007, the number of undocumented immigrants in the United States has fallen to an estimated 11 million in 2015. Jens Manuel Krogstad et al., *5 Facts About Illegal Immigration in the U.S.*, PEW RES. CTR. (Apr. 27, 2017), <http://www.pewresearch.org/fact-tank/2017/04/27/5-facts-about-illegal-immigration-in-the-u-s/>.

80. Canada, for instance, has recently admitted and invested more in its refugee programs on a per capita basis. In 2016, Canada admitted 268 refugees per 100,000 inhabitants, while the United States admitted 84 refugees per 100,000 inhabitants. UNHCR, *Global Trends 2016*, UNHCR (2016), <http://www.unhcr.org/5943e8a34>; see *Canada to Let 300,000 Immigrants Enter Country in 2017*, GUARDIAN (Oct. 31, 2016), <https://www.theguardian.com/world/2016/oct/31/canada-immigration-quota-2017> (stating Canada took in 55,800 refugees in 2016 for a total population of 35 million); *Fact Sheet: Fiscal Year 2016 Refugee Admissions*, U.S. DEP'T OF STATE (Jan. 20, 2017), <https://www.state.gov/j/prm/releases/factsheets/2017/266365.htm> (stating that United States admitted 84,995 refugees in 2016 for a total population of 324.5 million). Canada spent twenty-five dollars per capita to support refugee admissions, whereas the United States spent three dollars per capita. Benjamin Bathke, *How Canada and the U.S. Compare on Syrian Refugees*, CBC NEWS CANADA (Dec. 2, 2015), <http://www.cbc.ca/1.3340852>.

81. Jordain Carney, *GOP Senators Propose Cutting Back on Legal Immigration to US*, THE HILL (Feb. 7, 2017), <http://thehill.com/homenews/senate/318284-gop-senators-scale-back-legal-immigration-to-the-us>; David Nakamura, *After Years on the Outside, Foes of Legal Immigration Find a Louder Voice with Trump's Election*, WASH. POST (Dec. 19, 2016), <https://wpo.st/1snc2>.

That ideal is at the core of American achievements in the field of immigration. These are borne not of any one policy but of the relative balance in the last sixty years between policies and the public's understanding of the nation's character as an immigrant nation. This American immigration balance allows for some change from one generation to the next, and it depends not only on tolerance but on the robust interest among immigrants in working—whether in laboratories in Silicon Valley or lettuce fields in the Imperial Valley—and, through work, assimilating to some degree.

The balance has made it possible in the last generation for the settlement of Asian, Latino, and Middle Eastern immigrants to spread far from California and New York and large urban centers like Chicago to smaller towns in rural North Carolina and Iowa. American commitments to this balance have also likely exerted influence across borders, contributing to other countries' willingness to expand legal immigration over the last fifty years. But that balance is now under growing pressure from an unsympathetic executive branch and the public mood in regions feeling economically vulnerable and more anxious about their changing demographics. Whether the balance survives for future generations is among the most important questions affecting the future of the United States.

III. Choosing Intelligent Futures Intelligently

Nine years before the Hart-Celler Act passed—almost sixty years ago—another transition was beginning in Pittsburgh, Pennsylvania. Herbert Simon was a star professor at Carnegie Mellon, the son of a German immigrant father and a mother who was the daughter of Czech immigrants. Walking into his class one day, Simon announced that he and his colleague, Al Newell, had built a thinking machine.⁸² This was no chatty, empathetic precursor to Siri but a simple expert system capable of generating remarkably elegant proofs of Bertrand Russell's *Principia Mathematica*—proofs that reportedly made Russell exclaim that it would have been nice to know machines could do this before he'd spent ten years on it. Over the rest of his career, Simon remained passionately focused on expert systems cobbled together with the technology of his day. During the bulk of his career, major advances in computing were anchored either at universities or private sector corporations dependent on large government (often defense-

82. HUNTER CROWTHER-HEYCK, HERBERT A. SIMON: THE BOUNDS OF REASON IN MODERN AMERICA 225 (2005).

related) contracts. Both the technological changes many Americans now take for granted and the rising importance of private organizations in computing innovations described below might have floored him.

Because of these changes, people who are adults today are on one side of a major generational divide: barring a cataclysm, theirs is the last generation that will remember a world where computers were mostly on desks and in special rooms, and where most people weren't walking around with little supercomputers in their pockets or on their wrists. That generation of adults is also the last one that will remember, even if only vaguely, a day-to-day existence before nearly everyone was tethered to a global network capable of tracking where a person is and what he or she is doing.

Simon would have almost certainly found it a challenge worthy of his talents to craft a model of how the children of the current generation of children would navigate the individual and societal tradeoffs associated with their world. To do so, Simon—and, indeed, any lawyer, judge, or policymaker seeking to envision the tensions all but certain to face American law—would need to consider at least four trends prominently reflected in society's reliance on networked information technology and in how that technology is changing. To begin, organizations within society are improving their capacity to amass and analyze huge amounts of data about human behavior—both in real time and over time. In part, the improvement is a function of falling prices of storage technology and processing power over the last few decades.⁸³ Change is underway, too, in the software and the statistical techniques we use to analyze data. And we have cheaper and more ubiquitous ways to gather data, such as cameras, exercise bands,⁸⁴

83. In the three decades between 1980 and 2011, computer storage costs dropped “by a factor of ten roughly every four years.” Orin S. Kerr, *The Next Generation Communications Privacy Act*, 162 U. PA. L. REV. 373, 391 (2014). For example, in 1984, a single gigabyte of data cost \$85,000, whereas it cost about five cents in 2011. *Id.* (citing John Villasenor, *Recording Everything: Digital Storage as an Enabler of Authoritarian Governments*, CTR. FOR TECH. INNOVATION AT BROOKINGS, 3 (Dec. 14, 2011), https://www.brookings.edu/wp-content/uploads/2016/06/1214_digital_storage_villasenor.pdf). Whether trends in such declines will continue unabated, indefinitely is subject to a measure of debate.

84. One study comparing fitness tracker privacy and security found that most fitness tracking applications included in the study sent fitness and other data to company servers. For example, Jawbone “periodically transmits” geolocation information to its servers when the application is open. Additionally, many applications sent generated fitness data such as “steps taken, stairs climbed, stairs down, calories burned, speed, sleep depth, . . . heart rate, and blood pressure.” ANDREW HILTS ET AL., OPEN EFFECT, EVERY STEP YOU FAKE: A

GPS, electronic tests, Internet searches, and so on. According to one estimate, only about twenty-five percent of the world's stored information was digitized in 2000, whereas almost all of the world's stored information was digitized in 2012.⁸⁵ As of 2008, there were more devices on the Internet than people on the planet, and by 2020, an estimated 50 billion devices will be connected to the Internet.⁸⁶ The so-called "Internet of Things"⁸⁷ will not only supplement such means to amass data; it implies a particular vision of how society might use the networked nature of these sensing technologies, allowing for more routine aggregation of such data so that people and organizations might better predict when behavior will stay constant and when it might change. Accordingly, some observers are inclined to suggest that big data will make our world simpler and its complex patterns more discernible.

Finally, prevailing social norms appear to be evolving with regard to what major subsets of society expect from computers. In the early twenty-first century, many members of the public have routinely come to accept that an algorithm is recommending not only music selections or movies to watch, but also whom to date,⁸⁸ how to invest, and how to persuade Americans to enlist in the armed services.⁸⁹ The shift is from a world where

COMPARATIVE ANALYSIS OF FITNESS TRACKER PRIVACY AND SECURITY 19-20, 22 (2016), https://openeffect.ca/reports/Every_Step_You_Fake.pdf.

85. As of 2012, that was about 2.7 zettabytes of digitally stored information. Elizabeth E. Joh, *Policing by Numbers: Big Data and the Fourth Amendment*, 89 WASH. L. REV. 35, 39 (2014).

86. PRESIDENT'S NAT'L SEC. TELECOMMS. ADVISORY COMM., NSTAC REPORT TO THE PRESIDENT ON THE INTERNET OF THINGS ES-2 (2014), [https://www.dhs.gov/sites/default/files/publications/NSTAC%20Report%20to%20the%20President%20on%20the%20Internet%20of%20Things%20Nov%202014%20\(updat%20%20%20.pdf](https://www.dhs.gov/sites/default/files/publications/NSTAC%20Report%20to%20the%20President%20on%20the%20Internet%20of%20Things%20Nov%202014%20(updat%20%20%20.pdf) [hereinafter NSTAC REPORT].

87. The "Internet of Things" refers to the "decentralized network" of everyday objects—from kitchen appliances to car tires—that are connected to the Internet and can process and communicate data about the physical world. *See id.* at ES-1; Scott R. Peppet, *Freedom of Contract in an Augmented Reality: The Case of Consumer Contracts*, 59 UCLA L. REV. 676, 699 (2012).

88. One study shows that in 2005, "few Americans" had tried online dating, compared to fifteen percent of American adults today. Americans also view online dating more positively: in 2005, only forty-four percent of American adults indicated that "online dating is a good way to meet people," whereas fifty-nine percent agreed with this statement in 2015. Aaron Smith & Monica Anderson, *5 Facts About Online Dating*, PEW RES. CTR. (Feb. 29, 2016), <http://www.pewresearch.org/fact-tank/2016/02/29/5-facts-about-online-dating/>. Note that not all dating apps use algorithms in any "smart" way; some may just show people in your location without considering whether there are any compatible characteristics.

89. For example, the United States Army employs a chatbot, named Sgt. Star, to help recruiting efforts and to answer questions online. The chatbot communicates with an average

it was nearly quaint to accept that cars will drive themselves to one where it seems quite straightforward to imagine that cars will not only choose the route but also the destination. “Take me somewhere fun,” one might conceivably say. Increasingly, many members of the public would not be too surprised if the car responded with a phrase along the following lines: “Do you want someplace close to the water, or just a watered-down version of the last place I chose for fun?”

These advances are fathomable because a resurgence of interest has emerged in the field of machine learning, both in the academic and commercial realms. One can readily observe the increasing interest by following the venture capital and private sector funding dollars, where yearly disclosed investments in artificial intelligence ventures have grown from \$282 million in 2011 to \$2.388 billion in 2015;⁹⁰ by reading about the artificial intelligence research facilities that Baidu, Samsung, Toyota, Google, Facebook, and others have built in San Mateo and Santa Clara counties; and by talking to scholars who contrast our current times with the periodic “artificial intelligence winters” where folks lost interest in the field (in the 1980s, for example). Traditional expert systems used law-like techniques to search through potential options when analyzing how to diagnose certain medical conditions or categorize a particular kind of molecule—but they were cumbersome at best when it came to some of the seemingly simple tasks that people could do almost “without thinking,” like classifying visual objects, interpreting idiomatic expressions, or decoding nonverbal communication. As computing power gets cheaper and software improves, expert systems are ever more able to sift through millions of options quite quickly.

But an even more substantial change is underway in the realm of so-called machine learning—the application of statistical and related techniques to recognize patterns—in which software architecture leverages approaches to pattern recognition that (largely) abandon the search for an overarching theory of cognition that so preoccupied Simon in his day. Rather than using human-crafted algorithms to map data onto predicted outcomes, machine learning techniques use data regarding outcomes to

of 1550 people each day. Dave Maass, *Answers and Questions About Military, Law Enforcement, and Intelligence Agency Chatbots*, ELEC. FRONTIER FOUND. (Apr. 18, 2014), <https://www.eff.org/deeplinks/2014/04/answers-questions-about-military-law-enforcement-and-intelligence-agency-chatbots>.

90. *Artificial Intelligence Explodes: New Deal Activity Record for AI Startups*, CB INSIGHTS (June 20, 2016), <https://www.cbinsights.com/blog/artificial-intelligence-funding-trends/>.

discern the algorithm that best maps data onto desired outcomes. Neural networks, inspired by the layout of the human brain, constitute one such technique for spotting patterns in large aggregations of data. “Deep learning” systems, a particular architecture for neural networks, avoid some persistent problems neural networks have had in developing adaptive responses to new data, sparking acute interest because of such systems’ capacity to solve pattern-recognition problems in computer vision and other fields.⁹¹ Meanwhile, “genetic algorithms,” which emerge by developing simple algorithms—baby computer programs—to solve a problem (like spotting suspicious financial transactions), allowing those algorithms to mutate slightly over time, and then selecting for those algorithms that beat the others on a given metric.⁹² “Reinforcement learning models” take a similar approach but provide for agents to learn during their lifetimes, rather than waiting to see which algorithms “win” or “lose.”⁹³ Both genetic algorithms and reinforcement learning explore new paths and exploit the information learned thus far.⁹⁴

In part because of the convergence of these analytical techniques and large aggregations of data and computing power, society will see even more change in the realm of user interfaces. Built into such interfaces will be legally-relevant tradeoffs regarding responsibility for decisions and the salience of information presented to users—whether such interfaces are visual, as with augmented or virtual reality; use natural language and speech recognition, like Siri, Alexa, or Cortana; or leverage new ways of integrating computers and the brain. The most significant contribution of these technologies is not sophisticated graphics. Instead, it is the prospect of machines using neural networks to simulate intelligent conversation without ever credibly raising the specter of a major philosophical milestone involving genuinely conscious thought by machines.

The potential applications for some of these artificial intelligence technologies—whether genetic algorithms or sophisticated neural nets—can help society live up to its ideals involving matters ranging from access to justice to education. In some jurisdictions, the ideal of access to justice

91. Yann LeCun et al., *Deep Learning*, 521 NATURE 436, 436 (2015).

92. See generally MASATOSHI SAKAWA, GENETIC ALGORITHMS AND FUZZY MULTI-OBJECTIVE OPTIMIZATION (2002); Marek Obitko, *Genetic Algorithm*, INTRODUCTION TO GENETIC ALGORITHMS (1998), <http://www.obitko.com/tutorials/genetic-algorithms/ga-basic-description.php>.

93. Amit Patel, *AI Techniques*, STANFORD THEORY GROUP, <http://theory.stanford.edu/~amitp/GameProgramming/AITechniques.html> (last modified July 16, 2017).

94. *Id.*

suffers from a lack of sufficient interpreters or lawyers to help the indigent. In the context of environmental law, agency officials may find it daunting to identify the correct molecules to regulate. In both policing and military contexts, the decision to use force is fraught and complex. I see potential in expert systems, combined with natural language user interfaces, to help with interpreting, to facilitate legal advice,⁹⁵ and to enhance the capacity of agencies to discern what they should regulate. I see machine learning tools and algorithms working through data from military or police body cameras in real time, maybe helping us make smarter decisions about when to use force.

Important though these opportunities are, they also raise profound questions about the allocation of power and responsibility in society. The questions reflect the scale of the transition currently underway not only in the institutional infrastructure and legal arrangements supporting innovations in artificial intelligence, but also in the dilemmas lawyers and policy makers face as they adapt legal doctrines to a world of greater reliance on software to make key organizational decisions. To begin, society lacks precise, incontrovertible formulas to answer the question of what government should maximize. More generally, even societies with common cultural norms often lack consensus about how best to define individual rationality (especially across time) and aggregate social welfare. This is one reason why states differ in their treatment of concepts such as reasonableness and duress, and why even relatively clear statutes applied to new situations engender sharp disagreements. Given these continuing questions about what constitutes reasoned human decision-making, translating powerful, complex ideas into the language of algorithms and machine learning protocols is the mother of all statutory drafting and interpretation problems.

Second, each decision to trust an automated system—especially one relying on artificial intelligence technology—becomes another reason for concern about cybersecurity. In October 2016, attackers reportedly relied on “hundreds of thousands of internet-connected devices like cameras, baby monitors and home routers” to conduct a cyberattack against Dyn, a

95. For example, ROSS Intelligence is a legal research tool that responds to questions you would ask humans rather than keyword searches. ROSS was designed to reduce the cost of legal research. Anthony Sills, *ROSS and Watson Tackle the Law*, IBM (Jan. 14, 2016), <https://www.ibm.com/blogs/watson/2016/01/ross-and-watson-tackle-the-law/>. More information about ROSS is available at ROSS, <http://www.rossintelligence.com/> (last visited Sept. 7, 2017).

Domain Name System provider.⁹⁶ As a result, people across the United States temporarily had difficulty accessing several major websites, including Twitter, Netflix, Reddit, and *The New York Times*.⁹⁷

For our purposes, three features of society's prevailing technological infrastructure in the early twenty-first century help place in context the economic and governance tradeoffs associated with the growing reliance on sophisticated, networked computers to make important personal or societal decisions: (1) the Internet in its current, distributed-architecture form is the backbone of the emerging world of machine learning; (2) the Internet was designed to be adaptable and relatively resilient rather than secure; and (3) societies are moving towards a world where Internet-connected computers have considerably greater control over infrastructure and human decisions.⁹⁸ The best-case scenario is an arms race between artificially intelligent security technologies and artificially intelligent intrusion technologies.⁹⁹ But if our nation does not soon address the cybersecurity risks that allowed for an attack like the one against Dyn, we could see far more intrusive attacks, affecting ever larger majorities of the population, in the near future.

Indeed, in November 2014, an advisory committee to the President responsible for crafting a report on the Internet of Things reached a stark conclusion. "The Nation," wrote the authors, "now stands on the edge of a . . . revolution in how it interacts with devices and how they will serve us; however, if security is not included as a core consideration, there are very

96. Nicole Perloth, *Hackers Used New Weapons to Disrupt Major Websites Across U.S.*, N.Y. TIMES (Oct. 21, 2016), <http://www.nytimes.com/2016/10/22/business/internet-problems-attack.html>.

97. *Id.*

98. Stuxnet, the world's first digital weapon, underscores the risks of an increasingly interconnected world. KIM ZETTER, *COUNTDOWN TO ZERO DAY: STUXNET AND THE LAUNCH OF THE WORLD'S FIRST DIGITAL WEAPON* 5–18 (2014). Discovered in 2010, Stuxnet was a malicious computer worm spread via infected USB flash drives that manipulated the computer systems that controlled and monitored the speed of the centrifuges in Iran's nuclear program. *Id.* Commenting on its implications, Zetter described Stuxnet as a "remarkable achievement, given its sophistication and single-minded focus," but "it altered the landscape for all cyberattacks, opening the door to a new generation of assaults from state and non-state actors that have the potential to cause physical damage and even loss of life in ways never before demonstrated." *Id.* at 374–75.

99. More than a dozen countries, including China, Russia, Iran, the United Kingdom, Israel, France, Germany, and North Korea, have digital warfare programs or have announced plans to build one. *Id.* at 373. In the United States, the Defense Department's Cyber Command has an annual budget of more than \$3 billion and plans to increase its workforce five-fold, from 900 people to 4900. *Id.*

real consequences”¹⁰⁰ The report noted that the “next two to five years is the opportunity to get this right.”¹⁰¹ Even leaving aside the further security implications of the so-called Internet of Things, organizations at key junctures in the modern networked economy are vulnerable to major data breaches and integrity problems. A recent data breach at a credit reporting agency is estimated to have affected over 140 million Americans, and Facebook reportedly appears to have been easily tricked into selling advertisements to Russia-linked fake accounts that were used to seek further polarization on divisive issues such as immigration.¹⁰² These trends underscore how Americans are embracing a world of greater reliance on networked computing infrastructures and artificial intelligence while security is an unsolved problem, making people vulnerable to subtle manipulation and organizations as well as countries vulnerable to attack. And at present, there is no compelling reason to assume—as a matter of economics, societal norms, or regulation—that society will achieve a particularly efficient or attractive outcome in the balance we implicitly strike between reluctance to rely on artificially intelligent machines and concerns about whether they will function with integrity.

Third, heavy reliance on computer programs—particularly, adaptive ones that modify themselves over time rather than the expert systems with which Simon primarily concerned himself—may further complicate public deliberation about administrative decisions. The problem arises because few, if any, observers will be entirely capable of understanding how a given decision was reached. In some ways, these are really subsets of a larger point, which is that we don't have a great legal framework to manage principal-agent problems or to resolve disputes between people and very complex, self-modifying machines. Agencies have long relied on software to analyze data and inform assessments of the costs and benefits of

100. NSTAC REPORT, *supra* note 86, at 23-24.

101. *Id.* at 24.

102. Tara Siegel Bernard & Stacy Cowley, *Equifax Hack Exposes Regulatory Gaps, Leaving Consumers Vulnerable*, N.Y. TIMES (Sept. 8, 2017), <https://www.nytimes.com/2017/09/08/business/equifax.html>. Scott Shane & Vindy Goel, *Fake Russian Facebook Accounts Bought \$100,000 in Political Ads*, N.Y. TIMES (Sept. 6, 2017), <https://www.nytimes.com/2017/09/06/technology/facebook-russian-political-ads.html>. Further refinements in machine learning techniques will almost certainly play a role in limiting such vulnerabilities in the future, and use of such software may become an important feature in standards of reasonable care developed in the context of tort law. But related techniques will also likely be deployed to thwart security measures, and the expected continued reliance on the Internet itself will mean reliance on an infrastructure designed to be open rather than secure.

particular actions.¹⁰³ What's different is how the scope of reliance on software may be expanding to encompass new kinds of functions—such as policing decisions, using tools like COMPAS to assess the risk of recidivism at sentencing¹⁰⁴ or PredPol to predict the locations of future crimes¹⁰⁵—and activities that had previously been treated primarily as within the domain of human judgment. In the military context, *The New York Times* reported that “the Pentagon has put artificial intelligence at the center of its strategy . . . spending billions of dollars to develop . . . autonomous and semiautonomous weapons.”¹⁰⁶

Fourth, current legal arrangements are rarely especially well-suited or carefully crafted to police the balance of decision-making responsibility between humans and computer systems in situations where we want a human in the loop. Consider as an example how courts, at least when policing public sector decision-making, tend to rely on presumptions of regularity to avoid awkward questions about whether an official legally responsible for making a decision has actually made that decision rather

103. See Mariano-Florentino Cuéllar, *Cyberdelegation and the Administrative State* 9–15 (Stanford Pub. Law Working Paper No. 2754385, 2016), <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=2754385>.

104. See *State v. Loomis*, 2016 WI 68, ¶ 120, 371 Wis.2d 235, 282, 881 N.W.2d 749 (finding that court's reliance on a Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) risk assessment, a trade-secret protected algorithm used to advise sentencing decisions, did not violate due process).

105. The policing tool PredPol—which was reportedly used in almost sixty police departments across the country as of 2015—uses machine learning to try to predict the locations of future crimes, including locations other than those of past crimes. Ellen Huet, *Server and Protect: Predictive Policing Firm PredPol Promises to Map Crime Before It Happens*, FORBES (Feb. 11, 2015, 6:00 AM), <http://www.forbes.com/sites/ellenhuet/2015/02/11/predpol-predictive-policing/#541ff6b84f9b>.

106. Matthew Rosenberg & John Markoff, *The Pentagon's 'Terminator Conundrum': Robots That Could Kill on Their Own*, N.Y. TIMES (Oct. 25, 2016), http://www.nytimes.com/2016/10/26/us/pentagon-artificial-intelligence-terminator.html?_r=0. A 2009 United States Air Force report acknowledged the possibility that advances in technology could create autonomous machines, and stated that ethical and policy discussions are needed to figure out how to use that technology. The report states, “Authorizing a machine to make lethal combat decisions is contingent upon political and military leaders resolving legal and ethical questions.” U.S. AIR FORCE, UNMANNED AIRCRAFT SYSTEMS FLIGHT PLAN 2009-2047, at 41 (2009), https://fas.org/irp/program/collect/uas_2009.pdf; see also Peter Finn, *A Future for Drones: Automated Killing*, WASH. POST (Sept. 19, 2011), https://www.washingtonpost.com/national/national-security/a-future-for-drones-automated-killing/2011/09/15/gIQAVy9mgK_story.html.

than relying on advisers.¹⁰⁷ Not only does litigation-related discovery have its costs, but it's also substantively difficult to draw a line between laudable reliance on other minds to supplement a decision-maker's judgment and inappropriately allowing someone else to decide. It's far from obvious that these problems would be easier to handle when the line must be drawn between the computer as a mere decision-support tool and the human as the implementer of machine-mediated decision.

And in some settings, such as those raising tort law questions, existing law may encourage automation without necessarily reflecting a careful weighing of aggregate risks or consequences.¹⁰⁸ We are then faced with an exceedingly blurry line between computer-assisted human choice and human-ratified computer choice. We can begin to see the complexity of this question by looking to older cases examining liability for both excessive reliance and insufficient reliance on computing systems.

Consider an example. In 1986, the Supreme Court of Georgia found that it was a question for the jury "whether the plaintiff was negligent in relying solely upon its computer, considering the current widespread use of computers for the purpose of keeping business records, and that the plaintiff's computer . . . may not have been known to be inaccurate."¹⁰⁹ In contrast, in 1983 the Court of Appeals of Arizona found the defendant trucking company liable for a wrongful death because the company could have quickly set up a computer program to verify driver log books (and better regulate driver fatigue) rather than accepting inaccurate log books.¹¹⁰

107. See, e.g., *United States v. Armstrong*, 517 U.S. 456, 464 (1996) (applying a presumption of regularity to criminal defendants' selective-prosecution claim); *United States v. Morgan*, 313 U.S. 409, 422 (1941) (applying a presumption of regularity to Secretary of Agriculture's decision); *United States v. Chem. Found., Inc.*, 272 U.S. 1, 14–15 (1926) (applying a presumption of regularity to public official charged with authority under Trading with the Enemy Act); *Nat'l Nutritional Foods Ass'n v. FDA*, 491 F.2d 1141, 1145 (2d Cir. 1974) (applying presumption of regularity to FDA's decision).

108. The Supreme Court's decision in *Kyllo v. United States*, 533 U.S. 27 (2001), could provide one way of looking at new technologies. The Court determined that police use of a thermal imaging device to take a thermal image of the defendant's home (from outside the home) was an unreasonable search in violation of the Fourth Amendment, in part because of the "sense-enhancing technology" used by the police. *Id.* at 34. Moreover, in a concurring opinion in *United States v. Jones*, 65 U.S. 400 (2012), Justice Sotomayor acknowledged how technology may impact our understanding of a "reasonable expectation of privacy" (one possible component in the determination of whether an unreasonable search occurred), noting that "even short-term [GPS] monitoring . . . will require particular attention." *Id.* at 415.

109. 49 AM. JUR. TRIALS 281 § 2, n.31 (Oct. 2017 update).

110. *Id.* § 6.

Finally, as the American model for sophisticated development of information technology transitions from one driven heavily by government contracts to one spurred by commercial advantage, the labor and employment consequences of “artificial intelligence”—like those in the past associated with trade policy and immigration—will almost certainly prove enormously contentious.¹¹¹ Arguments over labor and law in the 1920s were as contentious as anything in law and politics in the early twentieth century, or the arguments about trade right now. Political schisms over disappearing jobs will fuel fights over cybersecurity, human dignity, and basic income amidst the possibility that millions of drivers, middle-class white-collar workers, and (as advances in robotics accelerate) security guards and medical care workers may lose their jobs in the decades to come.

The chapters to come in this story will no doubt incorporate discussion of the rate of change in the capacity of particular technologies to transform energy into computing power at a given cost,¹¹² the knowledge of human psychology necessary to transform a particular combination of computing power and software into particular experiences for people, and changes in software architectures. The story will almost certainly encompass a transition in the pivotal areas of law, from elaborate government contracts funding research and development, to antitrust and competition laws, liability under tort law, willful blindness, and perhaps above all, public and private legal arrangements designed to narrow the gap between how artificially intelligent systems function when they analyze a problem and what individuals and organizations can comprehend. Common to nearly all of the law- and policy-related dilemmas is the matter of defining what

111. Compare *Lochner v. New York*, 198 U.S. 45, 64 (1905) (striking down New York labor law that limited work hours at bakeries), and *Adkins v. Children’s Hosp.*, 261 U.S. 525, 562 (1923) (striking down minimum wage for female employees), with *Adkins*, 261 U.S. at 562 (Taft, C.J., dissenting) (“[I]t is not the function of this court to hold congressional acts invalid simply because they are passed to carry out economic views which the court believes to be unwise or unsound.”), and *Morehead v. New York ex rel. Tipaldo*, 298 U.S. 587, 633 (1936) (Stone, J., dissenting) (accusing the majority of relying on its “own personal economic predilections” in striking down minimum wage statute). See also *Arizona v. United States*, 567 U.S. 387, 394-97 (2012) (describing debate and concerns underlying federal immigration law); *Sale v. Haitian Ctrs. Council*, 509 U.S. 155, 188 (1993) (denying temporary restraining order to enjoin executive order that directed Coast Guard to repatriate individuals on vessels from Haiti without first determining whether they were refugees).

112. Mitchell M. Waldron, *The Chips Are Down on Moore’s Law*, 530 NATURE 144 (Feb. 2016).

arbitrariness means in a setting where few participants in decisions—such as judges or policymakers, “deep learning” neural networks, the designers of those networks, or members of the public—speak a common analytical language.

In effect, Americans and their counterparts are writing statutes, regulations and court decisions governing what kind of justification for a decision advised by an artificial intelligence application is required. They are deciding when manufacturers can market autonomous vehicles without steering wheels, how cybersecurity breaches will be controlled, and when certain companies have accumulated too much market power. Some of the resulting legal arrangements must ultimately confront the irony that artificial intelligence tools prove valuable in some cases precisely because they identify patterns that would seem arbitrary to many human observers. But a closely related concern may be whether the extent of concentrated market power and control over data allowing that software to generate such insights itself creates the risk of actions that the larger public might consider unjustified or even arbitrary. In 1890, roughly the year when my account commenced, Americans concerned about the power of economic interests over their government enthusiastically turned their attention to competition (or, in American terms, antitrust) law. Perhaps attention will turn there again in earnest at a time when only a few players may have the enormous data needed to pursue elaborate forms of artificial intelligence at scale.

IV. Conclusion

Each of these transition narratives is written in a somewhat different script, featuring a distinctive cast of characters and settings that range from Chicago to Pittsburgh to Silicon Valley. Each conveys one portion of a larger story about law and development—a story offering insights not only about the context for the work of Judith Shklar, Michael Feighan, or Herbert Simon, but about how Americans rely on law and institutions in responding to an intricate world of risks and possibilities that no single institution controls. Channeling labor conflicts into courts and agencies brought to the fore not only the importance of separation of powers, but also the extra-legal constraints deeply embedded in American society. Our shifts on immigration underscored our capacity to integrate immigrants and the geopolitical benefits of doing so; they also emphasized the consequences of discretionary choices and difficult dilemmas about enforcement. Emerging questions about artificial intelligence and the law are breathing new relevance into not only the common law but also

constitutional and statutory interpretation—making them all more central to our relationship to technology.

But one can also discern some common threads in a larger narrative. First, each story relates in some way to society's concern with adapting and checking some form of arbitrariness in government amidst a changing domestic and international context. Norms emerged against arbitrary executive branch decisions about labor or mobilization, and against an arbitrarily hard-wired system that sought to retain the national origin distribution in the country. The cluster of dilemmas associated with artificial intelligence poignantly emphasize how societies keen to preserve values like non-arbitrariness must learn and adapt to preserve their capacity for deliberation about technologies much of the public only poorly understands.

Second, the United States' distinctive version of pluralism interacts—in the transitions at issue here—with its homegrown variety of federalism. Federalism has afforded states the latitude to choose how to navigate emerging societal challenges, while also likely fostering various kinds of competitive dynamics contributing to gradual changes in norms such as those associated with the once-high prevalence of crass corruption. Despite pressures to standardize legal and policy arrangements in domains ranging from immigrant integration to the regulation of autonomous vehicles, many states will almost certainly choose to experiment with different arrangements.

Finally, as the United States became a global power and experienced both the Cold War and economic globalization, a process of pluralist accommodation built into the American legal system elaborate compromises reflecting not only domestic considerations, but geopolitical and international economic pressures. Plainly, the juncture between domestic concerns and cross-border pressures so critical to shaping many legal domains remains a contested space. Policymakers may anticipate further pressures to revisit key aspects of the existing institutional order amidst growing concerns about economic globalization, migration, and technological change. They would be wise to do so.

Together, such concerns raise a larger question: what are the most important values for an advanced democracy that relies on institutions and some conception of the rule of law, and how does that society implement those values and resolve conflicts among such values in response to a changing world around it? The question looms especially large in America at a time of unusual division, where past transitions evoke the idea of adaptation as a national theme.

As Americans reflect on how to respond, they have much to celebrate in terms of humanitarian considerations and with respect to the United States itself. People around the world have become less hungry, less ignorant, healthier, and wealthier in the last century.¹¹³ The United States overcame divisions and built remarkable institutions, from universities to courts capable of undertaking adjudication on a massive scale. The bonds forged across geography during the Great Depression and World War II (and later the Cold War) were a singular part of the American story in the twentieth century, as American recruits from the heartland fought alongside soldiers from Puerto Rico in the Korean War. Immigration has contributed to the country's dynamism and its place in the world. The relations between nations enabled by trade, migration, and stable domestic institutions have helped lift many hundreds of millions out of poverty.¹¹⁴ And the supercomputers consumers casually carry in their pocket are a testament to how coordinated human action can remake the world and upend—faster than predicted—core assumptions of what is even possible.

Now consider the risks and difficult judgment calls alongside the possibilities that children growing up in the first half of the twenty-first century are likely to face. To ignore how difficult it is for any society to avoid arbitrary actions in the face of such challenges—whether these involve coercion, selection of its members, or the embrace of empowered machines—is to risk having a single season's injury become a more chronic malady. A malady that weakens institutional compromises is risky not only because of traditions that erode, but also because a society's limber capacity for adaptation is replaced gradually by aching joints and lumbering motion.

113. See, e.g., MATT RIDLEY, *THE RATIONAL OPTIMIST: HOW PROSPERITY EVOLVES* 12 (2010). In 2005, compared with 1955, the average human being earned nearly three times as much money (corrected for inflation), ate one-third more calories of food, buried one-third as many of her children, and could expect to live one-third longer. *Id.* at 14.

114. Per capita income rose by fifty-one percent in constant dollars between 1969 and 1996. Jack McNeil, *Changes in Median Household Income: 1969 to 1996*, U.S. CENSUS BUREAU, 1, <http://www.census.gov/hhes/www/p23text.html> (last revised Sept. 30, 2011). Over the last fifty years, global GDP per capita rose over three-fold. Evan Hillebrand, *Poverty, Growth and Inequality over the Next 50 Years*, in FOOD & AGRIC. ORG. OF THE UNITED NATIONS, *LOOKING AHEAD IN WORLD FOOD AND AGRICULTURE: PERSPECTIVES TO 2050*, at 159, 161 (Piero Conforti ed., 2011) <http://www.fao.org/docrep/014/i2280e/i2280e04.pdf>. Global life expectancy rose twenty-one years between 1950 to 2010. *Average Life Expectancy at Birth, 1950-2050*, PEW RES. CTR. (Mar. 26, 2015), <http://pewrsf.ch/IHmqv6N>; see also WORLD HEALTH ORG., *THE WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE* 1-11 (1999), http://apps.who.int/iris/bitstream/10665/42167/1/WHR_1999.pdf (describing global transformation in human health throughout the twentieth century and the precipitous decline in mortality).

The current generation of children knows little of aching joints as they prepare to join their peers around the world in taking the reins of their country. Time has a way of changing even the young. Soon they will be forced to reflect on what it means to be ambitious—not only as individuals, but as citizens. They will be called on to reflect on the legacy of past transitions and what aspects of that legacy—such as fealty to particular versions of non-arbitrariness, and to the United States’ long-term commitment to global engagement—they prefer to keep. Then these new generations will decide what costs they will bear to protect and adapt those ideals. The nature of such choices will determine whether the United States remains the country described by the British Foreign Office in 1928: twice as ambitious as any, and filled with people who understand how right Will Rogers was to say that “even when you’re on the right track, you’ll get run over if you just sit there.”