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Article

PERSONAL JURISDICTION AND CHOICE OF LAW IN THE CLOUD

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ABSTRACT

Cloud computing has revolutionized how society interacts with, and via, technology. Though some early detractors criticized the “cloud” as being nothing more than an empty industry buzzword, we contend that by dovetailing communications and calculating processes for the first time in history, cloud computing is—both practically and legally—a shift in prevailing paradigms. As a practical matter, the cloud brings with it a previously undreamt-of sense of location independence for both suppliers and consumers. And legally, the shift toward deploying computing ability as a service, rather than as a product, represents an evolution to a contractual foundation for interacting.

Already, substantive cloud-based disputes have erupted in a variety of legal fields, including personal privacy, intellectual property, and antitrust, to name a few. Yet before courts can confront such issues, they must first address the two fundamental procedural questions of a lawsuit that form the bases of this Article—whether any law applies in the cloud, and, if so, which law ought to apply. Drawing upon novel analyses of analogous Internet jurisprudence, as well as concepts borrowed from disciplines ranging from economics to anthropology, this Article seeks to supply

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answers to these questions. To do so, we first identify a set of normative goals that jurisdictional and choice-of-law methodologies ought to achieve in the unique context of cloud computing. With these goals in mind, we then lay out structured analytical guidelines and suggested policy reforms to guide the continued development of jurisdiction and choice of law in the cloud.

I. INTRODUCTION

[A] time may come, and may not be far distant, when commercial aircraft will fly at altitudes so high that it would be unrealistic to consider them as being within the territorial limits of the United States or of any particular State while flying at such altitudes.¹

We have come a long way in the more than half-century since *Grace v. MacArthur* was decided. Today, in record-setting fashion, even humans are surpassing commercial aircraft in altitude.² And with the ever-increasing use of cellular and wireless technologies, data is now, more than ever, being sent through and stored in the airwaves—or clouds.³ A different type of “cloud,” however, has taken center stage in this new era of data transfer and storage: cloud computing. Although a healthy debate surrounds its precise definition,⁴ cloud computing, put simply, is the ability of an end user to store and access remotely located files and services over a network by means of a smart phone, computer, tablet, or other networked device.⁵

The advent of cloud computing brought with it myriad novel legal challenges pertaining to, inter alia, privacy concerns, intellectual property

1. *Grace v. MacArthur*, 170 F. Supp. 442, 447 (E.D. Ark. 1959).

2. On October 14, 2012, Austrian Felix Baumgartner freefell 128,100 feet—more than twenty-four miles—to Earth from a space capsule. John Tierney, *24 Miles, 4 Minutes and 834 M.P.H., All in One Jump*, N.Y. TIMES, Oct. 14, 2012, at A15, available at http://www.nytimes.com/2012/10/15/us/felix-baumgartner-skydiving.html?_r=0. The stunt was part of the Red Bull Stratos project to gather new data about the human body and test new materials at extreme altitudes. *Id.* On his descent, Baumgartner achieved a maximum speed of 833.9 miles per hour, or Mach 1.24. *Id.*

3. See Thomas W. Hazlett, *Allocating Radio Spectrum for the “Mobile Data Tsunami,”* 13 ENGAGE: J. FEDERALIST SOC’Y PRAC. GROUPS 82, 82–84 (2012) (noting the “looming spectrum shortage” and spectrum “crowding” due to the proliferation of wireless data).

4. As one commentator noted humorously, “[a]ttempting to define cloud computing can prove to be as elusive as attempting to capture a genuine cloud with one’s hands.” David S. Barnhill, Note, *Cloud Computing and Stored Communications: Another Look at Quon v. Arch Wireless*, 25 BERKELEY TECH. L.J. (ANNUAL REVIEW) 621, 638 (2010); see also *infra* notes 54–55 and accompanying text (discussing the public’s misconceptions about cloud computing).

5. William J. Robison, Note, *Free at What Cost?: Cloud Computing Privacy Under the Stored Communications Act*, 98 GEO. L.J. 1195, 1202 (2010). For a more detailed explanation of the origins and mechanics of cloud computing, see *infra* Part II.C.

rights, and antitrust violations.⁶ And as is common with new technologies, the continuing scientific development of cloud computing is outpacing its legal counterpart, at least for now.⁷ But as courts' decisions regarding the substantive law of cloud computing attempt to keep stride with the underlying technology,⁸ critical procedural questions can sometimes be overlooked.⁹ This Article grapples with the two fundamental questions of procedure—*where personal jurisdiction is proper* and *what law governs a dispute*—and endeavors to provide structured frameworks for analyzing them. The answer to these questions can oftentimes exert an even greater influence over a lawsuit's outcome than its substantive merits,¹⁰ for equally as important as what the law says is which law applies, and where it does so.¹¹

To illustrate the intersection of cloud technology and the law, imagine a manmade floating island, anchored at sea or in a river, upon which computer servers are aggregated. The buoyant structure can be moved about the body of water as needed—for example, to provide computer and telecommunications support to an area affected by a natural disaster—and the servers are powered and cooled by the motion (wave, tidal, or current) of the water in which the structure floats. Too futuristic or unrealistic? Not for

6. See *infra* notes 81–83 (providing examples of cases in which cloud-based computing issues were litigated).

7. See Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553, 566 (1998) (“[T]hat technological developments outpace the rate of legal change poses another particular problem for intellectual property rights; the law always lags behind the technology.”); see also Edward Lee, *Rules and Standards for Cyberspace*, 77 NOTRE DAME L. REV. 1275, 1318 (2002) (“The Internet is fast developing and continues to outpace the law.”).

8. See Lee, *supra* note 7, at 1318 (describing the challenges courts confront in resolving cases presenting issues with regard to cyberspace).

9. See Lorelei Ritchie, *Reconciling Contract Doctrine with Intellectual Property Law: An Interdisciplinary Solution*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 105, 106 (2008) (“Certainly, when intellectual property disputes touch on other disciplines, such as civil procedure . . . courts have tended to overlook their synergies, focusing instead on only one of several important policies or principles. The result has gone beyond missed opportunities. It has led to judicial mistakes . . .”).

10. See, e.g., Christopher A. Whytock, *Myth of Mess? International Choice of Law in Action*, 84 N.Y.U. L. REV. 719, 745 & n.130 (2009) (“Which state’s law applies can determine the litigation outcome.”).

11. See Stewart E. Sterk, *The Marginal Relevance of Choice-of-Law Theory*, 142 U. PA. L. REV. 949, 992–93 (1994) (“[C]ourts recognize that procedural requirements perform an essential function in any legal system Hence, substance is not all; courts and administrators recognize that substantive results must be balanced against the harm to the system that would result if procedures were entirely ignored.”).

technology behemoth Google, Inc., which was granted a patent for such a data center in 2009.¹²

In industry terms, Google's patent describes a mobile, marine-based server farm.¹³ The advantages of such a server farm include, among others, a zero-cost power supply and the ability to move the servers within close proximity of the end users who interact with them.¹⁴ In addition to these economic and functional considerations, however, there are substantial legal consequences to this arrangement. For example, a server farm that is located both everywhere and nowhere, essentially,¹⁵ allows users to conduct network activities that might otherwise be regulated heavily—or even prohibited—by the national laws of the country where a land-based server is located.¹⁶

Query, then, if a lawsuit were to arise based on content hosted by a marine-based server like the one described in Google's patent, where would jurisdiction be proper? In Delaware, where Google is incorporated? In California, where Google has its principal place of business? Or *elsewhere*? And equally as important, if a court can hear the case, what law governs? To the extent that these questions remain unanswered, they are especially troubling because cloud-computing service providers often retain copies of uploaded content in multiple locations or, at the opposite end of spectrum, fragment data across numerous servers.¹⁷

This Article seeks to answer these questions. Part II traces the history of data storage and data transfer prior to the dawn of cloud computing, with particular emphases on content reproduction, communication technology,

12. Water-Based Data Center, U.S. Patent No. 7,525,207 (filed Feb. 26, 2007) (issued Apr. 28, 2009); Ashlee Vance, *Google's Search Goes Out to Sea*, N.Y. TIMES BITS BLOG (Sept. 7, 2008, 9:59 PM), <http://bits.blogs.nytimes.com/2008/09/07/googles-search-goes-out-to-sea/>.

13. See Steven R. Swanson, *Google Sets Sail: Ocean-Based Server Farms and International Law*, 43 CONN. L. REV. 709, 714 (2011) (“[A] server is a computer designed to provide information or processes to other computers on a network, and a server farm, also known as a data center, is a group of servers in one location connected by a network.”).

14. See *id.* at 716–17.

15. See *Digital Equip. Corp. v. AltaVista Tech., Inc.*, 960 F. Supp. 456, 462 (D. Mass. 1997) (“The Internet has no territorial boundaries. To paraphrase Gertrude Stein, as far as the Internet is concerned, not only is there perhaps ‘no there there,’ the ‘there’ is *everywhere* where there is Internet access.”).

16. See Swanson, *supra* note 13, at 718 (noting, in particular, that “[g]ambling or pornography websites could . . . escape scrutiny by running floating sites” and highlighting some countries’ laws that ban certain Internet activities).

17. Josiah Dykstra & Damien Riehl, *Forensic Collection of Evidence from Infrastructure-as-a-Service Cloud Computing*, 19 RICH. J.L. & TECH. 1, 10 (2012).

and computing capability;¹⁸ it also provides a technological overview of cloud computing and the legal contours in which it exists.¹⁹ Part III then summarizes personal-jurisdiction and choice-of-law jurisprudence.²⁰ Part III also sets forth the normative goals that this Article seeks to achieve by evaluating the interplay between predictability and innovation and discussing the economic impacts of new technologies.²¹

Parts IV and V then lay out frameworks for analyzing personal jurisdiction and choice of law in cloud-computing cases. These Parts each begin by examining decisions from Internet-era cases and demonstrating that cloud computing presents issues of personal jurisdiction and choice of law that are distinct from cases involving regular Internet interactions, that is, operating or accessing a website.²² By recognizing this contrast, Parts IV and V explain the reasons why the Internet-law approach to personal jurisdiction and choice of law is not only legally incongruous with cloud computing, but also unworkable in practice. Parts IV and V then offer a series of solutions—both judicial and legislative—for addressing these cloud-computing conundrums in personal jurisdiction and choice of law.²³

Finally, Part VI offers a brief conclusion. In sum, this Article exposes the hazards of attempting to apply traditional personal-jurisdiction and choice-of-law doctrines to novel situations that arise in cloud-computing interactions. By acknowledging the need to depart from these conventional frameworks, this Article offers solutions that accommodate the recent developments in technology and illuminate a path for courts and legislatures to follow when addressing the intricacies raised by these two fundamental procedural questions.

II. FROM COURIER TO CLOUD: THE EVOLUTION AND CONVERGENCE OF COMMUNICATIONS AND COMPUTING

The central thesis of what follows is simple. Prior to the advent of cloud computing, humankind's ability to communicate and to calculate (and later to compute) developed on separate tracks. The shift to the cloud is the bridging of that millennia-old gap. In short, cloud computing constitutes the first dovetailing of communication and calculation. Thus, we contend

18. *See infra* Part II.A–B.

19. *See infra* Part II.C.

20. *See infra* Part III.A–B.

21. *See infra* Part III.B.4.

22. *See infra* Parts IV.A, V.A.

23. *See infra* Parts IV.B, V.B.

that the advent of cloud computing represents a true paradigm shift²⁴ in the way that both suppliers and consumers interact with digital technology—it is a shift away from viewing computing capability as a *product* and toward deploying and consuming it as a *service*.

As with any disruptive leap forward in technology that ultimately alters real-space behavior, the move to the cloud carries with it implications for the administration of legal systems and the application of existing laws.²⁵ The first step toward exploring those implications is gaining an understanding of the technology itself; accordingly, this Part begins by recounting the developments in information technology that paved the way for cloud computing. We turn first to what we term the “Pre-Network Era”—a period that spans the roughly seven-and-a-half millennia predating the rise of the Internet.

A. *The Pre-Network Era*

The marketplace transactions, political structures, and legal mechanisms of ancient civilizations eventually grew too complex to manage using only human memory and oral communication. Innovations provided the means to overcome these limitations—as to communicative data storage and transfer, writing emerged; as to calculating ability, the abacus was developed. Yet, from the earliest symbols etched into clay pottery or cave walls²⁶ to the first books printed more than six millennia later using Gutenberg’s movable-type printing press²⁷ to the millions of copies of mass-market hardcover and paperback books still being printed today, content storage and transfer occurred within remarkably static structures. Communication technology also marginally improved but, overall, remained fairly

24. The term “paradigm shift” originated in Thomas Kuhn’s seminal work *The Structure of Scientific Revolutions*. Kuhn employed it to describe a dramatic change in the prevailing theory underlying a field of scientific study. THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 84–85 (2d ed. 1970). It has subsequently entered the popular lexicon as a phrase more loosely describing any major change in political, social, artistic, or commercial structures, and it is in this latter sense that we use the term here.

25. See *supra* note 7 and accompanying text.

26. See David Whitehouse, ‘Earliest Writing’ Found, BBCNEWS (May 4, 1999), <http://news.bbc.co.uk/2/hi/science/nature/334517.stm> (“The first known examples of writing may have been unearthed at an archaeological dig in Pakistan. . . . [T]hese primitive inscriptions found on pottery may pre-date all other known writing.”).

27. This press, it should be noted, may or may not have been the first movable-type press, and those “first books” may or may not have been Bibles—a healthy historical debate surrounds such claims, thankfully one far beyond the scope of this paper. See, e.g., PETER L. SHILLINGSBURG, *FROM GUTENBERG TO GOOGLE: ELECTRONIC REPRESENTATIONS OF LITERARY TEXTS* 28 (2006).

static. Similarly, calculating (and later computing) remained—in at least some ways—a relatively stable technology from 2000 B.C. to the late twentieth century.

As to content, the most readily apparent counterargument to our thesis is that the Gutenberg Press radically changed reproduction, distribution, and consumption. It is certainly true that by greatly reducing variable costs, the invention of the printing press dramatically altered the economics of textual production.²⁸ Thus, where “there were perhaps 30,000 books in all of Europe before Gutenberg printed his Bible; less than 50 years later, there were as many as 10 to 12 million books.”²⁹ But even as it evolved from scratching in clay pots to using quill pens and vellum to printing multiple sheets from a single page of movable type, authorship and reproduction throughout most of human history consisted of physically fixing data in “a tangible medium of expression,” to borrow a phrase from modern U.S. copyright law.³⁰ And “tangible” meant media that were physical. The movable-type press made books inexpensive to reproduce, but it did not eliminate conditions of scarcity.³¹ It allowed a single operator to create hundreds of copies of texts, but it did not change the localized, physical nature of (re)production.³² It made printed materials more affordable, but did nothing transformative to distribution; that is, the end products still had to travel via the exact same real-space channels as handmade copies.³³ Finally, end users consumed and stored data produced by the Gutenberg Press just as they had for thousands of years; the only difference was that exponentially more of them were able to do so.

Even the digitization of content in the twentieth century did not, by itself, bring much structural change to production, distribution, and consumption. Before digital computers were networked, their ability to produce thousands of perfect copies at marginal costs approaching zero was super-

28. See Jeremiah Dittmar, *Information Technology and Economic Change: The Impact of the Printing Press*, 126 Q. J. ECON. 1133, 1140 (2011) (comparing the benefits derived from the invention of the printing press in cities with and without printing presses).

29. *Gutenberg's Legacy*, HARRY RANSOM CTR., UNIV. OF TEX., <http://www.hrc.utexas.edu/educator/modules/gutenberg/books/legacy/> (last visited May 30, 2013).

30. 17 U.S.C. § 102(a) (2006).

31. See Dittmar, *supra* note 28, at 1140 (describing the limitations to obtaining print media in cities that did not have printing presses).

32. See *id.* (explaining that “[p]rint media were costly to transport because they were heavy and fragile commodities”).

33. See LUCIAN FEBVRE & HENRI-JEAN MARTIN, *THE COMING OF THE BOOK* 115–17 (Geoffrey Nowel-Smith & David Wootton, eds., 1976) (discussing the importance to early publishers of being located along established trade routes).

fluous.³⁴ An individual in her own home could produce localized copies of content, but had no use for the surplus.³⁵ This was so because distribution—as it had been following the introduction of the Gutenberg Press—remained largely unchanged. And as a result, consumption structures and processes remained relatively static as well.

A somewhat stronger counterargument could be made as to communications technology. Here, the focal points would likely be the emergence of pre-digital networks like the telegraph or analog telephone systems or, alternatively, the development of wireless broadcast (or wired narrowcast) systems. By alleviating at least some of the geographic–locality limitations on human communications, these developments were indeed innovative.³⁶ Yet again, we argue that these were—as a structural matter—less revolutionary than they might seem at first glance. These systems were beset by one of the same fundamental problems as face-to-face communication: engaging in two- or multiple-way communications dictated a relatively limited number of participants; as that number expanded, communication necessarily became one-way.³⁷ Put another way, in a real-space, localized setting, a multiple-way conversation can only occur between a very limited number of participants. Expanding this number soon requires changing the format to a one-way communication from an active speaker to a passive audience. And the advent of telegraphs, telephones, and wireless broadcast radio and television did nothing to change that.

As to computing, our claim that the digital computer in some ways represented little change from the abacus might seem downright heretical.³⁸ Admittedly, the digital computer has represented a quantum leap forward in calculating ability—and the subsequent exponential growth in processing

34. See John M. Newman, *Copyright Freeconomics*, 66 VAND. L. REV. (forthcoming 2013) (manuscript at 11), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2138409 (“The intangibility of code, coupled with years of exponential growth in processing speeds and hard drive capacity, allowed for nearly instantaneous, high-quality copying that entailed marginal costs approaching zero.”).

35. *Id.* at 11–12.

36. See generally Cory Ondrejka, *Collapsing Geography: Second Life, Innovation, and the Future of National Power*, 2 INNOVATIONS 27 (2007) (discussing the interplay between innovation and geography).

37. See *id.*

38. Cf., e.g., Rocco L. Martino, *Innovation and Economic Growth: Lessons from the Story of ENIAC*, FOOTNOTES (Foreign Policy Research Institute), Apr. 2009, at 1, available at <https://www.fpri.org/docs/FN1406-martino-eniac.pdf> (describing the advent of the “Electronic Numerical Integrator and Computer” as a symbol of “radical, incremental, and revolutionary innovations . . . the grandfather of the computer and of the information transformation of our world”).

capability shows no signs of slowing.³⁹ But, until very recently, humans interacted with computing devices much as they had with earlier calculators. Computing was a localized process—a user needed to physically and locally interact with the machine that would perform the processes she input.⁴⁰ And consumers of computing power generally were required to purchase physical machines. In short, computing was viewed as a *product*, rather than a *service*. All of this meant that digital computers were structurally quite similar to pre-digital calculating devices.

Certainly, the advances mentioned above that emerged during the Pre-Network Era brought with them great upheavals in social, economic, political, and legal processes. They were disruptive innovations in every sense of the word; they wreaked the sort of “creative destruction” upon entrenched markets that Schumpeter famously identified.⁴¹ But in recent decades, we have been—and are currently—experiencing paradigm shifts in content economics, communications technology, and computing capability that rival in magnitude the sum of innovative activity from the last seven-and-a-half millenia combined.

B. The Internet: A Network of Networks

The Internet—a “network of networks” and the “printing press of the technology era”⁴²—provided the communication platform upon which content digitization and increasing computing capability could interact in a truly revolutionary way. Widespread access to the Internet at constantly increasing speeds did to data distribution what digitization and access to personal computers had done to reproduction: it lowered marginal costs to

39. “Moore’s Law” was coined to describe the rapid pace of growth in processing capability over the previous two decades. INTEL, MOORE’S LAW (2005), ftp://download.intel.com/sites/channel/museum/Moores_Law/Printed_Materials/Moores_Law_2pg.pdf (“Nearly 40 years ago, Intel co-founder Gordon Moore forecasted the rapid pace of technology innovation.”).

40. See David Lametti, *The Cloud: Boundless Digital Potential or Enclosure 3.0?*, 17 VA. J.L. & TECH. 190, 209 (2012) (“[A] user of traditional word-processing software such as Word or an email application such as Outlook runs these programs off her own machine, using local processing power and data storage facilities.”).

41. JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 83 (Harper & Row 3d ed. 1950) (1942) (describing innovations that “incessantly revolutionize[] the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one”).

42. Joshua C. Ramo & David S. Jackson, *Winner Take All*, TIME, Sept. 16, 1996, at 56, 63 (quoting James Barksdale, President and CEO of Netscape).

essentially zero.⁴³ The importance of the dawn of the Network Era for content, communication, and now computing, cannot be overstated.⁴⁴

Without connectivity, advances in computing were fairly irrelevant to the structural processes in place for the production, distribution, and consumption of communicative content. Before the Network Era, a single end user could feasibly have created millions of copies of an ebook on her home computer, but the duplicates would have been relegated to isolated storage as wasted surplusage.⁴⁵ Firms and individuals were able to create content digitally—for example, newspaper reporters were able to write articles using word-processing programs—but distribution either required slow, costly physical means or was shackled by the limitations of broad- or narrowcasting discussed above.⁴⁶

But networking not only represented a drastic reduction in the costs of communication, it also eliminated the relevance of geographic location to distribution capability and costs. By removing the physical element from reproduction and distribution, it upended the old localized model such that content could be made available to anyone, anywhere, and could be distributed to them at the speed of light.⁴⁷ For the first time, not only ideas themselves, but now their embodiments as well, were truly nonrivalrous. Content abundance replaced content scarcity.⁴⁸

Finally, the adoption of the Internet deconstructed the hierarchy of production. In place of top-down models arose end-to-end architecture that rendered the traditional concept of “end users” an oxymoron.⁴⁹ Former

43. Cf. John M. Newman, *Anticompetitive Product Design in the New Economy*, 39 FLA. ST. U. L. REV. 681, 694 (2012) (“Digital products can be reproduced extremely cheaply, often with marginal costs approaching zero.”).

44. See, e.g., Christopher S. Yoo, *The Changing Patterns of Internet Usage*, 63 FED. COMM. L.J. 67, 68 (2010) (“The Internet unquestionably represents one of the most important technological developments in recent history. It has revolutionized the way people communicate with one another and obtain information and has created an unimaginable variety of commercial and leisure activities.”).

45. See *supra* notes 33–35 and accompanying text.

46. See *supra* text accompanying note 37.

47. Cf. Jenny S. Martinez, *Process and Substance in the “War on Terror,”* 108 COLUM. L. REV. 1013, 1074–75 (2008) (highlighting the legal challenges resulting from globalization, which include “the complexities of gathering intelligence from telephone and internet communications transmitted in and out of the United States and around the world at the speed of light”).

48. See Ellen P. Goodman & Anne H. Chen, *Modeling Policy for New Public Service Media Networks*, 24 HARV. J.L. & TECH. 111, 153 (2010) (referring to “the world of content abundance”).

49. LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 8 (2004).

pure consumers became producers and distributors as well.⁵⁰ And the rise of nearly instantaneous, zero-cost, two-way transfer of media created an avenue and demand for multipath, large-scale communication.⁵¹ The ability to effectively converse with thousands of individuals allowed previously undreamt-of communicative possibilities. A single person's blog posting could create a conversation that spread throughout a network of networks, seemingly with a life of its own—as the neologism aptly puts it, “virally.”

The transformative shift to the Network Era has not been an easy one. In its infant stages, legal and political battles erupted over the application of standing laws and norms to the human interactions occurring atop this new platform.⁵² Myriad questions regarding ownership, agreements, morality, intellectual property, privacy, and other issues remain unresolved.⁵³ And the next stage of development, described below, will raise yet even more questions in need of answers.

C. *Rising into the Cloud*

The American public remains largely ignorant as to what, exactly, “cloud computing” is. A majority, in fact, appear to believe it has something to do with actual clouds and that, consequently, a severe squall or thunderstorm could fatally disrupt cloud-computing processes.⁵⁴ Given the difficulty that even industry experts have in formulating a precise definition

50. See Yafit Lev-Aretz, *Second Level Agreements*, 45 AKRON L. REV. 137, 141 (2012) (“Web 2.0 was defined as an ‘amalgam of ‘participatory Web’ applications,’ which turned erst-while passive end users into active producers by allowing them to generate and share content of all types.”).

51. *Id.* at 141–42 (explaining that the “decentralization of the Web . . . empowered the Internet to operate as a platform rather than a mere data conduit,” leading to the advent of widespread sharing services such as “blogs, wikis, [and other social media websites]”).

52. See, e.g., Bryce A. Lenox, Note, *Personal Jurisdiction in Cyberspace: Teaching the Stream of Commerce Dog New Internet Tricks: Compuserve, Inc. v. Patterson*, 89 F.3d 1257 (6th Cir. 1996), 22 U. DAYTON L. REV. 331, 332 (1997) (“Because of the youth and novelty of the Internet, jurisdictional issues are only now beginning to surface in the courts.”).

53. Cf., e.g., Amelia Rawls, *Contract Formation in an Internet Age*, 10 COLUM. SCI. & TECH. L. REV. 200, 204 (2009) (discussing how, in particular, “modernity has induced transformations even in seemingly traditional applications of contract law”). But see Lenox, *supra* note 52, at 331–32 (stating that some “cyber-issues,” including “pornography on the Internet, copyright law, and libel have been addressed in great detail”).

54. Zach Walton, *Americans Think Cloud Computing Comes from Actual Clouds*, WEBPRONEWS (Aug. 29, 2012), <http://www.webpronews.com/americans-think-cloud-computing-comes-from-actual-clouds-2012-08> (discussing the results of a survey of 1,000 Americans which showed that “51 percent of respondents believe[d] that stormy weather [could] interfere with cloud computing” and only “16 percent actually knew what the cloud was”).

of “cloud computing,”⁵⁵ this confusion is understandable. Yet the fact is that the majority of computer and smartphone users already consume cloud services on a daily (even hourly) basis.⁵⁶ Web-based email, calendars, spreadsheet editors, and word-processing programs like the current offerings from Google, Microsoft, and others are all examples of cloud-computing services already in common use.⁵⁷ Without knowing what the term denotes, it seems, society has already begun rising into the cloud.

Jurisprudence, however, does not have that luxury. Before courts can adjudicate disputes that arise in the cloud, they must understand what cloud computing is, how it differs from previous architectures, and what implications those differences carry for jurisdiction and choice of law.

More than a few skeptics have posited that “cloud computing” is nothing more than a redundant buzzword, synonymous and coextensive with the Internet.⁵⁸ It is our aim in the following Part not only to provide a high-level understanding of the evolution and structure of cloud-computing processes, but also to reply to such skepticism. Cloud services exhibit unique technological and legal features that will require specialized analyses. In short, cloud computing—though it shares some similarities with, and frequently leverages the communicative capabilities of, the Internet—is not an empty concept.

1. *Technological Structure*

The most commonly cited description of cloud computing is the National Institute of Standards and Technology’s (“NIST”) definition: “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources . . . that can be rapidly provisioned and released with minimal management effort or service pro-

55. See, e.g., Miranda Mowbray, *The Fog over the Grimpen Mire: Cloud Computing and the Law*, 6 SCRIPTED 133, 134 (2009) (“[T]here is no agreed upon definition of cloud computing.”); Geoffrey A. Fowler & Ben Worthen, *The Internet Industry Is on a Cloud—Whatever That May Mean*, WALL ST. J., Mar. 26, 2009, <http://online.wsj.com/article/SB123802623665542725.html> (“While almost everybody in the tech industry seems to have a cloud-themed project, few agree on the term’s definition.”).

56. See Walton, *supra* note 54 (describing survey results revealing that ninety-five percent of the respondents used cloud-based services daily).

57. See Lametti, *supra* note 40, at 209 (identifying Google Docs, Microsoft Office Live, and Gmail as “Cloud-based application[s]”).

58. See, e.g., Warren B. Chik, *Paying It Forward: The Case for a Specific Statutory Limitation on Exclusive Rights for User-Generated Content Under Copyright Law*, 11 J. MARSHALL REV. INTEL. PROP. L. 240, 244 (2011) (“There is no consensus on the definition of ‘Web 2.0’ or even that it is anything more than a buzzword.”).

vider interaction.”⁵⁹ Put another way, cloud computing is a model that allows for on-demand “scalability” of computing power by end users that are located remotely from the computing resources themselves.⁶⁰ The NIST definition goes on to list five attributes of cloud computing: (1) on-demand self-service, (2) broad network access, (3) resource pooling, (4) rapid elasticity or expansion, and (5) measured service.⁶¹ Essentially, cloud-service providers make a pool of servers available to distributed end users who can rapidly harness those servers’ collective computing power when needed (“scaling up”), then rapidly release that power when the desired task is completed (“scaling down”).⁶²

Cloud computing also allows “workload migration”—service providers can easily shift workloads across servers, both inside local data centers and among disparately located data centers.⁶³ And this, in turn, allows suppliers to route around any single server (or, frequently, even an entire data center) in case of technical failure, to allow for scheduled maintenance, or even to avoid consuming expensive peak-demand power in a certain geographic region.⁶⁴ This resiliency and flexibility offers readily apparent advantages over traditional computing models for both producers and consumers.

The move to the cloud is a move away from consuming computing resources as a product and toward viewing computing as a service.⁶⁵ From the consumer’s perspective, cloud services generally eliminate the geographic location of hardware (other than the consumer’s own thin-client

59. PETER MELL & TIMOTHY GRANCE, NIST, SP 800-145, THE NIST DEFINITION OF CLOUD COMPUTING 2 (2011).

60. See, e.g., Cindy Pham, Note, *E-Discovery in the Cloud Era: What’s a Litigant to Do?*, 5 HASTINGS SCI. & TECH. L.J. 139, 142 (2013) (“[C]loud computing is an Internet-based service which provides users access to software, resources, and information stored elsewhere and managed by someone else, anytime and anywhere.”).

61. MELL & GRANCE, *supra* note 59, at 2.

62. See Pham, *supra* note 60, at 139–40 (“[C]loud computing . . . can be scaled to individual needs.”).

63. T. Sridhar, *Cloud Computing—A Primer: Part 1: Models and Technologies*, 12 INTERNET PROTOCOL J. 2, 3 (2009) (defining “[w]orkload movement” by cloud-computing providers as “migrat[ing] workloads across servers—both inside the data center and across data centers”).

64. See, e.g., Xuan Li & Jine-Chung Lo, *Pricing and Peak Aware Scheduling Algorithm for Cloud Computing*, 2012 IEEE 1 (2012).

65. Accordingly, “[c]loud computing involves shifting the bulk of the costs from *capital expenditures* . . . to an *operating expense* . . . model, where you pay for usage of these types of resources.” Sridhar, *supra* note 63, at 3.

hardware⁶⁶) as a relevant aspect of computing. So long as a network connection exists, the physical location of end users, servers, and service providers—and their proximity to one another—is almost entirely irrelevant (at least outside a courtroom). A U.S. citizen could, for example, use a smartphone to check her email from La Guardia airport in New York, edit a document from a desktop computer at a kiosk during a layover in Reykjavik, Iceland, and then schedule a calendar appointment using her laptop from a hotel in Vienna, Austria. And regardless of her physical location, the actual computations she was directing could have been occurring on a server located anywhere on Earth. As the NIST definition puts it, “[t]here is a sense of location independence in that the customer generally has no control or knowledge over the exact location of the provided resources.”⁶⁷ Indeed, the term “location independence” has been used elsewhere with some frequency to describe the phenomenon of the geographic irrelevance of computing resources in the cloud.⁶⁸

From the supplier’s perspective, cloud computing’s exact effect on the relevance of server location varies depending on each supplier’s particular practices. Take, for example, Google’s email service. Because Google actually owns its massive server farms, it can affirmatively choose to migrate workloads among its own servers from state to state, country to country, or even land to sea—in the case of offshore servers—to realize gains from whatever comparative advantages can be had in the new location. To the extent Google does so, geographic location of servers remains relevant (at least to Google, if not to consumers or advertisers) because, in this scenario, Google has made affirmative, purposeful choices regarding the geographic location of the server farms handling workloads. By way of contrast, consider a firm offering a competing service that runs over metered service

66. The term “thin client” refers to the advent, made possible by cloud technologies, of end-user devices with relatively little local computing capacity. See, e.g., Lametti, *supra* note 40, at 219 (“We are entering a period where ‘thin clients’ are becoming the norm. These are devices with little computing capacity or need to perform computing functions on their own.”). A smartphone, for example, may have far less computing ability than a laptop or desktop computer—yet, by virtue of Internet connectivity and cloud services, an end-user with a smartphone can now harness far greater computing and storage capacity than a peer using an unconnected desktop computer.

67. MELL & GRANCE, *supra* note 59, at 2. As the NIST noted, of course, customers still “may be able to specify location at a higher level of abstraction (for example, country, state, or datacenter).” *Id.*

68. See, e.g., Simon Bradshaw et al., *Contracts for Clouds: Comparison and Analysis of the Terms and Conditions of Cloud Computing Services*, Queen Mary University of London, School of Law, Legal Studies Research Paper No. 63/2010 (Sept. 1, 2010), at 5 (“Location independence means, from the customer’s perspective, that the services can be accessed from anywhere with suitable communications links.”).

purchased from Amazon's cloud-services arm. Here, the service provider may—like its consumers—be indifferent as to the geographic location of the actual computing power Amazon is providing. Alternatively, cloud-services contracts sometimes specify a large geographic zone encompassing multiple server farms within which migration can occur.⁶⁹ To the extent that some real-space limitations are contemplated, geographic location of servers thus can remain salient to varying degrees.

Regardless of the exact circumstances, the importance to service providers of computers' actual geographic location is—from a technological standpoint—relatively minimal. This is so because, at its core, cloud computing consists of offering computing resources “that can be rapidly provisioned and released *with minimal management effort or service provider interaction.*”⁷⁰ If this were not the case, many of the efficiencies offered by cloud services would disappear. Location independence is an important—even crucial—aspect of cloud computing for providers as well as customers.⁷¹

2. Legal Structure

From a legal perspective, the cloud embodies a new template for interactions: all interactions in the cloud—unlike those that occur purely via the Internet—are contract-based. Previously, a consumer who purchased a computer had little or no ongoing contractual relationship with the supplier. When computing was a product, consumers purchased and consumed it locally like any other off-the-shelf good. Similarly, visiting a passive Web 1.0-type website generally does not trigger any ongoing contractual relationship.⁷² Computing as a *service*, however, is an entirely different matter. Like any contract for services, the provision and consumption of cloud-computing services contemplates a contractual relationship that continues as long as the service is being provided.⁷³ Consider, for example, an individual consumer using a cloud-based word-processing application. For as

69. See *id.* at 28 (noting that “[s]ome major cloud providers . . . have made a point of offering ‘regional zones’ in which a customer may be assured that data will remain”).

70. MELL & GRANCE, *supra* note 59, at 2 (emphasis added).

71. See Bradshaw et al., *supra* note 68, at 5 (“Location independence is also an important factor for providers, who may seek to deploy their infrastructure wherever it is most convenient and efficient, and in a manner that maximises the economies of scale already mentioned.”).

72. See Lev-Aretz, *supra* note 50, at 141 (“Under the Web 1.0 stage, the Web functioned as a read-only medium through numerous ‘static’ websites.”).

73. See Bradshaw et al., *supra* note 68, at 15–16 (surveying terms and conditions contracts for cloud services and concluding that “[i]t is not unusual to see a provision that the contract will continue indefinitely until it is terminated”).

long as she utilizes the application, that consumer is interacting with a supplier under the terms of a contract—a contract for the performance of services—in a way that an individual visiting a passive Web 1.0 website is not.

3. *Welfare Gains from Cloud Adoption*

It nearly goes without saying that scalability in computing provides multiple benefits to suppliers and consumers, increasing both total and consumer welfare. Greater resiliency and location independence represent increases in computing quality relative to pre-cloud products. Cost and price advantages are present as well. On the demand side, consumers of computing services generally exhibit variable demand; that is, they require different amounts of computing power at different times.⁷⁴ Yet consumers who opt to use cloud-computing services can purchase only the computing services they actually use, instead of being forced to purchase enough capacity to meet maximum demand.⁷⁵ Relatedly, shifting computing purchases to the cloud allows customers to transform the outlays incurred from capital expenditures, which are front-loaded, to operating expenditures, which are more evenly distributed.⁷⁶ On the supply side, providers of cloud services can attain economies of scale “by sharing resources between a pool of customers and buying infrastructure in bulk.”⁷⁷ These reduced costs, assuming that the provider is operating in a competitive market, may then be passed on to consumers in the form of lower prices.⁷⁸

4. *Legal Implications*

The shift to cloud computing, like any other major technological upheaval, has not been—and will not be—entirely free of legal obstacles. Cloud-computing models have been rapidly adopted by providers and us-

74. *Id.* at 5.

75. Mowbray, *supra* note 55, at 145–46 (“For buyers, one advantage of using cloud computing, as opposed to buying all the hardware and software necessary to meet their computing needs, is that they only need to pay for the computing services that they actually use.”).

76. *See* Bradshaw et al., *supra* note 68, at 3 (describing the transformation of capital expenditures to operating expenditures).

77. *Id.* It should be noted that, as to a private cloud (owned and operated internally by one firm), the “pool-of-customers” advantage does not apply.

78. *See* Lametti, *supra* note 40, at 213 (“The resource pooling that is possible using cloud technology means lower overall costs (through lowered costs for the provider, who then offers services at lower costs to users) . . .”). Alternatively, if the provider has already opted to offer services at zero price, the savings might be passed along in other ways, including displaying fewer advertisements to users (thereby lowering users’ attention costs incurred in using the service) or a less-intrusive data-usage policy.

ers,⁷⁹ a transition spurred on by the efficiencies noted above.⁸⁰ These benefits have not come without a price, however. Sprawling legal disputes have already arisen out of cloud-based interactions in substantive areas ranging from personal privacy,⁸¹ to copyright infringement,⁸² to antitrust,⁸³ and myriad more. Before these issues can be properly adjudicated, however, courts must address the two fundamental threshold procedural questions addressed by this Article: jurisdiction and choice of law.

Though the ramifications of procedural decision making in these areas will indeed be far reaching within the context of the cloud, it is also critical to recognize their importance for future developments. Just as the law of the Internet can provide a guidepost for analyzing legal issues related to cloud computing, so too will cloud-computing decisions provide the bedrock upon which the law for yet-to-be-developed technologies will be built.⁸⁴ The significance of the decisions being made now and in the near future cannot be overstated.

79. See Mowbray, *supra* note 55, at 2 (“Cloud computing is part of a general architectural trend in the computer industry, moving from users doing computing on their own hardware using copies of software that they own, to users doing computing on other peoples’ machines somewhere in the cloud, using software that they rent.”).

80. See *supra* Part II.C.1 & 3.

81. In the civil context, see, for example, *In re iPhone Application Litigation*, 844 F. Supp. 2d 1040, 1057–59 (N.D. Cal. 2012) (holding that the type of end-user device is relevant to the level of protection afforded to data stored in the cloud), and *Rene v. G.F. Fishers, Inc.*, 817 F. Supp. 2d 1090, 1096 (S.D. Ind. 2011) (determining that unopened emails are subject to the protections of the Stored Communications Act). In the criminal context, see *In re United States’ Application for a Search Warrant to Seize and Search Electronic Devices from Edward Cumnius*, 770 F. Supp. 2d 1138, 1144–45 (W.D. Wash. 2011) (denying application for search warrant based on its “boundless” scope due to the interconnectedness of digital devices), and *In re Application of the United States for Historical Cell Site Data*, 747 F. Supp. 2d 827, 845–46 (S.D. Tex. 2010) (denying requests for disclosure of location data for cell phones on Fourth Amendment grounds).

82. See, e.g., *Cartoon Network LP v. CSC Holdings, Inc.*, 536 F.3d 121, 139–40 (2d Cir. 2008) (holding that storing copyrighted television programs on proprietary servers and delivering them via a closed-circuit network to consumers constituted copyright infringement).

83. The FTC recently announced—though it ultimately abandoned—an investigation into possible anticompetitive behavior by Google, Inc. Steve Lohr, *F.T.C. Said to Prepare for Lawsuit vs. Google*, N.Y. TIMES, Oct. 12, 2012, at B1, available at http://www.nytimes.com/2012/10/13/technology/ftc-staff-prepares-antitrust-case-against-google-over-search.html?pagewanted=all&_r=0. The gravamen of the investigation was Google’s possible manipulation of results delivered by its dominant search engine so as to favor internal cloud-based software services like Google Maps, to the detriment of competing services like MapQuest. *Id.*

84. See David A. Couillard, Note, *Defogging the Cloud: Applying Fourth Amendment Principles to Evolving Privacy Expectations in Cloud Computing*, 93 MINN. L. REV. 2205, 2219 (2009) (“Courts often address new technologies by analogizing to older technologies, in the same way novel legal theories generally find their proper footing by analogy to precedent.”)

III. PERSONAL JURISDICTION AND CHOICE OF LAW: HISTORICAL PERSPECTIVES

Both jurisdiction and choice of law enjoy rich historical backgrounds. Principles of constitutional federalism have allowed states to construct varied approaches to these issues that span wide and diverse continua.⁸⁵ Accordingly, while there are certain prevailing theories that have risen to prominence and gained solid footing in the law—especially in choice-of-law jurisprudence—examining the various philosophies underlying these critical threshold issues is essential to provide context for our proposed solutions to the cloud-computing conundrums. The Parts below review the maturation of personal-jurisdiction and choice-of-law theories throughout the years, with a particular focus on the advents of, and legal adaptations to, new technologies.

A. *Personal Jurisdiction: Gatekeeper of Civil Litigation*

Personal jurisdiction is, put simply, “[a] court’s power to bring a person into its adjudicative process.”⁸⁶ “Personal jurisdiction asks a simple question. It asks whether a particular court may enter judgment against a particular defendant in a particular case.”⁸⁷ Unlike choice of law—which is open-ended in the sense that each party may argue for application of a different set of laws and the court may apply still a third set of laws not advanced by either party—personal jurisdiction is a binary battle. That is to say that it is either existent or not,⁸⁸ there is no possible “third outcome” that a court might reach. Personal jurisdiction is also unique from choice of

85. See Charles W. Rhodes, *The Predictability Principle in Personal Jurisdiction Doctrine: A Case Study on the Effect of a “Generally” Too Broad, but “Specifically” Too Narrow Approach to Minimum Contacts*, 57 BAYLOR L. REV. 135, 137–38 (2005) (personal jurisdiction); Genevieve G. York-Erwin, Note, *The Choice-of-Law Problem(s) in the Class Action Context*, 84 N.Y.U. L. REV. 1793, 1796 (2009) (choice of law). But see *Ins. Corp. of Ir. v. Compagnie des Bauxites de Guinee*, 456 U.S. 694, 702–03 n.10 (1982) (“The restriction on state sovereign power . . . must be seen as ultimately a function of the individual liberty interest preserved by the Due Process Clause. That Clause is the only source of the personal jurisdiction requirement and the Clause itself makes no mention of federalism concerns.”). Many states, however, provide for personal jurisdiction over a defendant to the fullest extent allowable within the contours of constitutional due process. In this instance, courts sometimes “pass over” the state-law analysis and “collapse it into[] the due process inquiry.” *Diamond Crystal Brands, Inc. v. Food Movers Int’l, Inc.*, 593 F.3d 1249, 1258 & n.8 (11th Cir. 2010).

86. BLACK’S LAW DICTIONARY 857 (7th ed. 1999).

87. Frederic M. Bloom, *Jurisdiction’s Noble Lie*, 61 STAN. L. REV. 971, 979 (2009).

88. See Rhodes, *supra* note 85, at 136–37.

law in that it is one-sided, that is, there is no such thing as a court lacking personal jurisdiction over a plaintiff.⁸⁹

The following Subparts trace the history of personal jurisdiction⁹⁰—from its roots in the English common law,⁹¹ to the landmark Supreme Court case *International Shoe Co. v. Washington*,⁹² up through the close of the Pre-Network Era.⁹³ We break at the advent of the Internet because although each of these aforementioned periods is distinct from the period before or after it, they all share the common theme that personal jurisdiction is based on some notion of physicality.⁹⁴ In other words, the defendant—either *in personam* or, in the case of a business, by way of a distributed product in commerce—had to be physically present in some sense in the jurisdiction where the lawsuit was initiated for jurisdiction to be proper. As we discuss later, however, the advent of the Internet changed this longstanding notion, and personal-jurisdiction Internet cases thus cannot—or at least in our view, should not—be grouped with these previous cases reflecting comparatively small adjustments of the technological rudder.

1. *The Old Guard: Physical Presence and the Transient Rule*

The notion of personal jurisdiction over a party dates back to fifteenth century England. As early as 1482, the idea that the judgment of a court that lacked jurisdiction over a defendant was void had already gained a foothold,⁹⁵ and the principle became firmly cemented into the English common law by Lord Coke more than a century later.⁹⁶ At that time,

89. Cf. Wendy C. Perdue, *Sin, Scandal, and Substantive Due Process: Personal Jurisdiction and Pennoyer Reconsidered*, 62 WASH. L. REV. 479, 508–09 (1987) (“[M]odern courts continue to perceive personal jurisdiction as a confrontation between state power and the defendant, with the plaintiff’s interest being largely irrelevant.”).

90. Like others before us who have opined on personal jurisdiction, we “recognize the merit of critics of legal scholarship who decry the recitation of cases that make up the history of a doctrine.” John N. Drobak, *The Federalism Theme in Personal Jurisdiction*, 68 IOWA L. REV. 1015, 1019 n.21 (1983) (citing Lawrence R. Velvel, *Suggested Improvements in Legal Education*, 29 J. LEGAL EDUC. 194, 201 (1978) (noting the “often boring descriptions of the relevant cases”)). Nevertheless, we find it useful to provide a brief summary of the important decisions in this area of the law, especially given the vast departure from traditional brick-and-mortar, single-location entities that cloud-computing service providers represent.

91. See *infra* Part III.A.1.

92. See *infra* Part III.A.2.

93. See *infra* Part III.A.3.

94. See Perdue, *supra* note 89, at 509 (noting the long held presumption “that the proper scope of personal jurisdiction is closely tied to geographic boundaries”).

95. *Bowser v. Collins*, 145 Eng. Rep. 97 (Ex. Ch. 1482).

96. *Case of the Marshalsea*, (1612) 77 Eng. Rep. 1027 (K.B.) 1039.

though, jurisdiction was based primarily on a defendant's consent to a court's ability to adjudicate a particular dispute, as opposed to a court's power over a party.⁹⁷ Perhaps not surprisingly, this submissiveness gradually morphed into courts obtaining defendants' consent by inducement or force,⁹⁸ and around the turn of the nineteenth century, English courts' determinations of jurisdiction appeared to be based more on judicial authority than on a party's voluntary submission.⁹⁹

Naturally, these concepts migrated from England and became incorporated into early American common law, and several cases from the first half of the nineteenth century reflected the principle of *coram non judice*—"before a person, not a judge."¹⁰⁰ It was not until 1878, however, that the U.S. Supreme Court in *Pennoyer v. Neff*¹⁰¹ established the rule that service in the forum state was both necessary and sufficient for a court to exercise personal jurisdiction. In *Pennoyer*, an Oregon court determined that the defendant, who was neither a resident of Oregon nor physically present in Oregon, had been constructively served by a newspaper publication in Oregon.¹⁰² The Supreme Court disagreed. In finding the service to be inadequate, the Supreme Court announced what has become known as the "transient rule" of personal jurisdiction: "To give [judicial] proceedings any validity . . . [a defendant] must be brought within [a state's] jurisdiction by service of process within the State, or his voluntary appearance."¹⁰³

Immediately after *Pennoyer*, it appeared that physical presence was both necessary *and* sufficient to confer jurisdiction upon a court over a particular defendant. The "sufficient" prong of that phrase holds true today

97. Albert A. Ehrenzweig, *The Transient Rule of Personal Jurisdiction: The "Power" Myth and Forum Conveniens*, 65 YALE L.J. 289, 296 (1956) ("Early judicial procedure depended upon voluntary subjection of both parties to the court's judgment.").

98. *Id.*

99. *See id.* at 298 (discussing the English cases *Mostyn v. Fabrigas*, (1774) 98 Eng. Rep. 1021 (K.B.) 1030, 1 COWP. 161, 1076-77 and *Buchanan v. Rucker*, (1808) 103 Eng. Rep. 546 (K.B.) 547).

100. *See, e.g.*, *Boswell's Lessee v. Otis*, 9 How. 336, 350 (1850); *Steel v. Smith*, 7 Watts & Serg. 447, 448 (Pa. 1844) ("Jurisdiction of the person or property of an alien is founded on its presence or *situs* within the territory. Without this presence or *situs*, an exercise of jurisdiction is an act of usurpation."); *Evans v. Instine*, 7 Ohio 273, 275 (1835); *Dunn v. Dunn*, 4 Paige 425 (N.Y. Ch. 1834); *Picquet v. Swan*, 19 F. Cas. 609 (No. 11,134) (C.C. Mass. 1828); *Grumon v. Raymond*, 1 Conn. 40, 45 (Conn. 1814) ("Where there is a want of jurisdiction over the person . . . it is the same as though there was no court. It is *coram non judice*.").

101. 95 U.S. 714 (1878).

102. *Id.* at 719-20.

103. *Id.* at 733. *Pennoyer* is also significant in that the Supreme Court announced that personal jurisdiction is based on an individual's Fourteenth Amendment Due Process Right. *Id.*

and was affirmed by the Supreme Court more than a century after *Pennoyer* in *Burnham v. Superior Court*.¹⁰⁴ By contrast, however, the notion of physical presence as a mandatory prerequisite to jurisdiction slowly eroded in the late nineteenth century and early twentieth century (though perhaps unsurprisingly).¹⁰⁵ For example, subsequent to *Pennoyer*, some states began requiring nonresident corporations to designate in-state agents for service of process,¹⁰⁶ and other states allowed substituted service over nonresident motorists who caused injury in a state but left before personal service could be effected.¹⁰⁷ These and other exceptions to the requirement that defendants be actually physically present in a given forum state eventually swallowed the transient rule,¹⁰⁸ and in 1945 the Supreme Court did away with *Pennoyer* altogether.

2. *The Giant Footprint of International Shoe*

“[T]he unbending territorial limits on jurisdiction set forth in *Pennoyer*”¹⁰⁹ were finally put to rest in *International Shoe Co. v. Washington*.¹¹⁰

104. 495 U.S. 604 (1990). In *Burnham*, the defendant, a resident of New Jersey, was served process pertaining to his estranged wife’s divorce petition while he was in California on a business trip and visiting his children. *Id.* at 607–08. In affirming the California Court of Appeal, the Court stated that “jurisdiction based on physical presence alone constitutes due process.” *Id.* at 619. See also *Oxman’s Erwin Meat Co. v. Blacketer*, 273 N.W.2d 285, 286 (Wis. 1979) (“Physical presence is the traditional basis of judicial jurisdiction.”); Joel H. Spitz, Comment, *The “Transient Rule” of Personal Jurisdiction: A Well-Intentioned Concept That Has Overstayed Its Welcome*, 73 MARQ. L. REV. 181, 192 n.83 (1989) (collecting cases that reaffirm that the “sufficient” prong still holds true).

105. *Pennoyer* recognized certain exceptions to the rigidity of the physical-presence requirement. See, e.g., *Pennoyer*, 95 U.S. at 733–35 (divorce actions could be adjudicated in plaintiff’s home state even if defendant could not be served within that state); *id.* at 735–36 (approving of treating a foreign corporation doing business in a state as having consented to being sued in the state).

106. E.g., *St. Clair v. Cox*, 106 U.S. 350, 352–53 (1882) (summarizing Michigan law regarding service of corporations).

107. E.g., *Kane v. New Jersey*, 242 U.S. 160, 164–67 (1916) (summarizing New Jersey law); see also *Hess v. Pawloski*, 274 U.S. 352, 356–57 (1927) (upholding a Massachusetts statute that appointed the state registrar as a person upon whom process can be served for a nonresident motorist).

108. See Ehrenzweig, *supra* note 97, at 309–12 (stating that the exceptions “have become so significant in number and weight that they have virtually overwhelmed the [*Pennoyer*] rule itself” and noting several exceptions).

109. *Burnham v. Superior Court*, 495 U.S. 604, 618 (1990).

110. 326 U.S. 310 (1945). This is true, however, only as to the “necessary” prong of physical presence as being both “necessary and sufficient.” See *supra* note 104 and accompanying text (discussing *Burnham* and the significance of physical presence with regard to jurisdiction).

Hailed as a “watershed in the law of personal jurisdiction”¹¹¹ and revered as the “prince” that “slew the evil dragon” of *Pennoyer*,¹¹² *International Shoe* set forth a new governing test for defining the outer bounds of a court’s exercise of personal jurisdiction that still serves as the bedrock of the doctrine today.

International Shoe Co. (“Shoe Co.”) was a Delaware corporation with its principal place of business in St. Louis, Missouri.¹¹³ Shoe Co. manufactured shoes in, and distributed shoes from, several states other than Washington, and did not have any offices or any contracts for the sale or purchase of merchandise in Washington.¹¹⁴ Shoe Co. did, however, employ salesmen under the direct supervision and control of managers in St. Louis and supplied the salesmen with shoe samples that the salesmen would sometimes exhibit in rented rooms in Washington.¹¹⁵ The salesmen resided in Washington and were compensated based on sales made there.¹¹⁶ The salesmen would send shoe orders back to Shoe Co.’s St. Louis office, where the orders would be filled and the shoes shipped into Washington from other states.¹¹⁷

The issue in *International Shoe* was whether Shoe Co., based on the above-mentioned contacts with Washington, was within the scope of Washington’s Unemployment Compensation Act.¹¹⁸ If Shoe Co. was, then it needed to contribute a percentage of its employees’ annual wages to Washington’s state unemployment compensation fund. The State of Washington sued Shoe Co. for past contributions and personally served a Shoe Co. salesman in Washington. Shoe Co. then appeared specially to contest jurisdiction.¹¹⁹ After several appeals, the Supreme Court of Washington ruled that Shoe Co. was amenable to suit in Washington.¹²⁰

111. Logan Everett Sawyer III, *Jurisdiction, Jurisprudence, and Legal Change: Sociological Jurisprudence and the Road to International Shoe*, 10 GEO. MASON L. REV. 59, 59 (2001).

112. Terry S. Kogan, *A Neo-Federalist Tale of Personal Jurisdiction*, 63 S. CAL. L. REV. 257, 258 (1990).

113. *Int’l Shoe Co.*, 326 U.S. at 313.

114. *Id.*

115. *Id.* at 313–14.

116. *Id.* at 313.

117. *Id.* at 314.

118. *Id.* at 311.

119. *Id.* at 312.

120. *See id.* at 314 (articulating the Supreme Court of Washington’s reasoning “that the regular and systematic solicitation of orders in the state by appellant’s salesman, resulting in a continuous flow of appellant’s product into the state, was sufficient to constitute doing business in the state so as to make appellant amenable to suit in its courts”).

The U.S. Supreme Court agreed. In doing so, the Court announced the standard for personal jurisdiction that has been echoed often and thunderously over the last six-plus decades¹²¹:

[D]ue process requires only that in order to subject a defendant to a judgment in personam, if he be not present within the territory of the forum, he have certain minimum contacts with it such that the maintenance of the suit does not offend traditional notions of fair play and substantial justice.¹²²

The Court declined, however, to adopt any sort of bright-line test or standard that was “mechanical or quantitative” like the *Pennoyer* test.¹²³ Instead, the Court determined that whether due process was satisfied depended “upon the quality and nature of the activity in relation to the fair and orderly administration of the laws which it was the purpose of the due process clause to insure.”¹²⁴ This inquiry requires examining, *inter alia*, “the extent that a corporation exercises the privilege of conducting activities within a state” such that “it enjoys the benefits and protection of the laws of that state.”¹²⁵

It is worth noting that the Court was clear in *International Shoe* that the basis of the suit—Shoe Co.’s obligation to contribute to the state unemployment fund—arose from Shoe Co.’s specific contacts with the forum state.¹²⁶ The Court did not, however, foreclose the notion that jurisdiction can still be proper even when the events giving rise to a lawsuit are unrelated to a nonresident corporation’s contacts with the forum state.¹²⁷ In such a case, jurisdiction is proper because the defendant corporation is said to be “present” within the forum state by having “systematic and continuous” contacts.¹²⁸

121. See Frank B. Cross & James F. Spriggs II, *The Most Important (and Best) Supreme Court Opinions and Justices*, 60 EMORY L.J. 407, 437 tbl.3 (2010) (listing *International Shoe* as the eighteenth most-cited Supreme Court opinion by federal district courts).

122. *Int’l Shoe Co.*, 326 U.S. at 316 (citation and internal quotation marks omitted).

123. *Id.* at 319; see *supra* note 103 and accompanying text (setting forth the transient rule from *Pennoyer*).

124. *Int’l Shoe Co.*, 326 U.S. at 319.

125. *Id.*

126. *Id.* at 320.

127. See *id.* at 318 (“[T]here have been instances in which the continuous corporate operations within a state were thought so substantial and of such a nature as to justify suit against it on causes of action arising from dealings entirely distinct from those activities.”).

128. See *id.* at 318, 320 (stating that “it may be said that [certain] authorized acts [are] of such a nature as to justify the fiction” that a corporation has consented to service and suit “through the acts of its authorized agents” in the forum state).

3. *Stream-of-Commerce and Far-Reaching Effects Theories*

The Supreme Court's adoption of the "minimum contacts" standard in *International Shoe* was a reaction to the evolving methods by which business was conducted in the twentieth century. As cross-country and interstate transportation became more prevalent, firms were broadening the reach of their services and products to consumers in all corners of the country.¹²⁹ And while the standard set forth in *International Shoe* certainly applies to individuals, the opinion itself is plainly geared toward business entities.¹³⁰

Although *International Shoe* is a single case, it is undoubtedly an important one. But, as with many standard-setting cases, the progeny that followed *International Shoe* is (at least arguably) just as important as *International Shoe* itself—for it is the subsequent cases interpreting a new standard that often truly define the standard's contours.¹³¹ A comprehensive review of all subsequent cases interpreting and applying *International Shoe* could easily consume an entire civil procedure class. Thus, we have chosen to touch upon only the leading cases to set the stage for discussing the law of the Internet.¹³²

We begin with a 1961 case out of the Illinois Supreme Court, *Gray v. American Radiator and Standard Sanitary Corp.*¹³³ In *Gray*, an Illinois resident sued an Ohio company, alleging negligent construction of a safety

129. See *Burnham v. Superior Court*, 495 U.S. 604, 617 (1990) ("In the late 19th and early 20th centuries, changes in the technology of transportation and communication, and the tremendous growth of interstate business activity, led to an 'inevitable relaxation of the strict limits on state jurisdiction' over nonresident individuals and corporations." (quoting *Hanson v. Denckla*, 357 U.S. 235, 260 (1958) (Black, J., dissenting))).

130. See, e.g., *Int'l Shoe Co.*, 326 U.S. at 316 ("Since the corporate personality is a fiction, although a fiction intended to be acted upon as though it were a fact, it is clear that unlike an individual its 'presence' without, as well as within, the state of its origin can be manifested only by activities carried on in its behalf by those who are authorized to act for it." (internal citation omitted)); see also *Sawyer*, *supra* note 111, at 59–60 ("*International Shoe* resulted directly from the inability of the *Pennoyer* doctrine to adjust to the twentieth century expansion of corporate business. . . . In short, the standard explanation claims *International Shoe* simply adjusted constitutional doctrine to the practical demands of society.").

131. See, e.g., *Harrison v. Schaffner*, 312 U.S. 579, 583 (1941) ("leav[ing] it to future judicial decisions to determine precisely where the line shall be drawn"); *In re Seagate Tech. LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) ("We leave it to future cases to further develop the application of this standard."); cf. *Wainwright v. Sykes*, 433 U.S. 72, 91 (1977) ("Whatever precise content may be given those terms by later cases, we feel confident in holding without further elaboration that they do not exist here."); *Rosenbloom v. Metromedia, Inc.*, 403 U.S. 29, 44–45 (1971) (establishing a new standard for First Amendment libel actions while "leaving the delineation of the reach of [certain] term[s] to future cases").

132. See *infra* Part IV.A.

133. 176 N.E.2d 761 (Ill. 1961).

valve on a water heater that had exploded and injured him. The defendant moved to dismiss on the grounds that it did not conduct business in Illinois, had no agent physically present in Illinois, and sold the valves to another defendant outside Illinois for incorporation into the water heater.¹³⁴ The court recognized that “the defendant’s only contact with [Illinois was] found in the fact that a product manufactured in Ohio was incorporated in Pennsylvania, into a hot water heater which in the course of commerce was sold to an Illinois consumer.”¹³⁵

Nevertheless, the court found that this contact passed muster under *International Shoe*. The court determined that “it is not unreasonable, where a cause of action arises from alleged defects in [a] product, to say that the use of such products in the ordinary course of commerce is sufficient contact with this State to justify a requirement that [a company] defend here.”¹³⁶ This holding was based on “the increasing specialization of commercial activity and the growing interdependence of business enterprises.”¹³⁷ The *Gray* court’s reasoning has become known as the “stream-of-commerce theory” in personal jurisdiction.¹³⁸

The U.S. Supreme Court, however, has been reluctant to accept *Gray*’s stream-of-commerce theory for personal jurisdiction. In *World-Wide Volkswagen Corp. v. Woodson*,¹³⁹ the Court rejected the notion that a company having no other contacts with the forum state could be subject to jurisdiction there merely because a consumer transported its product to a state other than the state where the product was purchased.¹⁴⁰ The Court noted the limits on the stream-of-commerce theory, stating that “‘foreseeability’ alone has never been a sufficient benchmark for personal jurisdiction under the Due Process Clause,”¹⁴¹ and asserting that acceptance of the stream-of-commerce theory in its purest form would have the effect of “appoint[ing] the chattel [as an] agent for service of process.”¹⁴²

134. *Id.* at 762.

135. *Id.* at 764.

136. *Id.* at 766.

137. *Id.*

138. Todd David Peterson, *The Timing of Minimum Contacts After Goodyear and McIntyre*, 80 GEO. WASH. L. REV. 202, 207–08 (2011).

139. 444 U.S. 286 (1980).

140. *Id.* at 299.

141. *Id.* at 295.

142. *Id.* at 296.

Later, in *Asahi Metal Industry Co. v. Superior Court*,¹⁴³ the Court unanimously declined to find personal jurisdiction over a Japanese firm that manufactured tire valves and sold them to a Taiwanese corporation, which subsequently incorporated the valves into motorcycle tires sold in California.¹⁴⁴ The *Asahi* Court held that “a finding of minimum contacts must come about by *an action of the defendant purposefully directed toward the forum State*,” and that “[t]he placement of a product into the stream of commerce, without more, is not an act of the defendant purposefully directed toward the forum State.”¹⁴⁵

As we wrap up this Subpart, there is one other case—*Burger King Corp. v. Rudzewicz*¹⁴⁶—that warrants individual attention and that serves as a jumping-off point for our discussion of Internet personal jurisdiction. *Burger King* is of particular importance because it is a contract case and, as detailed above, the legal structure of the cloud is based primarily on a contract theory.¹⁴⁷ Additionally, *Burger King* deals with intellectual property (albeit in a roundabout way), a common source of litigation in the cloud.¹⁴⁸ *Burger King* involved a lawsuit by the Burger King Corporation against two of its fast-food restaurant franchisees for breach of a franchise agreement and trademark infringement.¹⁴⁹ Burger King sued in Florida, where its headquarters were located and where the agreement was primarily negotiated, though the franchisees and individual restaurant at issue were located in Michigan.¹⁵⁰ The Supreme Court, in reversing the Eleventh Circuit,¹⁵¹ determined that jurisdiction was proper over the defendants even though they had no physical presence in Florida.¹⁵² The Court relied on the defendants’

143. 480 U.S. 102 (1987).

144. *Id.* at 116.

145. *Id.* at 112. Two very recent Supreme Court cases provide additional support for the idea that the stream-of-commerce theory is, at least with regard to foreign defendants, surviving only on life support. *Goodyear Dunlop Tires Operations, S.A. v. Brown*, 131 S. Ct. 2846, 2854–57 (2011); *J. McIntyre Machinery, Ltd. v. Nicastro*, 131 S. Ct. 2780, 2790–91 (2011). For a more detailed discussion of *Goodyear* and *McIntyre*, see Peterson, *supra* note 138, at 211–18 (*Goodyear*) and 218–35 (*McIntyre*).

146. 471 U.S. 462 (1985).

147. *See supra* Part II.C.2.

148. *See, e.g., supra* note 82.

149. *Burger King Corp.*, 471 U.S. at 468–69.

150. *Id.* at 464–67.

151. *Id.* at 487.

152. *Id.* at 476 (“Jurisdiction in these circumstances may not be avoided merely because the defendant did not *physically* enter the forum State.”).

many communications sent via mail regarding the franchisee agreement to establish the requisite minimum contacts with Florida.¹⁵³

In a foreshadowing of future communications technology and the litigation that would ensue as a result, Justice Brennan stated in *Burger King*:

Although territorial presence frequently will enhance a potential defendant's affiliation with a State and reinforce the reasonable foreseeability of suit there, it is an inescapable fact of modern commercial life that a substantial amount of business is transacted solely by mail and wire communications across state lines, thus obviating the need for physical presence within a State in which business is conducted. So long as a commercial actor's efforts are "purposefully directed" toward residents of another State, we have consistently rejected the notion that an absence of physical contacts can defeat personal jurisdiction there.¹⁵⁴

4. Summary

What began as a change merely recognized by *International Shoe* eventually came to serve as the basis of the holding in *Burger King*. The shift from local firms doing business locally, to local firms doing business nationally, to national firms doing business nationally and internationally, meant new challenges for courts on issues relating to personal jurisdiction. Although the current landscape of Internet and cloud commerce could be phrased roughly as "invisible firms doing business everywhere," the themes echoed in the cases above provide valuable insight into the current state of the law¹⁵⁵ and, crucially for our discussion below, what its future will be.

B. Choice of Law: Rule Maker of Civil Litigation

Choice of law is the pre-merits question that necessarily follows that of jurisdiction. Broadly speaking, before a court reaches the substantive issues presented by a lawsuit, it must first decide whether it has the authority to apply *any* laws to the facts at hand, that is, whether it has jurisdiction.¹⁵⁶

153. *Id.* at 479–82.

154. *Id.* at 476.

155. See, e.g., Richard Philip Rollo, Note, *The Morass of Internet Personal Jurisdiction: It Is Time for a Paradigm Shift*, 51 FLA. L. REV. 667, 678 (1999) ("Many courts hold that the appropriate personal jurisdiction standard based upon Internet contacts is analogous to the stream of commerce standard in *Asahi*.").

156. See *supra* text accompanying note 86.

If jurisdiction is proper, courts must then determine which law or set of laws it ought to apply—it must make a “choice of law.”¹⁵⁷

The evolution¹⁵⁸ of choice of law in the United States has followed an uneven path. As an initial note, “choice of law” is a somewhat nebulous term in U.S. jurisprudence and scholarship. Depending on the speaker, it can encompass concepts as far-ranging as the recognition and enforcement of judgments, the extraterritorial reach of U.S. laws, and “vertical” conflicts between federal and state laws. As used herein, however, “choice of law” refers to situations where the laws of two or more jurisdictions might conceivably govern a set of actions or events. Put another way, it contemplates “horizontal” conflicts between laterally situated laws. It is within this area of focus that the following Parts briefly retrace the history of U.S. choice-of-law theory and summarize the primary modes of analysis still in use today.

1. *The Traditional Theories: Sovereignty, Comity, and “Vested Rights”*

Choice of law arose as a discrete area of jurisprudence in the United States following the publication of Justice Story’s treatise, *Commentaries on the Conflict of Laws*, in 1824. As travel and trade between the states grew more prevalent, Story recognized that the common-law rule—English courts had always applied English law—was fast becoming antiquated. Story proposed two theoretical principles that greatly influenced subsequent courts and scholars: (1) each state has “exclusive sovereignty and jurisdiction within its own territory”;¹⁵⁹ and as a result, (2) the court of one sovereign jurisdiction may apply another sovereign’s laws, but it does so only as a matter of comity, that is, out of a sense of benevolence or neighborliness toward the foreign sovereign.¹⁶⁰ Justice Story’s tenets, metaphysical as they were, unsurprisingly proved difficult to implement, for the *Commentaries* gave no real instructions on how or when the principles should be ap-

157. As an initial note, there is a strain of thought in conflicts scholarship—the “local law” theory—that posits a different structure. Under this view, courts always apply forum law—even when adjudicating disputes by referring to the content of foreign law—given that they have no power to do otherwise. See, e.g., David F. Cavers, *The Two “Local Law” Theories*, 63 HARV. L. REV. 822, 824–25 (1950). This theory has become relatively marginal today. See, e.g., Louise Weinberg, *Theory Wars in the Conflict of Laws*, 103 MICH. L. REV. 1631, 1634–37 (2005).

158. In this context, even that word is an arguable choice, implying as it does that the law has, in fact, progressed. See *infra* Part III.B.2.

159. JOSEPH STORY, COMMENTARIES ON THE CONFLICT OF LAWS § 18 (1883).

160. *Id.* § 38.

plied. It would be over a century before another scholar attempted to supply those answers.

In 1934, the *Restatement (First) of Conflict of Laws* (“First Restatement”) was promulgated, with Professor Joseph Beale as its primary architect. Underlying the First Restatement was the theory that an individual’s legal cause of action was a legal right, one that inhered—or “vested”—in that individual at a specific point in time.¹⁶¹ It followed, under Beale’s logic, that the state within whose sovereign borders such a right vested should be the state whose substantive law applies to any ensuing litigation.¹⁶² Justice Story’s notion of territorial “sovereignty” as critical to choice-of-law analysis was thus carried forward by Beale.¹⁶³

Unsurprisingly, given its theoretical underpinnings, the First Restatement approach heavily emphasized physical location and territoriality. The obvious problem, of course, lies in determining the precise temporal and spatial point at which rights vested, leading Beale to enunciate a rigid set of rules that were supposed to do just that. Broadly speaking, the First Restatement rules specify which aspects of which events indicate that a cause of action has become a vested right, pinpointing a moment in time and space where the location of individuals, property, or events indicate the jurisdiction whose laws ought to apply.¹⁶⁴

More specifically, the First Restatement sets forth three primary rules that govern tort, contract, and property law disputes. In tort, whether a cause of action exists is dependent on *lex locus delicti*, the “law of the place of wrong.”¹⁶⁵ Additional sections enumerate specific issues that are so governed.¹⁶⁶ As to contract, the relevant rule depends on whether the dispute at bar involves contract formation or performance. Issues involving

161. See JOSEPH H. BEALE, TREATISE ON THE CONFLICT OF LAWS § 8A.8 (1935).

162. Beale’s rules were, as David Cavers pointed out, “jurisdiction-selecting rule[s],” that is, they required a court to determine which jurisdiction’s set of laws applied to a case, rather than which law should apply. David F. Cavers, *A Critique of the Choice-of-Law Problem*, 47 HARV. L. REV. 173, 194 (1933).

163. See Donald Earl Childress III, *Comity as Conflict: Resituating International Comity as Conflict of Laws*, 44 U.C. DAVIS L. REV. 11, 36 & n.133 (2010) (“The first question in any conflicts case for Beale . . . was to determine the jurisdiction of nations . . . because Beale viewed law as fundamentally territorial and, thus, no law had effect outside of its own territory.”).

164. See generally William M. Richman & David Riley, *The First Restatement of Conflict of Laws on the Twenty-Fifth Anniversary of Its Successor: Contemporary Practice in Traditional Courts*, 56 MD. L. REV. 1196 (1997) (analyzing contemporary applications of the First Restatement).

165. RESTATEMENT (FIRST) OF CONFLICT OF LAWS § 384 (1934) (interstate torts).

166. *E.g.*, *id.* §§ 378 (whether a cognizable injury occurred) and 379 (whether liability is strict or dependent on negligence or intent).

contract formation are governed by the law of the state where the contract was formed;¹⁶⁷ issues involving performance are governed by the law of the place of performance.¹⁶⁸ Conflicts involving real property fall under the “situs” rule, that is, they are governed by the law of the place where the property is situated.¹⁶⁹ Many, though not all, conflicts involving movable property are also covered by this rule.¹⁷⁰

On the whole, Beale’s vested-rights theory was designed to provide a unified framework under which courts could easily and mechanically determine which set of laws should apply to disputes with multijurisdictional elements, thus furthering the formalist school’s cherished goals of uniformity and predictability of outcomes. Indeed, “it was generally believed that the entire field could be covered by a relatively small number of simple rules.”¹⁷¹ This promise of efficiency and restraint on judicial discretion led to the First Restatement’s rapid adoption by most states.¹⁷²

Yet Beale’s territorial rules, elegant as they may have been in theory, utterly failed to produce uniform results in practice. Judges faced with applying inflexible rules to complex choice-of-law questions almost immediately began using “escape devices.”¹⁷³ Perhaps the most widely used escape device was “characterization.” Though Beale had implicitly assumed otherwise, determining what sort of issue is at play in a given choice-of-law case (for example, contract performance versus formation) is a process that leaves considerable wiggle room for judges inclined to pursue normative ends. Consider a breach-of-contract case where the parties dispute whether the obligor’s performance satisfied an arguably ambiguous contract term. Is the issue one of contract-making (causing the law of the place of contracting to apply) due to the contract’s inclusion of the ambiguous term, or one of performance (causing the law of the place of contract performance to apply)? In such instances, the First Restatement left enough latitude for courts to engage in “characterization” and ultimately choose the law that

167. *Id.* § 332 (validity of contracts).

168. *Id.* § 358 (duty for performance).

169. *Id.* §§ 214–54 (law governing “Immovables”).

170. *Compare, e.g., id.* §§ 255–310 (law governing “Movables”), with *id.* §§ 303 (intestate succession governed by law of decedent’s domicile), 306 (same for testamentary succession).

171. Willis L. M. Reese, *Conflict of Laws and the Restatement Second*, 28 LAW & CONTEMP. PROBS. 679, 679 (1963).

172. See Patrick J. Borchers, *The Choice-of-Law Revolution: An Empirical Study*, 49 WASH. & LEE L. REV. 357, 357 (1992) (“Until 1963 the Restatement (First) of Conflict of Laws (the First Restatement) commanded a nearly universal following.”).

173. Richman & Riley, *supra* note 164, at 1199.

appeared to be more equitable, appropriate, or perhaps easier to apply.¹⁷⁴ Other such escape devices included *renvoi*¹⁷⁵ and the public policy exception.¹⁷⁶

Clearly, many courts were unwilling to surrender the ability to choose which law *ought* to apply in a case, even where their jurisdiction had nominally adopted the supposedly rigid, mechanistic First Restatement approach. This was not universally true—many judges have, over time, striven to apply the First Restatement rules as faithfully as possible. And, particularly in “easy” cases, the First Restatement does offer a structured analysis that some judges find appealing. Even today, ten jurisdictions still follow the First Restatement approach for tort claims, and twelve follow it in contract disputes.¹⁷⁷ By any measure, however, it has fallen into steep decline relative to its former predominance.

2. *The Modern Approaches: Governmental Interest Analysis, the Second Restatement, and “Better Law”*

After only a few decades—a period that has been called, only half-jokingly, the “Reign of Terror”¹⁷⁸—the ascendancy of the vested-rights theory began to wane. The next revolution in choice-of-law analysis was ignited by a series of articles authored by Professor Brainerd Currie.¹⁷⁹ According to Currie, the primary problem with Beale’s “jurisdiction-selecting”

174. See, e.g., *Milliken v. Pratt*, 125 Mass. 374, 383 (1878) (providing an often-cited example of characterization).

175. In the breach-of-contract example used above, *renvoi* would entail the forum court choosing not only to apply a foreign jurisdiction’s substantive contract law, but also that jurisdiction’s choice-of-law rules (i.e., the forum would “accept the *renvoi*”). In instances where the foreign jurisdiction’s choice-of-law rule would refer the case to yet another jurisdiction, choosing to accept the *renvoi* would obviously affect the outcome—and perhaps allow a provincially minded forum court to apply its own law even under the guise of obeying Beale’s rules. For an example of this in action, see *Univ. of Chi. v. Dater*, 270 N.W. 175, 176 (Mich. 1936) (applying Illinois law to a Michigan case).

176. Some courts held that, where applying the law of another jurisdiction would conflict with a “fundamental” public policy of their own legislature or executive, “sovereignty” would win out and forum law should apply. William L. Reynolds, *Legal Process and Choice of Law*, 56 MD. L. REV. 1371, 1378 (1997).

177. See Symeon C. Symeonides, *Choice-of-Law in the American Courts in 2011: Twenty-Fifth Annual Survey*, 60 AM. J. COMP. L. 291, 309 tbl.1 (2012) (displaying an alphabetical list of U.S. states and the choice-of-law methodologies followed by each).

178. Reynolds, *supra* note 176, at 1376.

179. See Gary J. Simson, *Choice-of-Law After the Currie Revolution: What Role for the Needs of the Interstate and International Systems?*, 63 MERCER L. REV. 715, 716 (2012) (“[Currie’s] writings, far more than anyone else’s, sparked what many have come to call a ‘revolution’ in choice-of-law.”).

rules¹⁸⁰ was that they failed entirely to take account of a sovereign's interests. That is, once a court selected the proper jurisdiction wherein a litigant's right had vested, it was to apply that jurisdiction's law without any regard to whether the foreign sovereign actually had any legitimate interest in having its law apply to the facts at hand.¹⁸¹ In short, Currie argued that courts ought to consider such interests in making choice-of-law decisions. Applying this "interest analysis," judges could weed out "false conflicts"—situations in which only one jurisdiction has any actual interest in seeing its law applied. Of course, not all conflicts are so easily adjudicated. As to "real" conflicts, Currie settled on the arguably unprincipled rule that courts should default to applying the law of the forum.¹⁸²

Within scholarly circles, at least, interest analysis (in all its various iterations¹⁸³) rapidly came to dominate the field of choice of law. Today, however, only two jurisdictions still follow in Currie's footsteps, and those two do so only for tort claims.¹⁸⁴ Perhaps because it was such a radical shift from the First Restatement—and because it seemed to run directly counter to the goals of uniformity and predictability that had animated the First Restatement's widespread adoption in the first place—interest analysis in its pure form has failed to gain widespread acceptance among courts.¹⁸⁵

In a watered-down form, however, Currie's interest analysis was incorporated into the *Restatement (Second) of Conflict of Laws* ("Second Restatement"). The Second Restatement, promulgated in 1971 and still in effect today, is a curious *mélange*: it contains Currie's precepts, nestled within a more open-ended, policy-oriented analytical framework, yet it also sets forth territorial-centric presumptions that bear a strong resemblance to the rigid rules of the First Restatement. The overarching rule, regardless of the substantive law, is that the applicable law is that of the state with the "most significant relationship" to the relevant events and parties.¹⁸⁶

180. Cavers, *supra* note 162, at 194.

181. *See supra* note 157 and accompanying text.

182. Currie's default-to-forum rule has been criticized by many; for one notable example, see William F. Baxter, *Choice of Law and the Federal System*, 16 STAN. L. REV. 1, 8–9 (1963) (arguing that "[n]ormative resolution of real conflicts cases is possible").

183. *See, e.g., id.* at 18 (explaining the least-impairment method).

184. *See* Symeonides, *supra* note 177, at 309 (identifying California and the District of Columbia as the only jurisdictions following Currie's interest analysis).

185. *See* Reynolds, *supra* note 176, at 1383–84 ("The influence [of Currie], however, is almost solely in the academy; although judges often mention Currie, they rarely follow his lead.").

186. *See* Simona Grossi, *Rethinking the Harmonization of Jurisdictional Rules*, 86 TUL. L. REV. 623, 646 (2012) (noting that most "American courts . . . have adopted the most significant relationship approach" to resolving conflicts of laws and "have abandoned the traditional vested-rights approach").

The Second Restatement's analytical structure involves three steps. First, the issue must be categorized as, for example, a "contracts" problem or a "torts" problem.¹⁸⁷ Second, to help determine which state has the most significant relationship, the Second Restatement creates a set of presumptions contained in specific sections that cover various types of tort or contract issues.¹⁸⁸ But because these rules are only presumptions,¹⁸⁹ the analysis does not end there. Instead, a court must decide which state truly has the most significant relationship in light of enunciated general choice-of-law principles¹⁹⁰ and the lists of relevant contacts for tort¹⁹¹ or contract¹⁹² issues.

The Second Restatement has been "savaged" by the majority of legal scholars.¹⁹³ Yet courts have eagerly embraced it, likely because its presumptive rules provide at least the appearance of structure while its more general factors allow a fair amount of flexibility.¹⁹⁴ Partly as a result of this judicial popularity, no strong push has been made toward promulgating a

187. See Harold P. Southerland, *A Plea for the Proper Use of the Second Restatement of Conflict of Laws*, 27 VT. L. REV. 1, 8–9 (2002) (describing the framework of the Second Restatement).

188. See *id.* at 9 (explaining that "[t]he specific rules of the Second Restatement . . . are cast only in the form of presumptions").

189. See *id.* ("[I]t is vital to recognize that in every case the presumption can be rebutted by reference to the general principles sections read in light of the choice-influencing principles").

190. RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 6 (1971). Section 6 states those principles as follows:

[T]he factors relevant to the choice of the applicable rule of law include (a) the needs of the interstate and international systems, (b) the relevant policies of the forum, (c) the relevant policies of other interested states and the relative interests of those states in the determination of the particular issue, (d) the protection of justified expectations, (e) the basic policies underlying the particular field of law, (f) certainty, predictability and uniformity of result, and (g) ease in the determination and application of the law to be applied.

Id. § 6(2).

191. For tort issues, the "[c]ontacts to be taken into account in applying the principles of § 6 to determine the law applicable to an issue include: (a) the place where the injury occurred, (b) the place where the conduct causing the injury occurred, (c) the domicile, residence, nationality, place of incorporation and place of business of the parties, and (d) the place where the relationship, if any, between the parties is centered." *Id.* § 145(2).

192. As to contract issues, absent an *ex ante* choice made by the parties, "the contacts to be taken into account in applying the principles of § 6 to determine the law applicable to an issue include: (a) the place of contracting, (b) the place of negotiation of the contract, (c) the place of performance, (d) the location of the subject matter of the contract, and (e) the domicile, residence, nationality, place of incorporation and place of business of the parties." *Id.* § 188(2).

193. Reynolds, *supra* note 176, at 1388.

194. See *id.* at 1389 ("Judges love . . . [t]he Second Restatement [because it] permits them to rely on its eminent authority; yet it is flexible, guides decisions rather than controls them, and permits judges to avoid unjust results.").

Third Restatement. And the many pitfalls that inhere in any attempt to construct a new, unified choice-of-law theory have led even some scholars to conclude that we ought to simply “leave bad enough alone.”¹⁹⁵ Despite its shortcomings, then, it is perhaps unsurprising that the Second Restatement remains the most widely adopted choice-of-law methodology in the United States.¹⁹⁶ Notably, however, it is used by only a plurality of jurisdictions,¹⁹⁷ leaving room for still more competing theories to be developed and adopted.

Professor Robert Leflar, writing in the 1960s, proposed the “Leflar” or “better law” approach to choice-of-law analysis.¹⁹⁸ Leflar contended that a set of five “choice-influencing considerations” should be used to decide among multiple competing laws.¹⁹⁹ Included in Leflar’s considerations were maximizing predictability of results, maintaining interstate and international order, simplifying the judicial task, advancing the forum jurisdiction’s own governmental interests, and—most famously—applying the “better” rule of law.²⁰⁰ The last consideration contemplates a sort of qualitative, normative inquiry that remains unique among choice-of-law rules.²⁰¹ Within the United States, five states have adopted the better-law approach for tort cases; two have done so for contract claims.²⁰²

3. *Lex Fori: Choosing Not to Decide*

A handful of states have at some point formally adopted a form of the “*lex fori*”²⁰³ approach to choice of law. Under this approach, courts gener-

195. See, e.g., Gary J. Simson, Commentary, *Leave Bad Enough Alone*, 75 IND. L.J. 649, 651–52 (2000) (“Whatever the shortcomings of the *Second Restatement*, I am persuaded that a third is almost certain to be worse.”).

196. See Symeonides, *supra* note 177, at 309 tbl.1 (identifying twenty-eight states that apply some form of the Second Restatement in determining choice-of-law).

197. See *id.* (noting that twenty-four states use the Second Restatement methodology for tort cases and twenty-three for contract cases).

198. Robert A. Leflar, *Choice-Influencing Considerations in Conflicts Law*, 41 N.Y.U. L. REV. 267, 295–304 (1966).

199. *Id.* at 282.

200. *Id.*

201. Cf. Carlos M. Vázquez, *Customary International Law as U.S. Law: A Critique of the Revisionist and Intermediate Positions and a Defense of the Modern Position*, 86 NOTRE DAME L. REV. 1495, 1582–83 (2011) (“[The better-law] test differs from the others in that it openly requires an evaluation of the substance of the contending laws.”).

202. See Symeonides, *supra* note 177, at 309 tbl.1 (stating that only Arkansas, New Hampshire, Rhode Island, Minnesota, and Wisconsin employ the better-law approach in tort cases; and only Minnesota and Wisconsin apply it in contract cases).

203. Meaning, literally, “[t]he law of a forum.”

ally apply what amounts to a presumption in favor of applying the law of the forum. Thus, for example, the Michigan Supreme Court has stated that “[it] will apply Michigan law unless a ‘rational reason’ to do so otherwise exists.”²⁰⁴ Michigan’s approach has been described as a “hybrid *lex fori* system,”²⁰⁵ one that “combines a presumption in favor of forum law with governmental interest analysis.”²⁰⁶ Kentucky, by way of contrast, once used a strict *lex fori* approach,²⁰⁷ but the current state of its law is somewhat less clear—it now purports to apply *lex fori* rules (the “any significant contacts” test) in tort and the Second Restatement in contract disputes.²⁰⁸ Yet, the Supreme Court of Kentucky recently applied Second Restatement principles in a tort action, reasoning that the specific choice-of-law issue at bar was evidentiary in nature and was therefore “neither a tort nor a contract issue.”²⁰⁹

Finally, Nevada courts at one time applied a version of the *lex fori* approach to conflicts of law in tort cases. As the Nevada Supreme Court formulated its (now-defunct) rule, “the law of the forum (the place where the action is brought) governs in a tort case, unless another state has an overwhelming interest.”²¹⁰ Nevada has since, however, formally adopted the Second Restatement approach.²¹¹ Today, only Kentucky and Michigan are identified as overtly using *lex fori*,²¹² though it appears in various lesser iterations in other jurisdictions.²¹³

4. *Moving Forward: Defining Normative Goals*

Cloud-computing markets are presently among the most dynamic markets across all industries. The scope and speed of innovation in the cloud

204. *Sutherland v. Kennington Truck Serv., Ltd.*, 562 N.W.2d 466, 471 (Mich. 1997).

205. Ralph U. Whitten, *U.S. Conflict-of-Laws Doctrine and Forum Shopping, International and Domestic (Revisited)*, 37 TEX. INT’L L.J. 559, 574 (2002).

206. *Id.*

207. *See Foster v. Leggett*, 484 S.W.2d 827, 829 (Ky. 1972) (“When the court has jurisdiction of the parties its primary responsibility is to follow its own substantive law. The basic law is the law of the forum, which should not be displaced without valid reasons.”).

208. *Saleba v. Schrand*, 300 S.W.3d 177, 181 (Ky. 2009).

209. *Id.*; *see also* Symeon C. Symeonides, *Choice of Law in the American Courts in 2009: Twenty-Third Annual Survey*, 58 AM. J. COMP. L. 227, 291 (2010) (discussing *Saleba*).

210. *Motenko v. MGM Distrib., Inc.*, 921 P.2d 933, 935 (Nev. 1996), *overruled by* *Gen. Motors Corp. v. Eighth Judicial Dist. Ct.*, 134 P.3d 111 (Nev. 2006).

211. *Gen. Motors Corp.*, 134 P.3d at 116 (“We take this opportunity to clarify Nevada’s choice-of-law jurisprudence and hold that the Second Restatement’s most significant relationship test governs choice-of-law issues in tort actions . . .”).

212. *See Symeonides, supra* note 177, at 309 tbl.1.

213. *See infra* Part V.A.3.

has, thus far, been breathtaking.²¹⁴ As discussed above, the transition to cloud computing as the dominant computing paradigm—while made possible by the buildup of robust Internet architecture, advances in data-center technology and design, and an array of other developments—represents an evolution into uncharted territory.²¹⁵ And as such, the cloud also offers a *tabula rasa*, a clean slate, upon which jurisdiction and choice-of-law rules might be written so as to avoid the missteps courts have made when confronted with the rise of the Internet.

A robust and growing body of economic theory and empirical research demonstrates that the welfare gains from innovation—both in terms of consumer and total welfare—far outweigh the gains from ensuring efficient static price competition,²¹⁶ which had for decades been the focus of competition enforcement.²¹⁷ Consequently, institutions in the United States and elsewhere have recognized that protecting innovation ought to be a primary goal of the law in legal fields such as competition (antitrust),²¹⁸ intellectual property,²¹⁹ privacy,²²⁰ telecommunications,²²¹ and diverse other areas.²²²

214. See, e.g., Won Kim, *Cloud Computing: Today and Tomorrow*, 8 J. OBJECT TECH. 65, 65–66 (2009) (discussing the advances in computing and information technologies that allow the computing field to envision a transition into the cloud computing era).

215. See *supra* Parts II.B & II.C.

216. See, e.g., J. Gregory Sidak & David J. Teece, *Dynamic Competition in Antitrust Law*, 5 J. COMP. L. & ECON. 581, 603 (2009) (“Industry after industry can demonstrate gains from dynamic (innovation-driven) competition that overshadow the gains when competition is present but innovation is absent.”); see Sanghoon Ahn, *Competition, Innovation and Productivity Growth: A Review of Theory and Evidence* 19–20 (OECD Econ. Dep’t, Working Paper No. 317, 2002), available at <http://dx.doi.org/10.2139/ssrn.318059>.

217. This arguably misguided focus on “allocative” efficiency is generally associated with the Chicago School of Economics. See, e.g., Ashutosh Bhagwat, *Unnatural Competition?: Applying the New Antitrust Learning to Foster Competition in the Local Exchange*, 50 HASTINGS L.J. 1479, 1480 (1998-1999) (“[T]he model of neoclassical price theory as interpreted by the so-called Chicago School[] incorporates a static view of competition and an exaggerated faith in entry and market forces . . .”).

218. See, e.g., U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 23–24 (2010), available at <http://www.ftc.gov/os/2010/08/100819hmg.pdf> (devoting an entire subsection to “Innovation and Product Variety”).

219. See, e.g., CHRISTINA BOHANNAN & HERBERT HOVENKAMP, CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION (2011) (proposing various reforms to IP laws that would promote innovation).

220. E.g., THE WHITE HOUSE, CONSUMER DATA PRIVACY IN A NETWORKED WORLD: A FRAMEWORK FOR PROTECTING PRIVACY AND PROMOTING INNOVATION IN THE GLOBAL DIGITAL ECONOMY (2012), available at <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf>.

221. See Bhagwat, *supra* note 217, at 1480.

Innovation-derived welfare gains have driven the rapid deployment and adoption of the cloud to date.²²³

Given that cloud computing represents such an innovative, dynamic field, it lies at the core of these policy concerns. And given that it constitutes a relatively clean slate, it also represents a unique opportunity to implement rules and methodologies that further these concerns.²²⁴ As a baseline, any discussion of what normative goals jurisdiction and choice-of-law jurisprudence should seek to further in the context of cloud computing must include the promotion and protection of innovation.

Much like the emergence of the Internet, the rise of cloud computing both informs, and is informed by, the broader trend of globalization—political, social, legal, and economic cross-border interaction and integration—that has emerged as a master narrative in the late twentieth and early twenty-first centuries. By allowing true location independence,²²⁵ cloud computing represents (as did the rise of ubiquitous Internet access) a paradigm shift toward cosmopolitanism.²²⁶ And as a purely technical matter, cloud services would function best in a homogenized, borderless world.²²⁷ Such a world would maximize cloud-sourcing efficiencies by allowing seamless workload migration around the globe.²²⁸

Yet, as noted above, the challenge of globalization—in the realm of cloud computing no less than elsewhere—lies not in ignoring cultural differences, but in simultaneously fostering cross-border interaction and respecting nonlocal structures and traditions. The shift to the cloud is a shift toward consumption of computing as a service; it is consequently also a shift toward a contractual paradigm for interactions.²²⁹ Hence, the rate of adoption of cloud processes will depend (at least in part) upon the willing-

222. See, e.g., Gregory Klass, *Three Pictures of Contract: Duty, Power, and Compound Rule*, 83 N.Y.U. L. REV. 1726, 1779 (2008) (“In addition to supporting voluntary obligations, [contract law] also . . . permit[s] and encourage[s] normative innovation . . .”).

223. See *supra* Part II.C (discussing the relative advantages of cloud computing over traditional, localized computing).

224. See *supra* note 84 and accompanying text.

225. MELL & GRANCE, *supra* note 59; Bradshaw et al., *supra* note 68, at 5 (“Location independence means, from the customer’s perspective, that the services can be accessed from anywhere with suitable communications links.”).

226. Paul Schiff Berman, *The Globalization of Jurisdiction*, 151 U. PA. L. REV. 311, 321–22 (2002).

227. See *supra* Part II.C.1.

228. See *supra* notes 63–64 and accompanying text (discussing the advantages of workload migration).

229. See *supra* Part II.C.2.

ness and ability of parties to contract. And as contract theorists have recognized, maximizing trust and mutual respect and minimizing information asymmetries among parties (and potential parties) increases the number, scope, and efficiency of contract-based interactions.²³⁰

Thus, personal jurisdiction and choice-of-law rules in the cloud can best serve the aims of fostering cross-border dealings, respecting unique structures and traditions, and promoting the dissemination of innovation by seeking to achieve three values. First, personal jurisdiction and choice-of-law approaches should function predictably, that is, in such a way that parties can *ex ante* form reasonably educated guesses as to what forum is proper for suit and what set of laws will apply to their interactions and order those interactions accordingly. Second, and relatedly, personal jurisdiction and choice-of-law approaches should function in an open and transparent manner. And third, personal jurisdiction and choice-of-law approaches should function objectively, that is, without unduly favoring either local parties over foreign parties, local law over foreign law, or plaintiffs over defendants. Such features can function to increase the trust and mutual respect that are essential for coordinated social behavior,²³¹ while decreasing inefficient information asymmetries.

Drawing on these normative goals, Parts IV and V below set forth frameworks for analyzing personal jurisdiction and choice of law in the cloud. First, these Parts analyze cases and decisions involving Internet disputes and explain why the rules applied—either procedural or substantive—are not only incongruous for cloud-computing cases, but also unworkable in practice. These Parts then propose a series of rules and analytical structures better tailored to resolve these difficult, yet critically important, threshold questions in cloud-computing disputes.

230. See, e.g., Ian Ayres & Robert Gertner, *Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules*, 101 YALE L.J. 729, 762–63 (1992) (“Strategic bargaining under asymmetric information creates the possibility of contractual inefficiency, . . . the revelation of information can . . . affect efficiency by changing how people bargain.”).

231. Cf., e.g., Robert Cooter, *Doing What You Say: Contracts and Economic Development*, 59 ALA. L. REV. 1107, 1109 (2008) (“To coordinate their behavior, people must say what they will do and do what they say. Contractual commitment is the fundamental means for economic coordination provided by law. According to the contract principle for coordination, the law should enable people to commit to doing what they say. When this principle is implemented, people can trust each other enough to work together” (citation omitted)).

IV. PERSONAL JURISDICTION IN THE CLOUD

The inherent technological nature of cloud computing beckons novel issues of personal jurisdiction.²³² The fact that servers may be situated remotely in one location, accessed and manipulated from a second location, and utilized by third-parties in other, sometimes multiple, locations calls into question where a defendant in a lawsuit arising from such a transaction will be subject to personal jurisdiction. Certainly the defendant would be subject to personal jurisdiction in at least one of these locations, but which one(s)? And if jurisdiction is proper where the servers are physically located, what additional problems arise when the servers are mobile, as is the case with the marine-based server farms described in Google's patent?²³³

Before resolving these questions through a series of innovative proposals, we first pick up where we left off at the end of Part III.A with the evolution of modern commerce via mass-communication means. Part IV.A first examines personal-jurisdiction cases involving Internet transactions. Although likening the Internet to the cloud is not a strict apples-to-apples comparison,²³⁴ the Internet was both a precursor to the cloud and, arguably more importantly, makes large-scale cloud computing possible. Thus, courts' approaches to jurisdiction in Internet cases provide a useful foundation for assessing similar issues that deal with cloud computing. Part IV.B then explains why—despite the Internet's close relationship with cloud computing—the Internet model is not a square-peg-square-hole fit for the cloud and why applying Internet personal-jurisdiction doctrines to cloud-computing disputes could lead to undesired consequences. Finally, Part IV.C sets forth a set of novel proposals for personal jurisdiction in the cloud and offers predictable and comprehensive solutions for courts and litigants to use in navigating these skies.

A. *Lessons from Internet Personal-Jurisdiction Jurisprudence*

Prior to the dot-com boom of the 1990s, personal jurisdiction was tied almost exclusively to companies' physical locations.²³⁵ But the advent of

232. See, e.g., Dykstra & Riehl, *supra* note 17, at 32 (“Determining jurisdiction in cloud-computing environments is unlike any prior jurisdiction analysis. Even more than websites, cloud computing is neither jurisdictional nor multi-jurisdictional. It is non-jurisdictional in that physical geography frequently does not matter.”).

233. See Swanson, *supra* note 13, at 713–14.

234. See *supra* Parts II.B and C.

235. Am. Bar Ass'n, *Achieving Legal and Business Order in Cyberspace: A Report on Global Jurisdiction Issues Created by the Internet*, 55 BUS. LAWYER 1801, 1922 (2000) (“[W]hen questions of jurisdiction arose in the pre-Internet world, a court could look to the location of the seller

the Internet transformed the conventional notion that businesses necessarily operate out of brick-and-mortar facilities.²³⁶ As globalization and the Internet modernized commercial life, communication and transaction methods evolved as well—what we now refer to as “snail mail” yielded to email, and shopping (both for commodities and specialty items alike) in conventional four-wall stores gave way to online purchasing and auction websites such as eBay and Amazon. Recall Justice Brennan’s portending statement from *Burger King Corp. v. Rudzewicz* that “it is an inescapable fact of modern commercial life that a substantial amount of business is transacted solely by mail and wire communications across state lines.”²³⁷ This doctrinal shift thrust courts into a modern-day “Wild West” for addressing questions of personal jurisdiction.²³⁸

Fortunately, some early judicial decisions laid the groundwork for later courts charged with assessing whether personal jurisdiction was proper over an online-only defendant. While the case law on this issue is already robust, we need only examine the primary approaches that gained traction and were broadly adopted before turning our attention to the applicability of these approaches in the cloud.

1. *The Zippo Website Continuum*

The most prominent test for assessing personal jurisdiction over online-only defendants that emerged from early cases was the passive-versus-active website test, hailing from *Zippo Manufacturing Co. v. Zippo Dot Com, Inc.*²³⁹ In *Zippo*, the plaintiff, a Pennsylvania corporation that produced the well-known “Zippo” brand of lighters, sued the defendant, a California corporation, alleging cyber-squatting²⁴⁰ on the domain names

and the location of the buyer to determine if the court had, for personal jurisdiction, . . . a nexus with the physical location of either the buyer or the seller.”).

236. See *CompuServe, Inc. v. Patterson*, 89 F.3d 1257, 1262 (6th Cir. 1996) (“The Internet represents perhaps the latest and greatest manifestation of . . . historical, globe-shrinking trends. It enables anyone with the right equipment and knowledge . . . to operate an international business cheaply, and from a desktop.”).

237. *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 476 (1985).

238. See *Digital Equip. Corp. v. AltaVista Tech., Inc.*, 960 F. Supp. 456, 463 (D. Mass. 1997) (noting how the parties “attempted to tame the ‘Wild West’ of the Internet”); Ann Davis, *Tangled Web: How the Net Became Land of Opportunity for Legal Profession*, WALL ST. J. EUROPE, Oct. 14, 1997, at A1 (noting the Internet’s “freewheeling, new-frontier style”).

239. 952 F. Supp. 1119 (W.D. Pa. 1997). For a sense of just how novel the Internet was to courts at this time, consider that the *Zippo* court went out of its way to explain the meaning of domain names, websites, and the World Wide Web. *Id.* at 1121 n.1 & 2.

240. For an explanation of cyber-squatting, see Jonathan H. Gatsik, Note, *Cybersquatting: Identity Theft in Disguise*, 35 SUFFOLK U. L. REV. 277, 289–90 (2001) (“Cybersquatting occurs

zippo.com, zippo.net, and zipponews.com.²⁴¹ The defendant moved to dismiss for lack of personal jurisdiction in Pennsylvania.²⁴² The court found that the defendant did not have any offices, employees, or computer servers in Pennsylvania and that its contacts with Pennsylvania “occurred almost exclusively over the Internet.”²⁴³ Those Internet contacts in Pennsylvania included the defendant’s website, which offered a news service to end users who subscribed and paid with a credit card for membership; contracts with seven Internet-access providers in Pennsylvania to permit subscribers to access the defendant’s news service; and approximately three thousand Pennsylvania residents who subscribed to the news service.²⁴⁴

The *Zippo* court, in analyzing whether the exercise of personal jurisdiction over the defendant was proper, recognized that “the development of the law concerning the permissible scope of personal jurisdiction based on Internet use [was] in its infant stages,”²⁴⁵ and that the case law was “scant.”²⁴⁶ As a starting point, then, the court relied on traditional notions of personal jurisdiction from *International Shoe* and its progeny.²⁴⁷ The court proceeded to distinguish the facts before it from cases involving what it called merely “passive” websites, i.e., websites that simply post information without allowing for user interaction,²⁴⁸ as well as “interactive” websites, i.e., websites that allow for user interaction but without conducting any commerce.²⁴⁹ In doing so, the court developed a continuum of what Internet activity on a website is sufficient to rise to the level of “minimum contacts” with the forum state such that jurisdiction is proper.

The *Zippo* sliding scale is as follows: “At one end of the spectrum are situations where a defendant clearly does business over the Internet,” that

when an individual registers a domain name that is an existing trademark, famous mark, or individual’s name.”)

241. *Zippo*, 952 F. Supp. at 1121.

242. *Id.*

243. *Id.*

244. *Id.*

245. *Id.* at 1123.

246. *Id.* at 1123–24.

247. *See id.* at 1124 (“Traditionally, when an entity intentionally reaches beyond its boundaries to conduct business with foreign residents, the exercise of specific jurisdiction is proper. Different results should not be reached simply because business is conducted over the Internet.” (citing *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985))).

248. *Zippo*, 952 F. Supp. at 1125 (discussing and distinguishing *Inset Systems, Inc. v. Instruction Set*, 937 F. Supp. 161 (D. Conn. 1996), and *Bensusan Restaurant Corp. v. King*, 937 F. Supp. 295 (S.D.N.Y. 1996)).

249. *Id.* at 1124–25 (discussing and distinguishing *Maritz, Inc. v. Cybergold, Inc.*, 947 F. Supp. 1328 (E.D. Mo. 1996)).

is, “enters into contracts with residents of a foreign jurisdiction that involve the knowing and repeated transmission of computer files over the Internet.”²⁵⁰ In situations like these, personal jurisdiction is proper because the defendant purposely avails itself of doing business in a given foreign jurisdiction.²⁵¹ “At the opposite end are situations where a defendant has simply posted information on an Internet Web site which is accessible to users in foreign jurisdictions. A passive Web site that does little more than make information available . . . is not grounds for the exercise of personal jurisdiction.”²⁵² Finally, “[t]he middle ground is occupied by interactive Web sites where a user can exchange information with the host computer. In these cases, the exercise of jurisdiction is determined by examining the level of interactivity and commercial nature of the exchange of information that occurs on the Web site.”²⁵³

Ultimately, the *Zippo* court determined that personal jurisdiction was proper over the California defendant.²⁵⁴ The decision is an important one not for its result, however, but rather for its process. Indeed, numerous circuit courts subsequently adopted *Zippo*'s passive-to-active website continuum for assessing personal jurisdiction.²⁵⁵ Yet *Zippo* also had its critics, as some courts criticized its sliding scale for being too narrow and inapposite to cases of general jurisdiction,²⁵⁶ and other courts viewed any specialized test for cases involving the Internet as being entirely unnecessary for engaging in a jurisdictional analysis.²⁵⁷ Consequently, *Zippo* fell short of domi-

250. *Id.* at 1124.

251. *Id.*

252. *Id.*

253. *Id.*

254. *Id.* at 1128.

255. *See, e.g.,* Toys “R” Us, Inc. v. Step Two, S.A., 318 F.3d 446, 452 (3d Cir. 2003) (“The opinion in *Zippo* . . . has become a seminal authority regarding personal jurisdiction based upon the operation of an Internet web site.”); *see also* Michael A. Geist, *Toward Greater Certainty for Internet Jurisdiction*, 16 BERKELEY TECH. L.J. 1345, 1367–71 & n.114 (2001) (collecting and discussing cases adopting *Zippo*).

256. *See, e.g.,* Revell v. Lidov, 317 F.3d 467, 471 (5th Cir. 2002) (noting that the sliding scale “is not well adapted to the general jurisdiction inquiry, because even repeated contacts with forum residents by a foreign defendant may not constitute the requisite substantial, continuous and systematic contacts required for a finding of general personal jurisdiction”).

257. *See* Gorman v. Ameritrade Holding Corp., 293 F.3d 506, 510–11 (D.C. Cir. 2002) (“Cyberspace . . . is not some mystical incantation capable of warding off the jurisdiction of courts built from bricks and mortar. Just as our traditional notions of personal jurisdiction have proven adaptable to other changes in the national economy, so too are they adaptable to the transformations wrought by the Internet.”); *see also* TiTi Nguyen, *A Survey of Personal Jurisdiction Based on Internet Activity: A Return to Tradition*, 19 BERKELEY TECH. L.J. 519, 539–42 (2004) (arguing that the Internet does not require any tailored test for assessing personal jurisdiction).

nating the field of Internet personal jurisdiction, and competing alternatives quickly arose in its wake.

2. *The Calder “Effects” Test*

A second test employed in personal-jurisdiction cases involving the Internet is the so-called “effects” test. Unlike the *Zippo* continuum, however—which was created as a direct response to the advent of the Internet—the effects test was fashioned prior to Internet litigation and was merely adapted to suit the technology of the times. The effects test is rooted in the 1984 U.S. Supreme Court decision *Calder v. Jones*.²⁵⁸ In *Calder*, a California woman sued a Florida-based publication and a Florida reporter and Florida editor, in their individual capacities, alleging libel in a published article.²⁵⁹ The individual defendants argued that jurisdiction was not proper in California because to find otherwise would “in effect appoint the [article as their] agent for service of process.”²⁶⁰ Despite gravitating toward a similar argument in *Volkswagen*,²⁶¹ the Court rejected this notion in *Calder*. The Court distinguished *Volkswagen* by noting that in *Calder*, the defendants “expressly aimed” their actions at California by “edit[ing] an article that they knew would have a potentially devastating impact” on a California resident.²⁶² The Court noted that although the journalists did not have any relevant physical contacts with the forum, “California [was] the focal point both of the story and of the harm suffered,” and jurisdiction was thus proper “based on the ‘effects’ of their Florida conduct in California.”²⁶³

The *Calder* effects test was subsequently incorporated into jurisprudence dealing with online disputes. In *Nissan Motor Co. v. Nissan Computer Corp.*, for example, a California court exercised jurisdiction over a North Carolina defendant under the effects theory for registering and operating websites with confusingly similar domain names and allegedly infringing the plaintiff’s trademarks.²⁶⁴ The court determined that jurisdiction was proper, finding that “[t]he brunt of the harm was suffered in [California]” because the plaintiff was “based” there.²⁶⁵ Similarly, in *Blakey v. Continental Airlines, Inc.*, the plaintiff sued in New Jersey state court for

258. 465 U.S. 783 (1984).

259. *Id.* at 784–86.

260. *Id.* at 789 (alteration in original) (citation and internal quotation marks omitted).

261. *See supra* text accompanying note 142.

262. *Calder*, 465 U.S. at 789–90.

263. *Id.* at 788–89.

264. 89 F. Supp. 2d 1154, 1156–57 (C.D. Cal. 2000).

265. *Id.* at 1159–60.

defamation based on comments posted to an online discussion forum by defendants, who were nonresidents of New Jersey.²⁶⁶ The court in *Blakey* found that jurisdiction was proper, reasoning that “[b]ecause defamation was alleged to be part of the harassing conduct that took place on the [online forum], it would be fair to posit jurisdiction where the *effects* of the harassment were expected or intended to be felt.”²⁶⁷

Despite the effects test being technology-neutral on its face,²⁶⁸ some courts have viewed it in its purest form as being too plaintiff-friendly when applied to disputes involving Internet activity. The Fourth Circuit has twice hinted at this conclusion,²⁶⁹ reasoning that the Internet is available in essentially all jurisdictions and thus a defendant’s posting of information on a website—such as an allegedly defamatory article as in *Calder*—could have “effects” on potential plaintiffs everywhere.²⁷⁰ The effects test thus misses the mark in Internet disputes in that it fails to consider whether a defendant purposefully availed herself to a particular forum.²⁷¹ Courts adopting the *Calder* approach for the Internet, then—rather than emphasizing the effects of a defendant’s actions—instead relied on the “expressly aimed” language in *Calder* and inquired as to the defendant’s intent to cause harm in the fo-

266. 751 A.2d 538, 555–56 (N.J. 2000).

267. *Id.* at 556 (emphasis added).

268. Compare *Calder*, 465 U.S. at 789–90 (print magazine), with *Nissan*, 89 F. Supp. 2d at 1156–57 (Internet website), with *Indianapolis Colts, Inc. v. Metro. Balt. Football Club Ltd.*, 34 F.3d 410, 411–12 (7th Cir. 1994) (applying *Calder* and holding that a defendant “entered” the forum via television broadcast).

269. See *Young v. New Haven Advocate*, 315 F.3d 256, 262 (4th Cir. 2002) (stating that “*Calder* does not sweep that broadly”); *ALS Scan, Inc. v. Digital Serv. Consultants, Inc.*, 293 F.3d 707, 714 (4th Cir. 2002) (“This standard for reconciling contacts through electronic media with standard due process principles is not dissimilar to that applied by the Supreme Court in *Calder* Analogously, under the standard we adopt and apply today, specific jurisdiction in the Internet context may be based only on an out-of-state person’s Internet activity directed at Maryland and causing injury that gives rise to a potential claim cognizable in Maryland.”).

270. See *ALS Scan*, 293 F.3d at 712–13 (“[T]he Internet is omnipresent—when a person places information on the Internet, he can communicate with persons in virtually every jurisdiction [I]t would be difficult to accept a structural arrangement in which each State has unlimited judicial power over every citizen in each other State who uses the Internet.”).

271. See *Young*, 315 F.3d at 263 (“Something more than posting and accessibility is needed to indicate that the [newspapers] purposefully (albeit electronically) directed [their] activity in a substantial way to the forum state. . . . The newspapers must, through the Internet postings, manifest an intent to target and focus on Virginia readers.” (internal citation and quotation marks omitted)); *ALS Scan*, 293 F.3d at 712 (“If we were to conclude as a general principle that a person’s act of placing information on the Internet subjects that person to personal jurisdiction in each State in which the information is accessed, then the defense of personal jurisdiction, in the sense that a State has geographically limited judicial power, would no longer exist.”).

rum state.²⁷² Or stated otherwise, and to borrow a phrase from the Supreme Court, courts asked whether the defendant “purposely avails” himself of the benefits of interacting with the forum state.²⁷³

B. *The Internet’s Incongruence to the Cloud*

The *Zippo* and *Calder* tests emerged as the two primary methods for analyzing personal jurisdiction over Internet activities.²⁷⁴ And because the Internet is an important (and debatably the principal²⁷⁵) cog driving the cloud-computing engine, it might seem at first glance to logically follow that these tests are transferrable to resolve similar personal-jurisdiction issues that arise in cloud-computing cases. The nature of the cloud, however, poses barriers to such borrowing by courts.

Unlike the Internet—which is arguably a software phenomenon (notwithstanding its infrastructure considerations)—the holistic concept of cloud computing is based on *storing* data, which inherently relies on hardware.²⁷⁶ Thus, while the Internet allows for interactivity over an essentially location-less medium, cloud computing is necessarily (and perhaps counter-intuitively) “grounded” by aggregated servers on land or in water (as in the case of Google’s patent).²⁷⁷ Additionally, the Internet has a “face,” so to speak. That is, most lawsuits involving information on the Internet concern users’ *visual* interaction with, and response to, web content.²⁷⁸ By contrast,

272. See e.g., *Panavision Int’l, L.P. v. Toeppen*, 141 F.3d 1316, 1321–22 (9th Cir. 1998) (“[Toeppen’s] conduct, as he knew it likely would, had the effect of injuring Panavision in California where Panavision has its principal place of business and where the movie and television industry is centered. Under the ‘effects test,’ the purposeful availment requirement necessary for specific, personal jurisdiction is satisfied.” (emphasis added)).

273. See *Hanson v. Denckla*, 357 U.S. 235, 253 (1958) (“[I]t is essential in each case that there be some act by which the defendant purposefully avails itself of the privilege of conducting activities within the forum State, thus invoking the benefits and protections of its laws.”).

274. See A. Benjamin Spencer, *Jurisdiction and the Internet: Returning to Traditional Principles to Analyze Network-Mediated Contacts*, 2006 U. ILL. L. REV. 71, 72 (“In th[e] [Internet] world, new considerations such as a Web site’s ‘interactivity’ [referring to *Zippo*] and ‘target audience’ [referring to adaptations to *Calder*] are the essential concepts courts use to determine whether to treat virtual contacts as minimum contacts.”).

275. See Erica Naone, *Computer in the Cloud: Online Desktop Systems Could Bridge the Digital Divide*, MIT TECH. REV., Sept. 18, 2007, <http://www.technologyreview.com/news/408689/computer-in-the-cloud/> (describing cloud computing as “relying” on the Internet).

276. See *supra* Part II.C.1.

277. See *supra* Part II.C.

278. See, e.g., *Nissan Motor Co. v. Nissan Computer Corp.*, 89 F. Supp. 2d 1154, 1157 (C.D. Cal. 2000) (trademark claim based on defendant’s website that “displayed a ‘Nissan Computer’ logo that [was] allegedly confusingly similar to the plaintiffs’ ‘Nissan’ logo”); *Blakey v. Cont’l Airlines, Inc.*, 751 A.2d 538, 544 (N.J. 2000) (defendants “publish[ing] a series of what plaintiff

cloud-computing disputes often involve the “faceless” access to, and manipulation of, information by parties.

To understand these critical distinctions, consider the following hypothetical scenario. A data thief in Illinois hacks into a remote, marine-based server located in the Caribbean Sea. The server stores credit-card information for numerous credit-lending companies. The thief steals the credit-card information of *X*, a resident of New York. (We say “*X*,” as opposed to “victim” or “plaintiff,” to emphasize the idea that the data thief is unaware of the identity of this person—to the thief, *X* could be anyone, located anywhere, and exists merely as an alphanumeric string of characters in a database file.) *X*’s credit card draws on funds from a checking account with Bank of America, which is a Delaware corporation with its principal place of business in North Carolina. The thief then uses that credit card information to make purchases from an online vendor in Europe. Mapping how the two prominent Internet jurisdiction tests would apply to the circumstances set forth here demonstrates their unworkability in the cloud context.

First, *Zippo* provides us with minimal, if any, guidance. As we mentioned previously, the *Zippo* framework is tailored specifically to websites.²⁷⁹ Thus, while it provides a useful tool when evaluating a defendant’s outward-facing activity online, it does very little when assessing jurisdiction over a defendant (such as the data thief described above) whose presence was neither seen nor known by the plaintiff (*X*) until the harm was already inflicted. In other words, in *Zippo* itself, and in all subsequent cases that adopted its framework and found personal jurisdiction to be proper, there was an online interaction between the plaintiff and defendant that varied in some degree of commerciality.²⁸⁰ The crux of *Zippo* was simply a

view[ed] as harassing gender-based messages, some of which [plaintiff] alleges are false and defamatory”).

279. See *supra* Part IV.A.1.

280. *Zippo Mfg. Co. v. Zippo dot com, Inc.*, 952 F. Supp. 1119, 1125–26 (W.D. Pa. 1997) (finding that personal jurisdiction was appropriate because the defendant “contracted with approximately 3,000 individuals and seven Internet access providers in [the forum state]”); see also, e.g., *Gator.com Corp. v. L.L. Bean, Inc.*, 341 F.3d 1072, 1074, 1080 (9th Cir. 2003) (finding that personal jurisdiction was appropriate because the defendant “sold millions of dollars worth of products in California (about six percent of its total sales) through its catalog, its toll-free telephone number, and its Internet website” and “maintained substantial numbers of ‘on-line’ accounts for California consumers” (internal quotation marks omitted)); *Neogen Corp. v. Neo Gen Screening, Inc.*, 282 F.3d 883, 890–91 (6th Cir. 2002) (finding personal jurisdiction because “[t]he granting of passwords to Michigan residents as part of a contract for [defendant’s] services is an interactive usage showing that [defendant] has intentionally reached out to Michigan customers”); see also e.g., *Cadle Co. v. Schlichtmann*, 123 Fed. Appx. 675, 678–79 (6th Cir. 2005) (declining to find jurisdiction because plaintiff “ha[d] not alleged that any interaction or exchange of information occurred between [defendant] and Ohio residents via the website”); *BroadVoice, Inc. v. TP Inno-*

matter of the extent to which that interaction was commercial or the defendant targeted end users in the forum state.²⁸¹

In the cloud, however, torts do not have to occur through any sort of website-host-consumer interaction. Oftentimes, as with our scenario above, the torts that give rise to a cause of action for the data owner are acts *on* the data or server itself. Further, the data's owner is not necessarily aware of the tortious act until, for example, she checks her credit-card statement.²⁸² In this way, cloud torts can be categorized as unilateral, that is, they require no affirmative act by the plaintiff and can be carried out unknowingly. The very nature of the *Zippo* test, however, requires the plaintiff to commit some affirmative act (for example, registering to receive a newsletter) for there to be jurisdiction—defendant—operators of strictly passive websites do not satisfy the minimum criteria for a finding of personal jurisdiction.²⁸³ Accordingly, the *Zippo* continuum is nontransferable to the cloud due to its technological narrowness, as well as because of the apples-to-oranges contrast of website torts versus cloud torts.

Perhaps, then, the *Calder* effects test—which is broader than the *Zippo* test in that it is not technology-limited²⁸⁴—provides a solution. Recall the contacts that we set forth above.²⁸⁵ Under *Calder* and courts' modification of *Calder* for Internet cases, we must look to either the place where the effects of the tort are felt, or alternatively, where the defendant (the data thief) “expressly aimed” his actions.²⁸⁶ For jurisdictional purposes, we can immediately eliminate Europe because that location is merely fortuitous in that the thief could have made a purchase anywhere once the information was stolen. Delaware and North Carolina can also be eliminated—were *X* bringing an action for recovery of lost funds (which she could also do, but is not in this scenario), there might be an argument that because the bank is

ventions, LLC, 733 F. Supp. 2d 219, 225 (D. Mass. 2010) (declining to find jurisdiction because defendant's “website was neither of a commercial nature nor directed specifically to a Massachusetts audience”).

281. See *Zippo Mfg. Co.*, 952 F. Supp. at 1125–26.

282. See, e.g., *In re iPhone Application Litig.*, 844 F. Supp. 2d 1040, 1048–49 (N.D. Cal. 2012) (“Plaintiffs claim that Defendants violated their privacy rights by unlawfully allowing third party applications (‘apps’) that run on the iDevices to collect and make use of, for commercial purposes, personal information *without user consent or knowledge*.” (emphasis added)).

283. See, e.g., *Mink v. AAAA Dev. LLP*, 190 F.3d 333, 337–38 (5th Cir. 1999) (applying *Zippo* and noting that because customers could not take orders through defendant's website, the website did “not classify . . . as anything more than [a] passive advertisement which is not grounds for the exercise of personal jurisdiction”).

284. See *supra* note 268 and accompanying text.

285. See *supra* Part IV.A.2.

286. See *Calder v. Jones*, 465 U.S. 783, 789–90 (1984).

said to “hold” X’s funds, the monies could be said to have been “located” in either Delaware or North Carolina at the time that the theft occurred, and thus the tort occurred in one of those two locations. The bank, however, is not responsible for guarding X’s credit-card information, which is contracted through a third party (for example, Visa or American Express).

We are left, then, with New York, the Caribbean Sea, and Illinois. Under the traditional *Calder* test, personal jurisdiction would arguably be proper in New York, as that is the state where X likely discovered that her credit card had been used without authorization and the “effects” of the tort were felt. But, query whether jurisdiction in New York would comport with *International Shoe*’s mandate of “traditional notions of fair play and substantial justice”?²⁸⁷ Our data thief did nothing to reach out to New York, did not know X was a citizen of New York, and did not intend to harm X (at least individually, i.e., personally, as compared to other “faceless” victims). For all we know, our data thief relied on a complex computer algorithm or random-number generator to pull X’s credit-card information from among millions of others’ information in a database. It is safe to say, then, that our hacker could not reasonably foresee being haled into court in New York based on actions performed from his computer in Illinois.²⁸⁸

Surely, then, jurisdiction is proper in Illinois. To be sure, that is where our data thief is located and where he committed affirmative acts to further the tortious conduct. But until now, we have assumed some importance to our data thief residing in Illinois. In reality, though, Illinois is no more significant, and no less fortuitous, than Europe—the location where the credit-card information was subsequently used to make purchases. To find jurisdiction proper in Illinois only, then, would seemingly permit *wrongdoers* to engage in a sort of quasi forum shopping by running their illicit activities from within jurisdictions that are defendant-friendly. This result certainly was not intended.

We are left with the international waters of the Caribbean Sea—the location of the credit-card company’s servers. Arguably, this is where the final act of the tort (the hacking of the server) was committed.²⁸⁹ It might al-

287. *Int’l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945).

288. That is, that X is a resident of New York provides our data thief with a mere “random” and “fortuitous” contact to that State, but perhaps not a sufficient contact that gives rise to jurisdiction there. See *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985) (“Th[e] ‘purposeful availment’ requirement ensures that a defendant will not be haled into a jurisdiction solely as a result of ‘random,’ ‘fortuitous,’ or ‘attenuated’ contacts . . .” (citation omitted)).

289. Cf. *supra* Part III.B.1 and notes 161–164 and accompanying text (discussing the “vested rights” approach and the idea of a final act that gives rise to a cause of action for a tort).

so be true that several jurisdictions could claim to have an interest in adjudicating the lawsuit (including Puerto Rico and the Virgin Islands, which of course have their own U.S. district courts, but also other countries). But *X* would be disadvantaged by being forced to bring suit in any of these jurisdictions. And for the same reasons that a data thief could not reasonably foresee being haled into court in New York, *X* would also likely have trouble overcoming the jurisdictional threshold to adjudicate the lawsuit in a foreign country.

Discussing one by one the locations with some nexus to our factual scenario above reveals that personal jurisdiction in cloud-computing disputes presents complex issues. Perhaps *X* would be able to defeat a motion to dismiss in any of these jurisdictions and, ideally, maintain suit in New York. In fact, it is likely that jurisdiction is proper in more than one of the U.S. terra firma jurisdictions, i.e., not in the Caribbean. But the result is indeterminate based on the current rules and frameworks available, and thus more certainty is desirable.²⁹⁰ That is true for plaintiffs (who wish to know where to sue), as well as for defendants (who wish to know where they might be sued). In the section below, we attempt to provide that desired predictability by offering a series of proposals for addressing personal jurisdiction in cloud-computing disputes.

C. Solutions for Personal Jurisdiction in the Cloud

Before outlining what we propose to be workable solutions to the cloud-computing conundrum in personal jurisdiction, it is important to reiterate that our intent and goal is not to make something out of nothing. In other words, we do not claim to take a situation where no U.S. jurisdiction is proper—that is, a foreign defendant acting on a foreign server steals a foreign plaintiff's account information that draws funds from a foreign bank—and provide a panacea to magically land the defendant in a U.S. court. Rather, we assume that jurisdiction is proper based on some U.S. contacts and that some forums are more favorable for a plaintiff than others. That is to say that we are concerned less with the result than with the *process*.

Applying this principle to the hypothetical discussed above, it is not our contention that the plaintiff, *X*, will not be able to overcome a motion to dismiss filed by the data thief. Indeed, a court in New York (*X*'s state of residence and likely her first-choice forum) may very well find that it can maintain an action for invasion of privacy without violating the Illinois data

290. See *supra* Part III.C (advocating for predictability as a normative goal).

thief's due-process rights. But as discussed, the *Zippo* continuum is non-transferable to the cloud-computing analysis because of its technology-specific nature,²⁹¹ and the *Calder* doctrine is likewise troublesome due to its focus on a connection between the plaintiff and defendant *ex ante* to the commission of the tort.²⁹² While this will provide the data thief with little refuge on the merits of a privacy-invasion claim, it does have some teeth at the dismissal phase of a lawsuit.

Taking these considerations into account, below are three frameworks for bringing certainty and predictability to personal-jurisdiction issues in cloud-computing disputes.

1. *Caveat Maleficus Approach*

One solution to the cloud-computing conundrum in personal jurisdiction is a *caveat maleficus*, or “wrongdoer beware,” approach. This proposal perhaps best analogizes to the age-old “thin-skull” doctrine in tort law that is based on the principle that “you take your plaintiff *as* you find him.”²⁹³ In the cloud, however, the saying might be aptly altered to be, “You take your plaintiff *where* you find him.”

Because tortfeasors in the cloud often inflict harm on “faceless” plaintiffs,²⁹⁴ courts may run into trouble when dealing with jurisdictional issues. This is because it would be a stretch to say that a defendant “purposely availed” herself to a state’s jurisdiction or “expressly aimed” her actions at a particular plaintiff in a given state when the tortfeasor was *ex ante* blind to the victim of her tort.²⁹⁵ Even state long-arm statutes that provide for jurisdiction over foreign defendants may not be tailored to account for cloud torts performed *on* data that is located at a remote server.²⁹⁶

291. See *supra* Part IV.A.1.

292. See *supra* Part IV.A.2.

293. See *Vosburg v. Putney*, 50 N.W. 403, 404 (Wis. 1891) (“[T]he wrongdoer is liable for all injuries resulting directly from the wrongful act, whether they could or could not have been foreseen by him.”); RESTATEMENT (SECOND) OF TORTS § 461 (“The negligent actor is subject to liability for harm to another although a physical condition of the other which is neither known nor should be known to the actor makes the injury greater than that which the actor as a reasonable man should have foreseen as a probable result of his conduct.”).

294. As in the hypothetical above, where a data thief could have used a random-number generator or computer algorithm to obtain X’s credit-card information and had no knowledge of who X was, X is considered to be a faceless plaintiff.

295. See Jenny L. Grantz, *A Culture Without Consequences? Redefining Purposeful Availment for Wrongful Online Conduct*, 63 HASTINGS L.J. 1135, 1146 (2012) (noting that “most courts will not exercise jurisdiction unless the defendant was aware of the plaintiff’s geographical location”).

296. For example, New York’s long-arm statute provides for:

A solution to the conflict between logical locations for bringing suit and the constitutional barriers to doing so is for courts to adopt a *caveat maledificus* approach. Under this theory, jurisdiction would automatically—and only as a balancing mechanism—be proper in the plaintiff’s place of residence. While this proposal might appear rigid and overly plaintiff-friendly, the very nature of torts in the cloud warrants its perceived harshness to defendants. Cloud torts that involve the hacking of remote servers to obtain information are complex and sophisticated.²⁹⁷ In other words, there are high intellectual barriers to entry for the illicit activities that occur in the cloud, and tortfeasors know and understand, technologically, what it is that they are doing when they access a server. Suffice to say, this sort of cloud tort is a very intentional tort (at least in suits not against a provider, for example in a lawsuit for negligent server security).

Accordingly, when a cloud tortfeasor implements a computer algorithm or runs a random number generator to obtain the credit-card information or social security number of a random person in a database, it

personal jurisdiction over any non-domiciliary . . . who in person or through an agent: 1. transacts any business within the state or contracts anywhere to supply goods or services in the state; or 2. commits a tortious act within the state, except as to a cause of action for defamation of character arising from the act; or 3. commits a tortious act without the state causing injury to person or property within the state, except as to a cause of action for defamation of character arising from the act, if he (i) regularly does or solicits business, or engages in any other persistent course of conduct, or derives substantial revenue from goods used or consumed or services rendered, in the state, or (ii) expects or should reasonably expect the act to have consequences in the state and derives substantial revenue from interstate or international commerce; or 4. owns, uses or possesses any real property situated within the state.

N.Y. C.P.L.R. § 302 (2003). We can immediately eliminate the “transacts any business” and “owns, uses, or possesses any real property” options. We can also comfortably eliminate the “commits a tortious act *within* the state” option. The tort (in the hypothetical) occurs at the remote server where person *X*’s information is actually stolen. Cf. Michael E. O’Neill, *Old Crimes in New Bottles*, 9 GEO. MASON L. REV. 237, 245 (2000) (“The computer as the *subject* of a crime means that the computer is ‘the physical site of the crime, or the source of, or reason for, unique forms of asset loss.’” (quoting Laura J. Nicholson et al., Comment, *Computer Crimes*, 37 AM. CRIM. L. REV. 207, 211 (2000))). Query how privacy could be invaded in a jurisdiction where the tortfeasor never enters—physically or otherwise—that jurisdiction. Arguably, however, the data thief virtually “enters” the remote cloud server at its location in the Caribbean Sea. That leaves us then with “commits a tortious act without the state causing injury to person or property within the state.” The stolen property (the money from *X*’s bank account) is not “in” New York, however—it is in either North Carolina or Delaware, where the bank is located. The question before us, then, becomes whether the injury to *X* is commensurate with her residence, or with her person. In other words, if *X* were on vacation in Virginia when the data thief hacked into the server and obtained her credit card information, would the tort then effectively occur in Virginia, as opposed to New York? Certainly, *X* did not travel to Virginia and leave her privacy right behind in New York.

297. Neal K. Katyal, *Criminal Law in Cyberspace*, 149 U. PA. L. REV. 1003, 1075 (2001) (noting that “[c]ybercrime is . . . somewhat different from regular crime in that it initially requires sophistication and expertise”).

should come as no surprise to the tortfeasor that her victim is located in what would appear to be a random jurisdiction, that is, not the tortfeasor's own state of residence. To be sure, the very nature of the tort and level of sophistication required to commit it compels a quasi quid pro quo—where a tortfeasor indiscriminately targets a victim, justice requires the tortfeasor to defend a lawsuit in the victim's equally “indiscriminate” home state.

The *caveat maleficus* approach thus serves a three-fold purpose. First, it may deter defendants from committing a cloud tort if they know that they will have to “take their plaintiff *where* they find him.”²⁹⁸ Second, and as a corollary, it effectively eliminates a defendant's constitutional argument that she did not aim her actions at a given jurisdiction. In other words, the “faceless” plaintiff is a double-edged sword for defendants—a defendant's lack of knowledge about her plaintiff, it could be argued, imparts upon the defendant the awareness that she could be haled into court *anywhere*, and in essence aims her actions *everywhere*.²⁹⁹ Finally, the *caveat maleficus* approach serves the benefit of giving end users a greater proclivity to interact with software and programs in the cloud knowing that they have recourse for violations of their cloud privacy through their own local consumer-protection laws, as opposed to those laws of a foreign jurisdiction (whether national or international).³⁰⁰

2. *The Cloud as Its Own Jurisdiction*

A second possible solution for resolving the cloud-computing conundrum in personal jurisdiction is to simply rise above the world below and create a new jurisdiction for torts and crimes that occur in the cloud. That is, we could consider the cloud as a separate and distinct jurisdiction of its own, free of physical geographic boundaries. This structure might take a

298. See Daniel W. Shuman, 42 U. KAN. L. REV. 115, 118–32 (1993) (advocating for deterrence as a goal of tort law); see also generally Gary T. Schwartz, *Mixed Theories of Tort Law: Affirming Both Deterrence and Corrective Justice*, 75 TEX. L. REV. 1801 (1997) (same).

299. See *Verizon Online Servs., Inc. v. Ralsky*, 203 F. Supp. 2d 601, 620 (E.D. Va. 2002) (“Defendants allegedly purposefully transmitted millions of UBE to Verizon's e-mail servers. They cannot seek to escape answering for these actions by simply pleading ignorance as to where these se[r]vers were physically located.”); *MaryCLE, LLC v. First Choice Internet, Inc.*, 890 A.2d 818, 834 (Md. Ct. Spec. App. 2006) (“[Defendant] cannot plead lack of purposeful availment because the ‘nature’ of the Internet does not allow it to know the geographic location of its email recipients.”); see also Grantz, *supra* note 295, at 1152–56 (discussing cases where the defendant was unaware of the plaintiff's location but was nevertheless subject to jurisdiction).

300. Cf. Geist, *supra* note 255, at 1347 (“Consumers anxious to purchase online must also balance the promise of unlimited choice, greater access to information, and a more competitive global marketplace with the fact that they may not benefit from the security normally afforded by local consumer protection laws.”).

form analogous to that of the Court of Federal Claims, which is the exclusive court for, *inter alia*, patent-infringement lawsuits against the government, and similarly, the Court of Appeals for the Federal Circuit, which is the exclusive jurisdiction for all patent-related appeals.³⁰¹ Indeed, a similar scheme for handling disputes regarding the Internet was previously advocated by David Johnson, Co-Director of the Cyberspace Law Institute, and Professor David Post.³⁰²

In their 1996 article discussing law in cyberspace, Johnson and Post argue that “[t]reating Cyberspace as a separate ‘space’ to which distinct laws apply should come naturally, . . . [because] the line that separates online transactions from our dealings in the real world is just as distinct as the physical boundaries between our territorial governments.”³⁰³ Additionally, because the Internet is accessible globally, Johnson and Post urge that “[c]onceiving of the Net as a separate place for purposes of legal analysis will have great simplifying effects.”³⁰⁴ Moreover, a special jurisdiction for the Internet would put an end to local jurisdictions engaging in what the authors refer to as an “illegitimate extra-territorial power grab.”³⁰⁵

There is, perhaps, an even stronger argument that this proposal should gain traction for cloud computing more so than it has for the Internet.³⁰⁶ That is because unlike Internet torts, cloud torts do not necessarily have a nexus to any physical location (even if cloud servers do). Whether a court is addressing a defamation or trademark infringement claim, for example, Internet causes of action stem from effects that are felt in one or multiple geographic jurisdictions. The Internet is thus merely a medium *through* which a tort is committed.³⁰⁷ The cloud, on the other hand, is a “location” itself *where* a tort is committed.³⁰⁸ For example, copyrighted information

301. As to the Court of Federal Claims, see 28 U.S.C. § 1498(a) (2006); as to the Court of Appeals for the Federal Circuit, see 28 U.S.C. § 1295(a) (2006).

302. See generally David R. Johnson & David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996).

303. *Id.* at 1379.

304. *Id.* at 1380.

305. *Id.* at 1380.

306. See Rollo, *supra* note 155, at 693 (noting that “[t]o date, no court has adopted the Cyberspace approach to the Internet.”).

307. See Johnson & Post, *supra* note 302, at 1378 (“Traditional legal doctrine treats the Net as a mere transmission medium that facilitates the exchange of messages sent from one legally significant geographical location to another, each of which has its own applicable laws.”).

308. See Couillard, *supra* note 84, at 2237–38 (“[T]he [cloud] service provider has a copy of the keys to a user’s cloud ‘storage unit,’ much like a landlord or storage locker owner has keys to a tenant’s space, a bank has the keys to a safe deposit box, and a postal carrier has the keys to a mailbox.”).

can be accessed and replicated in the cloud, and the infringement occurs regardless of whether the copyright owner in a specific geographic jurisdiction recognizes the infringement.

Accordingly, in much the same way that the complexities of patents gave birth to a specialized appeals court,³⁰⁹ a similar scheme may be the answer to the complex jurisdictional fact patterns presented in cloud disputes. This scheme might also provide the benefits of eliminating forum shopping by plaintiffs as well as eliminating altogether defendants' motions to dismiss for lack of personal jurisdiction.

3. *Legislative Action and a Regulatory Scheme*

Finally, updating current, or drafting entirely new, federal legislation may provide at least a partial answer to the jurisdictional conundrum. The Stored Communication Act ("SCA"),³¹⁰ for example, is the principal piece of legislation dealing with online privacy protections.³¹¹ As commentators have noted, however, "[w]hen Congress enacted this legislation in 1986, it likely never contemplated anything akin to modern cloud computing,"³¹² and Congress "has not amended [the SCA] to address cloud computing."³¹³ It is, therefore, time for comprehensive federal legislation that may solve the issue of where jurisdiction is proper in the cloud.

The legislation that we propose would not itself designate the forum for bringing a lawsuit. Rather, these new laws should better define the types of crimes and torts being committed in the cloud so as to nudge a plaintiff toward a particular forum. Because questions regarding the actual location of a wrongful act tend to arise when dealing with complex cloud

309. See Damon C. Andrews, *Promoting the Progress: Three Decades of Patent Jurisprudence in the Court of Appeals for the Federal Circuit*, 76 MO. L. REV. 839, 840–41 (2011) (noting the problems among regional circuit courts and at the U.S. Patent and Trademark Office that spurred Congress to create the Federal Circuit).

310. Pub. L. No. 99-508, 100 Stat. 1860 (1986) (codified as amended at 18 U.S.C. §§ 2701–11 (2006)).

311. Robison, *supra* note 5, at 1196; see also Nathaniel Gleicher, *Neither a Customer Nor a Subscriber Be: Regulating the Release of User Information on the World Wide Web*, 118 YALE L.J. 1945, 1945 (2009) ("Without the SCA to balance the interests of users, law enforcement, and private industry, communications will be subjected to a tug-of-war between the private companies that transmit them and the government agencies that seek to access them. Internet users will find themselves with little protection.")

312. Dystra & Riehl, *supra* note 17, at 11.

313. Ilana R. Kattan, Note, *Cloudy Privacy Protections: Why the Stored Communications Act Fails to Protect the Privacy of Communications Stored in the Cloud*, 13 VAND. J. ENT. & TECH. L. 617, 645 (2011).

torts,³¹⁴ a regulatory scheme tailored specifically to cloud computing would provide courts with clarity and guidance on what tort is being committed—or in the case of a lawsuit by a consumer against a service provider, a contract breach—and thus, *where* the tort (or breach) is being committed. Accordingly, rather than relying on generic claims such as “invasion of privacy” or “infringement,” courts would be provided with a framework for determining where the wrongful acts occurred based on the plain text of statutes.

Similar legislative overhauls can be seen in the Digital Millennium Copyright Act (“DMCA”)³¹⁵ and the Communications Decency Act (“CDA”),³¹⁶ which were enacted in response to changes in technology.³¹⁷ Both contain provisions that recognize the need for a balanced approach that provides certainty to stakeholders. For example, “safe harbor” provisions that protect service providers appear in both the DMCA³¹⁸ and CDA.³¹⁹ Congress could similarly revise the SCA, or draft entirely new comprehensive legislation, to provide increased uniformity for establishing personal jurisdiction in the cloud. This latter option would, however—like any attempt to create a legislative magic bullet in the context of fast-moving and far-ranging innovation—likely be fraught with difficulties. By way of analogy, the DMCA as a whole has been roundly criticized by copyright scholars, yet its safe-harbor provision has been largely heralded as a success.³²⁰ Thus, it would appear, at least at this early stage, that a more selective, targeted approach is warranted.

314. See *supra* note 296 (discussing New York’s long-arm statute and the questionable jurisdiction in New York).

315. Pub. L. No. 105–304, 112 Stat. 2860 (1998) (codified as amended at 17 U.S.C. §§ 512, 1201–05, 1301–32; 28 U.S.C. § 4001 (2006)).

316. Pub. L. No. 104–104, 110 Stat. 133 (1996) (codified as amended at 47 U.S.C. §§ 230, 560–61 (2006)).

317. See 47 U.S.C. § 230(a)(1) (2006) (“The rapidly developing array of Internet and other interactive computer services available to individual Americans represent an extraordinary advance in the availability of educational and informational resources to our citizens.”); *id.* §(b)(1) (“It is the policy of the United States to promote the continued development of the Internet”); David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 680–81 (2000) (“The millennial hope underlying the Digital Millennium Copyright Act [was] to bring U.S. copyright law ‘squarely into the digital age.’” (internal footnotes omitted)).

318. 17 U.S.C. § 512 (2006).

319. 47 U.S.C. § 230(c) (2006).

320. See, e.g., Nicholas W. Bramble, *Safe Harbors and the National Information Infrastructure*, 64 HASTINGS L.J. 325, 333 (2013) (“[S]afe harbors’ [] have shielded intermediaries from secondary liability and thereby removed potential governmental and private constraints on the development of new Internet services.”).

V. CHOICE OF LAW IN THE CLOUD

Litigation arising out of the cloud will frequently present multijurisdictional fact patterns. Workload migration³²¹ and redundancy,³²² as well as location independence, tend to increase the geographic scope of cloud-based interactions.³²³ Consequently, such litigation will often raise complex choice-of-law questions.³²⁴

En route to identifying a set of analytical guidelines for choice of law in the cloud, we turn first to an examination of Internet choice-of-law jurisprudence. Though the Internet and cloud computing are imperfect analogs, the two do present some similarities. As with cloud-computing interactions, Internet-based interactions can involve some sense of “location independence” and a broad-ranging geographic sphere of influence.³²⁵ “Indeed, the Internet ‘negates geometry . . . it is fundamentally and profoundly anti-spatial.’”³²⁶ Like cloud computing, the development and adoption of the Internet (1) introduced an element of intangibility into human interactions and (2) represents a technological paradigm shift that both informs, and is informed by, globalization and the accompanying increase in cosmopolitanism. The similarities between the two allow lessons for the cloud to be gleaned from an analysis of how choice-of-law principles have evolved (or failed to evolve) to account for the advent of the Internet.

A. Lessons from Internet Choice-of-Law Jurisprudence

A debate currently persists among legal scholars as to whether the choice-of-law approaches outlined above³²⁷ are sufficiently robust to allow

321. See *supra* text accompanying notes 63–64.

322. See Timothy J. Calloway, Note, *Cloud Computing, Clickwrap Agreements, and Limitation on Liability Causes: A Perfect Storm?*, 11 DUKE L. & TECH. REV. 163, 170 n.41 (2012) (“Most Cloud services maintain data in up to three separate locations. This is an excellent redundancy, should there be an [I]nternet outage or data center disaster. The data is readily available from the other Cloud locations without an interruption in service.”) (citation and internal quotation marks omitted).

323. See *supra* notes 65–68 and accompanying text.

324. See, e.g., Alberto G. Araiza, Note, *Electronic Discovery in the Cloud*, 2011 DUKE L. & TECH. REV. 8, at *12 (“For example, the data in data centers may be subject to foreign laws or no laws at all.”).

325. MELL & GRANCE, *supra* note 59.

326. *ACLU v. Reno*, 217 F.3d 162, 169 (3d Cir. 2000) (alteration in original) (citation omitted).

327. See *supra* Parts III.B.1–3.

adjudication of cases involving Internet-based interactions.³²⁸ On the one hand, the Internet clearly represents a dramatic shift in the way humans interact with one another,³²⁹ and the contacts relevant to the choice-of-law analyses that predated the Internet can be much more geographically complex than those presented by real-world interactions.³³⁰ What is more, some scholars have pointed out that the territorial-based conception of states and nation-states may be quickly becoming archaic in an increasingly connected world,³³¹ calling into question the validity of choice-of-law methodologies that were developed in the Pre-Network Era.³³² Some have gone so far as to posit that “[n]o physical jurisdiction has a more compelling claim than any other to subject [Internet-based] events exclusively to its laws.”³³³

Even in the face of these difficulties, however, “U.S. courts have . . . applied standard choice-of-law methodology—the Restatement (Second) of Conflict of Laws, Governmental Interest Analysis, and the like—in [I]nternet disputes involving multiple states of the United States and foreign countries.”³³⁴ Remaining is the question of how they have done so—that is, the extent to and manner in which courts have applied those standard methodologies in the context of the Internet. The following Subparts explore three archetypal choice-of-law decisions involving Internet contacts.

1. *GlobalSantaFe Corp. v. GlobalSantaFe.com*³³⁵

The *GlobalSantaFe Corp.* litigation involved a relatively “straightforward” set of facts (at least for an international conflict-of-laws case).³³⁶

328. See, e.g., Laura E. Little, *Internet Choice-of-Law Governance*, Temple University Legal Studies Research Paper Series No. 2012-20, at 4 (June 7, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2045070 (“The decision not to lead choice-of-law students through a separate study of internet issues reflects the decision that existing legal paradigms are sufficient to handle internet conflicts issues. This is not, however, the exclusive position among U.S. choice-of-law scholars.”).

329. See *supra* Part II.B.

330. See *supra* note 164 and accompanying text.

331. See, e.g., Berman, *supra* note 226, at 320 (“Indeed, even a cursory examination reveals that our current territorially based rules for jurisdiction (and conflict of laws) were developed in an era when physical geography was more meaningful than it is today and during a brief historical moment when the ideas of nation and state were being joined by a hyphen to create an historically contingent Westphalian order.”).

332. See, e.g., Paul Schiff Berman, *Towards a Cosmopolitan Vision of Conflict of Laws: Redefining Governmental Interests in a Global Era*, 153 U. PA. L. REV. 1819, 1821 (2005) (applying a “cosmopolitan pluralist” approach to Internet-based choice-of-law issues).

333. Johnson & Post, *supra* note 302, at 1376.

334. Little, *supra* note 328, at 4.

335. 250 F. Supp. 2d 610 (E.D. Va. 2003).

Two offshore drilling firms, Global Marine and Santa Fe, announced in September 2001 that they intended to merge into the GlobalSantaFe Corporation.³³⁷ Within twenty-four hours, Jongsun Ha Park, a Korean citizen, used a Korean registrar to register the Internet domain name “global-santafe.com.”³³⁸ Park did not immediately post any substantive content to the globalsantafe.com website, a fact that—when coupled with the suspicious timing of the domain name registration—seemed to indicate that he intended to engage in “cybersquatting,”³³⁹ a potential violation of U.S. law.³⁴⁰ Despite a final judgment from a U.S. district court ordering the Korean registrar to transfer the domain name to GlobalSantaFe, Park next obtained a provisional injunction in a Korean court prohibiting the registrar from doing so on the theory that the U.S. district court lacked jurisdiction over the Korean registrar.³⁴¹ As a result, GlobalSantaFe requested and obtained a second judgment from the U.S. district court that again directed the transfer of the domain name.³⁴²

The *Globalsantafe Corp.* opinions addressed questions of jurisdiction and recognition of judgments rather than pure choice of law. Viewed through those lenses, the U.S. court’s decisions were fairly straightforward applications of existing law—that is, of the law of the United States. Having decided that jurisdiction lay in the Eastern District of Virginia, and that the U.S. Anticybersquatting Consumer Protection Act (“ACPA”)³⁴³ forbade the Korean parties’ actions, all that remained in the court’s view was to ensure that comity concerns did not require deference to the Korean court’s order.³⁴⁴ Put simply, the U.S. court skipped from the question of whether it

336. *Id.* at 612.

337. *Id.* at 612–13.

338. *Id.* Park then transferred ownership of the domain name to the Fanmore Corporation, a Korean firm. *Id.* at 613.

339. *See* Gatsik, *supra* note 240.

340. *See* 15 U.S.C. § 1125(d)(1)(A)(i)–(ii) (2006).

341. *GlobalSantaFe Corp.*, 250 F. Supp. 2d at 614.

342. GlobalSantaFe also successfully directed VeriSign (the top-level domain name registry) to cancel the domain name until the Korean registrar transferred it to GlobalSantaFe. *See id.* at 614, 626–27.

343. Pub. L. No. 106–113, Div. B, § 1000(a)(9), 113 Stat. 1536, 1501A–545 (1999) (codified as amended at 15 U.S.C. § 8131).

344. *See GlobalSantaFe Corp.*, 250 F. Supp. 2d at 614 (“In addition to meeting these jurisdictional requirements, GlobalSantaFe must also show . . . that it is entitled to relief under the ACPA, . . . and . . . that concerns of international comity do not preclude such a remedy in the face of the Korean court’s injunction.”). The U.S. court, applying U.S. law, held that the “first-in-time” rule, along with the fact that the “Korean proceeding was obviously begun with the intent of blocking the Judgment Order,” did not require deference to comity concerns. *Id.* at 624–25 (citing *Princess Lida of Thurn & Taxis v. Thompson*, 305 U.S. 456, 465–66 (1939)).

could hear the case to the question of whether the ACPA had been violated. The choice-of-law question, that is, the question of whether the ACPA ought to be the law that governed the parties' actions, was simply ignored.

2. *Mzamane v. Winfrey*³⁴⁵

By her own estimation, in 2007, Oprah Winfrey was the third most powerful media figure in the world (behind only Barack and Michelle Obama).³⁴⁶ Yet such power can be a double-edged sword. The sphere of Oprah Winfrey's influence, coupled with the globalized nature of Internet communications, led to a defamation suit being filed against her in connection with alleged sexual abuses at a South African school that she founded.³⁴⁷ When scandal erupted at the Oprah Winfrey Leadership Academy for Girls ("Winfrey Academy") in September 2007, Winfrey swiftly placed the headmistress of the school, Lerato Nomvuyo Mzamane, on administrative leave.³⁴⁸ Several of Winfrey's subsequent statements to the press regarding the situation—which were ultimately disseminated globally via the Internet³⁴⁹—spurred Ms. Mzamane to sue Winfrey in Pennsylvania state court.³⁵⁰

Mzamane v. Winfrey yielded a broad swath of geographic contacts. The plaintiff, Mzamane, was born in Lesotho, matriculated in Nigeria, Vermont, and New York, and had been employed in Pennsylvania for the six years that preceded her one-year stint at the Winfrey Academy in South Africa.³⁵¹ The defendant, Winfrey, was at all times domiciled in Illinois, and her allegedly defamatory statements were made in that state.³⁵² Finally, as they had been published online, Winfrey's public declarations reached nearly everywhere, including South Africa (the locus of the scandal that prompted the statements).³⁵³

345. 693 F. Supp. 2d 442 (E.D. Pa. 2010).

346. Eamon McNiff, *Judge Rules Oprah Winfrey Can Be Sued for Defamation*, ABC NEWS, Mar. 18, 2010, <http://abcnews.go.com/TheLaw/oprah-sued-defamation/story?id=10127882>.

347. *See Mzamane*, 693 F. Supp. 2d at 464–65.

348. *Id.* at 464.

349. *See id.* at 471 ("Defendants concede, however, that the statements from the November Press Conference were available on the internet, and therefore, were published throughout the United States, including Pennsylvania.").

350. *See id.* at 466. Winfrey subsequently removed the action to federal court based on diversity of citizenship of the parties. *Id.*

351. *Id.* at 461–62.

352. *Id.* at 462.

353. *Id.* at 462, 471.

On these facts, the case presented a fairly knotty choice-of-law issue. After Winfrey removed the case to federal court based on diversity jurisdiction, the court was bound to apply the choice-of-law methodology of Pennsylvania (the state in which the court was located), which had adopted the Second Restatement approach.³⁵⁴ The three most connected jurisdictions were Illinois, Pennsylvania, and South Africa. And while it is perhaps unsurprising that South African law may have yielded a different outcome than U.S. law,³⁵⁵ even the choice between Illinois and Pennsylvania laws could have been outcome-determinative.³⁵⁶ Oddly, however, given its plaintiff-friendly nature, “neither party raised the applicability of South African law to Plaintiff’s claims. Rather, both parties argued vigorously against the application of South African law to the instant dispute.”³⁵⁷

An easy alternative had thus presented itself to the U.S. district court: ignore the possibility that South African law ought to apply, given that neither party had argued in favor of its application. What is more, the court was under no duty to inquire, *sua sponte*, as to such a possibility.³⁵⁸ After concluding that Pennsylvania (the state of Mzamane’s domicile) had a stronger interest than Illinois in having its law apply to the case, however, the court went on to examine in some detail the question of whether South Africa’s interest in protecting Mzamane’s reputation militated in favor of South African law applying.³⁵⁹ And though the court ultimately concluded that Pennsylvania’s law ought to apply, its decision was clear, its rationale transparent, and its result relatively predictable.

354. *Id.* at 469–71.

355. *Id.* at 473 (finding that a true conflict existed where South African law required defendants to prove truth as a defense to a defamation claim, while Pennsylvania law required plaintiffs in such cases to prove falsity as part of their affirmative case).

356. See Neil M. Rosenbaum, *Pick a Court, Any Court: Forum Shopping Defamation Claims in the Internet Age*, 14 J. INTERNET L. 18, 21 (2011) (“Illinois recognizes the ‘innocent construction rule’ as a complete defense to claims for defamation *per se* whereas Pennsylvania does not.”).

357. *Mzamane*, 693 F. Supp. 2d at 469.

358. See FED. R. CIV. P. 44.1 (“A party who intends to raise an issue about a foreign country’s law must give notice by a pleading or other writing.”); *Mzamane*, 693 F. Supp. 2d at 468–69 (“While this rule empowers a district court with the authority to determine applicable foreign law, it imposes no obligation on the court to inquire into foreign law *sua sponte*.” (citing *Bel-Ray Co. v. Chemrite Ltd.*, 181 F.3d 435, 440 (3d Cir. 1999))).

359. *Mzamane*, 693 F. Supp. 2d at 473–75 (examining the content of South African defamation law and the interests, as elucidated by the Constitutional Court of South Africa, that it sought to further).

3. *CRS Recovery, Inc. v. Laxton*³⁶⁰

The Internet domain name “rl.com,” registered in 1995 by Dale Mayberry, proved valuable enough to incite multiple lawsuits, including one brought by global clothing giant Ralph Lauren. Mayberry, a Virginia resident, registered the name under a contract with a Delaware registrar whose principal place of business was also in Virginia.³⁶¹ Mayberry periodically renewed the domain-name registration, though there was some dispute as to whether he subsequently “abandoned” the registration by letting it expire.³⁶²

In December 2003, a Beijing resident named Li Qiang gained control of rl.com and transferred it to Barnali Kalita, a citizen of India.³⁶³ Subsequently, Kalita sold the name to John Laxton, a citizen of California.³⁶⁴ Upon discovering that Laxton controlled rl.com, Mayberry filed a lawsuit in a federal district court in California, alleging conversion, interference with contracts, and unfair competition.³⁶⁵

The district court, having decided that the primary issue was one of choice of law and that California law ought to apply, granted summary judgment in favor of Mayberry on his conversion claims and ordered Laxton to turn over rl.com to Mayberry.³⁶⁶ Laxton appealed to the Ninth Circuit.³⁶⁷ On appeal, the primary issue was again choice of law—Laxton (the California defendant) contended that Virginia law ought to apply, while Mayberry (the Virginia plaintiff) argued in favor of California law.³⁶⁸

As the Ninth Circuit observed, “[t]his case requires application of traditional choice-of-law . . . principles to an increasingly common factual setting, a dispute over the ownership of an Internet domain name.”³⁶⁹ California had “specifically rejected” the First Restatement approach in favor of “‘governmental-interest’ analysis,” with the “comparative impairment”

360. 600 F.3d 1138 (9th Cir. 2010).

361. *Id.* at 1140.

362. *Id.*

363. *Id.* at 1140–41.

364. *Id.* at 1141.

365. *See CRS Recovery, Inc. v. Laxton*, No. C 06-7093 CW, 2008 WL 4427944, at *1–2 (N.D. Cal. Sept. 26, 2008) *aff’d in part, rev’d in part and remanded*, 600 F.3d 1138 (9th Cir. 2010).

366. *Id.* at *8.

367. *CRS Recovery, Inc.*, 600 F.3d at 1139–40.

368. *Id.* at 1141.

369. *Id.* at 1139.

method used to adjudicate true conflicts.³⁷⁰ Yet California also incorporated a strain of the *lex fori* methodology—the court emphasized that “[a]s a default, the law of the forum state will be invoked, and the burden is with the proponent of foreign law to show that the foreign rule of decision will further the interests of that state.”³⁷¹

The first question to be resolved in governmental-interest analysis—whether the potentially applicable laws actually differ³⁷²—posed some difficulty. “Like the majority of states to have addressed the issue, California law recognize[d] a property interest in domain names,”³⁷³ which meant that domain names could be subject to conversion under California law. The Virginia Supreme Court, on the other hand, had held—albeit in the context of a garnishment case—that domain names comprise contract (not property) rights.³⁷⁴ Despite this, the Ninth Circuit found that no conflict existed, resting its reasoning on two grounds. First, given the “majority of states’ justifiable coalescence” around the property-rights rule, the court found it reasonable to adopt a “narrow” reading of the Virginia Supreme Court decision.³⁷⁵ And second, the fact that California treated domain names differently than other intangible property for purposes of judgment debtor examinations allowed the “reasonable” inference that Virginia “might” do the same.³⁷⁶ California’s “default-to-forum” rule thus dictated that California law ought to apply.³⁷⁷

Despite this holding, however, the court went on to address the second step of interest analysis: whether (assuming a conflict exists), the conflict is “true” or “false,” a conflict being false where only one jurisdiction has any real interest in having its laws apply to the facts at hand.³⁷⁸ Here, the court characterized the Virginia interest as follows: “Virginia is concerned with

370. *Id.* at 1141–42. The comparative-impairment solution to Currie’s “true conflicts” problem was developed by Professor William Baxter in the 1960s. *See* Baxter, *supra* note 182, at 8–9.

371. *CRS Recovery, Inc.*, 600 F.3d at 1142 (quoting *Hurtado v. Superior Ct.*, 522 P.2d 666, 670 (Cal. 1974) (internal quotation marks omitted)).

372. *Id.* (citing *Abogados v. AT & T, Inc.*, 223 F.3d 932, 934 (9th Cir. 2000)).

373. *Id.* at 1142.

374. *See* *Network Solutions, Inc. v. Umbro Int’l, Inc.*, 529 S.E.2d 80, 88 (Va. 2000) (finding that, in the context of a garnishment case, domain names are governed by contract law).

375. *CRS Recovery, Inc.*, 600 F.3d at 1143.

376. *Id.*

377. *See id.* (“Under California choice-of-law rules, the party seeking application of foreign law bears the burden to show that the law of a foreign state should apply. At the point Laxton fails to make this showing, we default to forum (California) law.” (internal citation omitted)).

378. *See supra* Part III.B.2; *see also* Brainerd Currie, *Married Women’s Contracts: A Study in Conflict-of-Laws Method*, 25 U. CHI. L. REV. 227, 253–55 (1958) (referring to “false problems”).

protecting Virginia residents who purchase domain names *from* property claims, not *from asserting* property claims.”³⁷⁹ California’s interests, on the other hand, were painted with broad strokes—“to protect the intangible property rights of the owners of domain names,”³⁸⁰ to reduce uncertainty and encourage investment, and to “promot[e] the overall growth of the Internet.”³⁸¹ In sum, the Ninth Circuit found that “California’s policy . . . is thus accurately characterized as protecting the rightful holders of domain names, [and] encouraging investment in and development of that property.”³⁸² What is more, the court reasoned, “when the defendant is a resident of California and the tortious conduct . . . occurs [in California], California’s deterrent policy of full compensation is clearly advanced by application of its own law.”³⁸³

Finally, the court concluded its choice-of-law analysis on an emphatic note:

Holding otherwise would encourage a race to the bottom, allowing purchasers of potentially disputed domain names, as well as cybersquatters, to reside or operate in states where intangible property is provided little or no protection from potentially tortious conversion. Such a situation could vitiate the intangible property rights of the true holders of such property notwithstanding states’ well-intentioned efforts to protect these intellectual property interests.³⁸⁴

By delving into the qualitative “value” of the two jurisdictions’ laws, this parade-of-horribles argument employed a methodology akin to the “better law” approach urged by Professor Leflar.³⁸⁵

On four counts, the *CRS Recovery, Inc.* opinion demonstrates a local-minded train of choice-of-law methodology and analysis referred to as “parochialism.”³⁸⁶ First, as a structural matter, the *lex fori* strain contained

379. *CRS Recovery, Inc.*, 600 F.3d at 1143.

380. *Id.* at 1144.

381. *Id.*

382. *Id.*

383. *Id.* (quoting *Hurtado v. Superior Ct.*, 522 P.2d 666, 672 (Cal. 1974) (internal quotation marks omitted)).

384. *Id.*

385. See *supra* notes 198–202 and accompanying text.

386. Mathias Reimann, *Parochialism in American Conflicts Law*, 49 AM. J. COMP. L. 369, 370 (2001). Emphasizing the problem of parochialism, Professor Reimann noted that parochialism was “amply confirmed by the Second Restatement[,] which all but ignores comparative and international elements.” *Id.* at 380.

within California's choice-of-law rules³⁸⁷ displays an obvious geographic self-favoritism. Of course, bound as it was to apply California's chosen approach, the court can hardly be blamed for operating within such a structure. Yet the structure itself appears increasingly outmoded in an era of globalization and digital connectivity, and (as we argue *infra*) its shortcomings will be exacerbated should it creep into the cloud.³⁸⁸

Second, the decision evidenced the opposite of the cultural relativism more appropriate to an increasingly cosmopolitan world and the multistate and multinational fact patterns that have already begun to emerge in cloud-based litigation. By presuming to determine the content of foreign laws by reasoning that the foreign jurisdiction would likely treat legal issues as the forum jurisdiction had done, the *CRS Recovery, Inc.* court committed the error of judging another culture from within the confines of one's own local tradition. Granted, the probability of "Type II" error³⁸⁹ from doing so was likely relatively low where the two jurisdictions were both U.S. states. But where the foreign jurisdiction is a foreign nation, and particularly a non-Western nation, the likelihood of such error would likely increase.

Third, in characterizing the relevant state interests as it did, the court engaged in a parochialist sleight-of-hand. By defining the foreign jurisdiction's interests at a low level of abstraction—and assuming the sole purpose of Virginia's treating domain name rights as contract rights was to guard its own citizens against property claims—the court essentially minimized the scope of relevant foreign interests. And that, in turn, had the effect of favoring the application of local (forum) law. Tellingly, the court also observed that California's full-compensation rule would be furthered where the defendant was a California resident.³⁹⁰ Thus, it reasoned that the forum jurisdiction had an interest in compensating *nonlocal* plaintiffs—yet the court had already characterized Virginia's interest as protecting only Virginia (i.e., *local*) residents.³⁹¹ Ascribing a nonlocalized interest to the forum state, but a merely local interest to the foreign state, had the perverse consequence of further favoring local law.

387. *See supra* Part III.B.3.

388. *See infra* Part V.A.2.

389. A "Type II error" consists of failing to reject a false null hypothesis. In this context, the court's null hypothesis was that foreign law was structured similarly to local law; thus, a Type II error would arise if the foreign law was in fact structured differently from local law, but the court proceeded as if the two were the same.

390. *CRS Recovery, Inc. v. Laxton*, 600 F.3d 1138, 1144 (9th Cir. 2010).

391. *Id.* at 1143–44.

Finally, the Ninth Circuit's parade-of-horribles argument, though based on a putatively qualitative analysis of the conflicting laws, exhibited a logical and parochialist fallacy. The argument centered on the potentiality of cybersquatters locating themselves "in states where intangible property is provided little or no protection from potentially tortious conversion."³⁹² Assuming that domain names constitute "intangible property," however, begged the question by assuming away the unsettled inquiry at the very heart of the choice-of-law dispute—namely, whether domain names comprise property rights or contract rights. The argument is circular. And the circularity arose when the court implicitly (and parochially) assumed that California (local) law governed in the first instance. Again, the effect of addressing the choice-of-law issue from within a framework that took for granted the applicability (and superiority) of local law was—unsurprisingly—to favor local law and interests over those of the foreign jurisdiction.

4. Conclusions

The preceding sections suggest that Internet choice-of-law jurisprudence has developed in scattershot fashion. Methodologies, application, and the scope and breadth of analyses have varied widely. The three cases discussed above construct a spectrum—from *GlobalSantaFe*, with its glaring lack of analysis; to *Mzamane*, a relatively well-reasoned and balanced opinion; to *CRS Recovery, Inc.*, with its various shades of parochialism and xenophobia.

Unfortunately, to the extent scholars have identified any broader trends within this sphere, the tendency appears to be toward either simply ignoring choice-of-law questions or engaging in (at best) superficial inquiries.³⁹³ The portrait drawn is one of a "curious tendency in [I]nternet cases: even though the disputes invariably possess significant multi-jurisdictional elements, courts often do not bother with traditional choice-of-law analysis."³⁹⁴ Put simply, courts have tended to ask only whether local law *may*

392. *Id.* at 1144.

393. See e.g., Berman, *supra* note 332, at 1823 ("[S]imply because U.S. law may apply, the judges seem to assume that U.S. law should apply, even without any sustained discussion of other possible outcomes. At most, there is some consideration of comity."); Andrea Slane, *Tales, Techs, and Territories: Private International Law, Globalization, and the Legal Construction of Borderlessness on the Internet*, 71 LAW & CONTEMP. PROB. 129, 130 (2008) ("[C]ourts in Internet cases almost always confine conflicts issues to the exercise of . . . personal jurisdiction . . . [and] virtually never engage in a full conflicts analysis").

394. Little, *supra* note 328, at 7.

apply, not whether it *should* apply.³⁹⁵ This is the approach exemplified by *GlobalSantaFe*, on the far end of—or, arguably, even off—the choice-of-law spectrum.³⁹⁶

Even when courts have engaged in more extended discussions of choice-of-law questions in the online context, they often display surprisingly “regressive” attitudes.³⁹⁷ As the *CRS Recovery, Inc.* opinion amply demonstrates, opportunities to favor local interests over foreign ones abound within modern choice-of-law methodologies. And this is true even within analytical structures that do not overtly tilt in favor of local interests; the *lex fori* approach (and its lesser strains that surface in, for example, California’s nominally interest-analysis based system³⁹⁸) is more obviously parochial.

All of this is still more surprising—and disturbing—given the context in which this jurisprudence is occurring. The Internet has itself been a disruptive technology, allowing instantaneous bridging between geographic areas once considered so remote as to be almost entirely unconnected.³⁹⁹ What is more, both exogenously and endogenously to the rise of the Internet, the world has become an increasingly globalized, cosmopolitan place.⁴⁰⁰ These developments require contemporary institutions and individuals to confront a thorny, and somewhat paradoxical, question: How can political, social, legal, and economic cross-border integration be accomplished while also respecting myriad unique cultural structures and identities?⁴⁰¹

There may well be no single, overarching answer to this question, and it is certainly not our aim to attempt to provide one here—not even one that could be compressed to fit the relatively narrow contours of choice of law in the cloud. At a bare minimum, it should provoke little or no disagreement to declare that the parochial approaches and artifices described above represent an inappropriately narrow-minded solution. Beyond that, the

395. *Id.*

396. *See supra* Part V.A.1.

397. *See Little, supra* note 328, at 7 (observing that “unilateral analysis continues to have a remarkably strong presence in choice-of-law cases”).

398. *CRS Recovery, Inc. v. Laxton*, 600 F.3d 1138 (9th Cir. 2010); *see also supra* Part III.B.3 (discussing *lex fori*).

399. *See supra* Part II.B.

400. For one of the most prominent discussions of contemporary globalization, see THOMAS L. FRIEDMAN, *THE LEXUS AND THE OLIVE TREE* (1999).

401. Identifying this struggle could be said to be the central thesis of Friedman’s work. *See, e.g., id.* at 327–64 (describing the “backlash” against and the “groundswell” in favor of globalization).

normative goals identified in Part III.C can serve as touchstones. Thus, with reference to furthering those aims (and avoiding the repetition of past mistakes), we ultimately seek to identify not a single “magic bullet,” but rather parameters to help steer future choice-of-law analyses.

B. Analytical Guidelines for Choice of Law in the Cloud

By applying the lessons to be learned from over a decade of Internet-based choice-of-law jurisprudence to the analogous cloud computing context, this Subpart provides a set of guideposts to inform future jurisprudence and scholarship. Again, these comprise no panacea. Presently unforeseeable problems will undoubtedly arise as the digital world shifts increasingly into the cloud. The principles encompassed in the following discussion, however, may ease the transition and allow the course of the law to avoid repeating the mistakes of the past.

1. Confronting Conflicts: The Pitfalls of the “Jurisdiction-Only” Solution

None of the normative goals identified in Part III.C can be served by simply ignoring choice-of-law questions. Yet, as seen in the Internet context, courts confronted with complex, novel issues appear frequently to do just that.⁴⁰² If the choice-of-law inquiry holds any value at all—and nearly two centuries of jurisprudence, civil law, and scholarship suggest that it does—then courts considering choice of law in litigation arising out of the cloud ought not follow this route, tempting though it may be. Simply asking whether local law *can* apply is not enough, particularly given the increasingly national and international nature of cloud computing. Courts must “confront, instead of gloss[ing] over, the apparent conflict in values and acknowledge that a choice must be made and justified.”⁴⁰³

What we refer to as the “jurisdiction-only” approach may be “predictable” in the sense that, once a complaint has been filed, parties are able to predict which law will apply *ex post* to their interactions (at least in cases where jurisdiction lies in the plaintiff’s chosen forum). But it is not predictable in the *ex ante* sense, i.e., private parties cannot *ex ante* predict what set of laws will likely apply to their actions—and it is this latter sense of predictability that produces the efficiencies sought by modern choice-of-law rules. Furthermore, this jurisdiction-only style of choice-of-law methodol-

402. Cf. generally *GlobalSantaFe Corp. v. GlobalSantaFe.Com*, 250 F. Supp. 2d 610 (E.D. Va. 2003); see also *supra* Part V.A.1.

403. Martha Minow & Joseph William Singer, *In Favor of Foxes: Pluralism as Fact and Aid to the Pursuit of Justice*, 90 B.U. L. REV. 903, 913 (2010).

ogy—or, perhaps more accurately, lack of methodology—is clearly neither an open nor transparent mode of analysis. And finally, it lacks objectivity, for it unduly favors plaintiffs by essentially allowing them to choose which (presumably plaintiff-friendly) law ought to apply by engaging in forum shopping. To the extent that plaintiffs tend to file lawsuits in their local jurisdiction, this approach also functions in an unnecessarily parochial manner.

By reducing trust, signaling a xenophobic mindset, and increasing uncertainty, each of these facets of the jurisdiction-only approach fail to further—and actually undermine—the prosocial adoption of innovative cloud-computing processes. Again, courts in this context should not ask only whether forum law may apply, but should go on to ask whether local law *ought* to apply, keeping the traditional aims of choice-of-law rules—as well as the unique goals noted above—firmly in mind.

2. *Leaving Lex Fori Behind*

Like the jurisdiction-only approach, the *lex fori* methodology is particularly unsuited to resolving cloud-based choice-of-law questions while also serving normative ends. It is, to be sure, simple to apply—a feature that may explain its continued, albeit limited, use.⁴⁰⁴ Functionally, however, it is indistinguishable from a jurisdiction-only system: courts first analyze the question of jurisdiction, then simply apply local law. It could be argued that *lex fori* does possess one advantage over the jurisdiction-only approach in that it is quite transparent, that is, *lex fori* courts openly favor local law over foreign law. The expressive function of law, however—the reality that law affects social interactions not only by what it does, but by what it “says”⁴⁰⁵—causes this “advantage” to cut both ways. By openly declaring parochial values, *lex fori* communicates a narrow-minded worldview even more effectively than jurisdiction-only decisions. As a result, it may have the ironic effect of disadvantaging local institutions and individuals by discouraging cross-border transactions and interactions that would benefit both, or all, parties involved, including local ones. And aside from the transparency question, *lex fori* is deficient in the cloud context for the same reasons as the jurisdiction-only methodology.

404. See *supra* Part II.B.3 (describing the *lex fori* approach).

405. See Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503, 1504 (2000) (“At the most general level, expressive theories tell actors—whether individuals, associations, or the State—to act in ways that express appropriate attitudes toward various substantive values.”); see also Richard H. McAdams, *An Attitudinal Theory of Expressive Law*, 79 OR. L. REV. 339, 339 (2000).

3. *Cultural Relativism and the Content of Foreign Law*

Courts using one of the more process-based choice-of-law approaches—governmental interest analysis and its offshoots, better law, or (to an arguably lesser extent) the Second Restatement—necessarily engage in substantive and comparative analyses of forum law and the laws of one or more foreign jurisdictions. When doing so in the context of cloud-based litigation, a paradigm of cultural relativism should inform their decisions.⁴⁰⁶

“Cultural relativism,” a concept that arose first in the field of anthropology, describes the concept “that civilization is not something absolute, but that it is relative, and that our ideas and conceptions are true only so far as our civilization goes.”⁴⁰⁷ Facilitating trust and reducing uncertainty in cross-border interactions requires a cultural-relativist framework, given that “moral rules and social institutions evidence an astonishing cultural and historical variability.”⁴⁰⁸ In light of this, courts should not be confident that they can accurately assess the contours of foreign law by referring to the content of local law. And as a result, should the parochial approach to deciphering foreign law described above become one used in multijurisdictional, cloud-based litigation, foreign parties will necessarily face more *ex ante* uncertainty when ordering their interactions with local parties. Furthermore, by communicating that local law provides the touchstone for analyzing the content of foreign law, this attitude (like *lex fori*) expresses a parochial message that may ultimately hinder the spread of innovation. Instead, courts ought to refer to foreign codes, common law, and regulations—not local law—when attempting to discern the content of foreign law.

4. *Ceteris Paribus Levels of Abstraction for Governmental Interests*

Choice-of-law rules that require characterization of governmental interests, as seen above, present an opportunity for more subtle parochialism. Thus, careful *ceteris paribus* abstraction should become the norm in interest-centric choice-of-law analyses. “*Ceteris paribus*,” a Latin phrase attributed to British economist Alfred Marshall and frequently translated as “all other things being equal,” is often used in economics literature to describe a relationship between two variables while holding all other possibly

406. The type of cultural relativism we are referring to should be distinguished from the “radical cultural relativism” school of thought, which holds that “culture is the sole source of the validity of a moral right or rule.” Jack Donnelly, *Cultural Relativism and Universal Human Rights*, 6 HUMAN RIGHTS Q. 400, 400 (1984).

407. Franz Boas, *Museums of Ethnology and Their Classification*, 9 SCIENCE 587, 589 (1887).

408. Donnelly, *supra* note 406.

confounding variables constant.⁴⁰⁹ We use it here to describe the manner in which courts ought to compare governmental interests in deciding choice-of-law issues—the two interests ought to be compared “holding all else constant,” particularly the levels of abstraction used to define the relevant interests. Doing so will foster transparency, predictability, objectivity, and innovation.

The problem of defining one set of interests at a low level of abstraction while defining a more favored set of interests at a high level of abstraction is certainly not unique to the choice-of-law context. Courts have repeatedly engaged in this practice.⁴¹⁰ In a pair of factually similar freedom-of-religion cases, for example, the U.S. Supreme Court defined the relevant governmental interests at very different levels of abstraction—yielding an outcome of unconstitutionality in one case and of constitutionality in the other.⁴¹¹ More recently, *CRS Recovery, Inc.* demonstrates the presence of this type of outcome-determinative abstracting in Internet-based choice-of-law disputes, as well as the possibility that it could bleed into cloud-based litigation.

Defining foreign jurisdictions’ interests at a lower level of abstraction than forum interests,⁴¹² or defining forum but not foreign law as encompassing nonlocal goals,⁴¹³ is neither open nor transparent. Instead, by purporting to engage in a side-by-side, fair balancing of competing laws and interests, yet disproportionately favoring local law, outcome-determinative abstraction functions in a misleading, opaque manner. Furthermore, this methodology yields outcomes that are frequently at odds with the outcome that would be expected, given the stated choice-of-law rules. It thus hinders predictability. Finally, placing a finger on the scale in favor of local law

409. *E.g.*, Gregory J. Werden, *Demand Elasticities in Antitrust Analysis*, 66 ANTITRUST L.J. 363, 364–67 (1998).

410. *See* T. Alexander Aleinikoff, *Constitutional Law in the Age of Balancing*, 96 YALE L.J. 943, 973 (1987) (“The problem for constitutional balancing is the derivation of the scale needed to translate the value of interests into a common currency for comparison.”); Thomas C. Berg, *What Hath Congress Wrought? An Interpretive Guide to the Religious Freedom Restoration Act*, 39 VILL. L. REV. 1, 40 (1994) (“Many social goals appear ‘compelling’ when they are inflated to the highest level of generality: that is, if the question is whether the law will be undermined in its application to society as a whole.”).

411. *See* Eugene Gressman & Angela C. Carmella, *The RFRA Revision of the Free Exercise Clause*, 57 OHIO ST. L.J. 65, 82–83 (1996) (comparing *Wisconsin v. Yoder*, 406 U.S. 205 (1972), to *United States v. Lee*, 455 U.S. 252 (1982)).

412. *See, e.g.*, *CRS Recovery, Inc. v. Laxton*, 600 F.3d 1138, 1443–44 (9th Cir. 2010) (discussing the foreign jurisdiction’s interest as a narrow interest, while discussing the forum interests broadly).

413. *E.g., id.*

both precludes objectivity and communicates parochial values. The cumulative result of these effects would be to chill the dissemination and adoption of innovative cloud processes.

5. *Cosmopolitanism and Circularity in Qualitative Comparisons*

In jurisdictions that overtly apply the “better law” approach (as well as in jurisdictions wherein courts nominally apply other rules while using a similar normative judgment as a “tiebreaker” or to buttress their conclusions), special care will be required in addressing cloud-based choice-of-law questions. Choice of law necessarily recognizes that “[t]here is no ‘view from nowhere’ that can be used to capture the legal essence of the institution or conflict in question.”⁴¹⁴ Instead, courts must analyze the relevant legal structures as laterally and discretely situated, yet concurrently intertwined with the facts at hand. To avoid blatant parochialism, courts engaging in a better-law judgment must avoid begging the question by consciously or unconsciously analyzing the qualitative merits of foreign law from the perspective of a world in which local law already governs.⁴¹⁵

Here, cultural relativist—and, to some extent, feminist—critiques again offer valuable insight: courts ought to be wary of reflexive attitudes regarding the “other” or “immediate instincts about the cultural and legal facts.”⁴¹⁶ The risk of failing to do so is especially acute where a foreign legal structure is based in part on a U.S. model, which may lull courts into a false sense of confidence as to their understanding of the foreign law.⁴¹⁷ This form of question-begging yields outcomes that lack objectivity, express unseemly favoritism of local law as a result, and are unpredictable from foreign parties’ perspective. In sum, courts adjudicating choice-of-law issues in the cloud context would do well to adopt a more cosmopolitan approach that recognizes the lateral nature of local and foreign laws.⁴¹⁸

414. Karen Knop et al., *From Multiculturalism to Technique: Feminism, Culture, and the Conflict of Laws Style*, 64 STAN. L. REV. 589, 634 (2012).

415. This, of course, is the misstep the Ninth Circuit made in *CRS Recovery, Inc.* See *supra* Part V.A.3.

416. Knop et al., *supra* note 414, at 634.

417. Maureen B. Callahan, *Cultural Relativism and the Interpretation of Constitutional Texts*, 30 WILLAMETTE L. REV. 609, 609 (1994).

418. Cf. Berman, *supra* note 332, at 1821–23 (arguing for increased cosmopolitanism in the Internet context).

VI. CONCLUSION

Society is well on its way toward ubiquitous deployment and adoption of cloud computing. The legal field, however, currently lags behind these developments. Unwieldy at best and unworkable at times, the current theories and rules governing jurisdictional and choice-of-law analyses are in dire need of updating. While no single policy proposal could hope to serve as a panacea for each problem courts will face in this context, a careful selection and application of the principles and reforms outlined above may help to avoid many of the mistakes made in the earlier environment of the Internet. Even more importantly, the selected principles will guide the continued development of jurisdiction and choice of law in the cloud so as to promote the predictability, trust, and mutual respect that are essential to ensuring the continued spread of innovation.