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## Minimum Virtual Contacts: A Framework for Specific Jurisdiction in Cyberspace

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## NOTE

### MINIMUM VIRTUAL CONTACTS: A FRAMEWORK FOR SPECIFIC JURISDICTION IN CYBERSPACE

Adam R. Kleven\*

*As the ubiquity and importance of the internet continue to grow, courts will address more cases involving online activity. In doing so, courts will confront the threshold issue of whether a defendant can be subject to specific personal jurisdiction. The Supreme Court, however, has yet to speak to this internet-jurisdiction issue. Current precedent, when strictly applied to the internet, yields fundamentally unfair results when addressing specific jurisdiction. To better achieve the fairness aim of due process, this must change. This Note argues that, in internet tort cases, the “express aiming” requirement should be discarded from the jurisdictional analysis and that courts should instead consider a defendant’s technological sophistication and the frequency with which a defendant engages in tortious conduct. These factors should guide courts’ determinations about whether a defendant has established “minimum virtual contacts” with a forum state. Additionally, courts should simplify the reasonableness factors articulated in cases like *Burger King* and apply this simplified reasonableness test seriously. This minimum virtual contacts standard is more flexible and therefore better suited to adapt to the changing technological landscape, analyze close cases, and achieve fair outcomes.*

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#### INTRODUCTION

The ubiquity and importance of the internet continue to grow. In a recent case about the FCC's statutory classification of the internet,<sup>1</sup> Judges Tatel and Srinivasan described the importance of internet content and services (e.g., Gmail, Facebook, Venmo) in society: "Over the past two decades, this content has transformed nearly every aspect of our lives, from profound actions like choosing a leader, building a career, and falling in love to more quotidian ones like hailing a cab and watching a movie."<sup>2</sup> The percentage of Americans who have internet access increased from 52% in 2000 to 84% in 2015.<sup>3</sup> The upshot is that the question of what legal framework should be placed upon the internet is an important one, and society recognizes that the stakes are high.

1. The FCC received 3.7 million comments during the comment period for this rulemaking—significantly more than is typical. This "Net Neutrality" issue also generated interest in popular culture. *U.S. Telecom Ass'n v. FCC*, 825 F.3d 674, 695 (D.C. Cir. 2016); Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, 19,746 (Apr. 13, 2015) (to be codified at 47 C.F.R. pt. 2); LastWeekTonight, *Net Neutrality: Last Week Tonight with John Oliver* (HBO), YouTube (June 1, 2014), <https://www.youtube.com/watch?v=fpbOEOrrHyU> [<https://perma.cc/3KCA-MKBW>] (discussing the "Net Neutrality" issue and imploring people to file comments with the FCC).

2. *U.S. Telecom Ass'n*, 825 F.3d at 698.

3. Andrew Perrin & Maeve Duggan, *Americans' Internet Access: 2000–2015*, PEW RES. CTR. (June 26, 2015), <http://www.pewinternet.org/2015/06/26/americans-internet-access-2000-2015/> [<https://perma.cc/S3SU-5965>].

Meanwhile, the legal system struggles to keep pace with rapidly evolving technology. The law of jurisdiction is not immune to this struggle. The Supreme Court, which has heard several cases concerning personal jurisdiction in recent years,<sup>4</sup> has noted how the nature of online activity presents different questions for a jurisdictional analysis.<sup>5</sup> As a preliminary matter, this Note focuses on specific personal jurisdiction—also known as long-arm jurisdiction—rather than general jurisdiction. Specific jurisdiction involves a plaintiff bringing an out-of-state defendant into court in a given state (i.e., the “forum state”), typically the plaintiff’s home state, for a cause of action arising out of an activity or an occurrence in the forum state.<sup>6</sup> Under general jurisdiction, a defendant can be sued for *any* cause of action in the state in which the defendant is “at home”<sup>7</sup>—thus, defendants can always be sued in their home states.

The internet has blurred territorial lines.<sup>8</sup> Originally, the jurisdictional question was answered by the territorial power of a sovereign state, which was deemed to have jurisdiction over all persons and things within its geographic boundary.<sup>9</sup> But changes in commerce and technology have challenged prior conceptions of territory and accompanying jurisdictional rules.<sup>10</sup> More recent changes raise a new jurisdictional question: When a user engages in activity online, *where* is that activity occurring? Explaining some of the logistics behind online activity will show that cyberspace is not as territorially amorphous as it may appear. Here the term “logistics” is used to reference the physical processes initiated when, for example, a user visits a website or sends an email and, in part, the infrastructure behind those activities. This claim that territory is not wholly irrelevant to questions of jurisdiction related to online activity is not meant to return jurisdiction back to

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4. See, e.g., *Bristol-Myers Squibb Co. v. Superior Court*, 137 S. Ct. 1773 (2017); *Walden v. Fiore*, 134 S. Ct. 1115 (2014); *Daimler AG v. Bauman*, 134 S. Ct. 746 (2014); *Goodyear Dunlop Tires Operations, S.A. v. Brown*, 564 U.S. 915 (2011); *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873 (2011).

5. See *Walden*, 134 S. Ct. at 1125 n.9 (“[T]his case does not present the very different questions whether and how a defendant’s virtual ‘presence’ and conduct translate into ‘contacts’ with a particular State. . . . We leave questions about virtual contacts for another day.”); see also *Nicastro*, 564 U.S. at 890 (Breyer, J., concurring in the judgment) (“[W]hat do [strict rules that limit jurisdiction] mean when a company targets the world by selling products from its Web site? . . . Those issues have serious commercial consequences but are totally absent in this case.”).

6. See *Daimler*, 134 S. Ct. at 751 (citing *Goodyear*, 564 U.S. at 919).

7. *Id.*

8. This fact is illustrated by things as simple as the differences between sending letters and sending emails, see *infra* Section II.A, or between Black Friday in-store shopping (shoppers are constrained to visit the stores geographically close to them) and Cyber Monday online shopping (shoppers can purchase items from any store that has a website).

9. PATRICIA L. BELLIA ET AL., *CYBERLAW: PROBLEMS OF POLICY AND JURISPRUDENCE IN THE INFORMATION AGE* 129 (4th ed. 2011).

10. *Id.*

the old *Pennoyer*-type analysis.<sup>11</sup> Rather, it is meant to show that, in some respect, “contact” is made with a forum state via a defendant’s online activities.

Scholars and commentators have argued for a variety of solutions to the internet-jurisdiction conundrum.<sup>12</sup> Some advocate for dispelling the “fiction” that online activity creates any meaningful contact with a forum, and they are content with the plaintiff-restrictive results that flow from such a view.<sup>13</sup> Others, perhaps implicitly questioning judges’ competency on this issue, advocate for legislative solutions.<sup>14</sup> But an alternative path has yet to be seriously explored.

This Note argues that courts should abandon a strict application of the “express aiming” requirement and adopt a two-pronged “minimum virtual contacts” standard to determine “how a defendant’s virtual ‘presence’ and conduct translate into ‘contacts’ with a particular State.”<sup>15</sup> Courts should subject a defendant to specific jurisdiction when (1) the defendant engages in sophisticated or continuous virtual conduct that causes harm to the plaintiff in the forum and (2) when exercising jurisdiction over the defendant is reasonable—and the reasonableness test should be simplified and applied seriously. Part I provides an overview of the basic framework of the minimum contacts standard, the effects test, and the Seventh Circuit’s recent decision in *Advanced Tactical v. Real Action Paintball*, which addressed establishing specific jurisdiction via online activity. Part II argues that *Advanced*

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11. See *Pennoyer v. Neff*, 95 U.S. 714 (1877) (requiring as a prerequisite for a court to exercise specific jurisdiction that the defendant be *physically* present in the forum state).

12. See, e.g., Damon C. Andrews & John M. Newman, *Personal Jurisdiction and Choice of Law in the Cloud*, 73 MD. L. REV. 313, 364–71 (2013) (arguing that defendants should “take [their] plaintiff where [they] find him,” establishing the Cloud as its own jurisdiction, and for legislative reform); Alan M. Trammell & Derek E. Bambauer, *Personal Jurisdiction and the “Interwebs”*, 100 CORNELL L. REV. 1129, 1167 (2015) (arguing that online activity essentially never creates physical contact with a forum and, therefore, “[i]nternet-based contacts should rarely, if ever, suffice for personal jurisdiction”); Jenny L. Grantz, Note, *A Culture Without Consequences? Redefining Purposeful Availment for Wrongful Online Conduct*, 63 HASTINGS L.J. 1135, 1166 (2012) (arguing defendants need not necessarily know where their plaintiff is located and that online conduct may sometimes lead to jurisdiction in multiple forums); William Schildknecht, Note, *Justice for J-Law? Specific Personal Jurisdiction over Internet Torts in the Wake of Walden v. Fiore*, 56 SANTA CLARA L. REV. 1, 24–31 (2016) (noting the pros and cons of the various approaches outlined by Andrews and Newman, but concluding that internet tort plaintiffs’ best litigation strategy would be utilizing the effects test); cf. Stephen E. Sachs, *How Congress Should Fix Personal Jurisdiction*, 108 NW. U. L. REV. 1301, 1301 (2014) (arguing that questions of personal jurisdiction should involve asking *who* may hear a case as opposed to *where* a case may be heard).

13. See, e.g., Trammell & Bambauer, *supra* note 12, at 1167.

14. See Andrews & Newman, *supra* note 12, at 368–71; Trammell & Bambauer, *supra* note 12, at 1172–73; cf. Alex Lipton, *Supreme Court Justices Just Don’t Understand Tech*, SHAKE (June 25, 2014), <http://www.shakelaw.com/blog/supreme-court-judges-tech/> [https://perma.cc/J4P9-VUJZ] (noting Supreme Court justices’ lack of knowledge with technology in general); Sachs, *supra* note 12, at 1302 (arguing for a legislative solution to the current problems with personal jurisdiction generally).

15. *Walden v. Fiore*, 134 S. Ct. 1115, 1125 n.9 (2014).

*Tactical* demonstrates the need for a modified minimum virtual contacts model that accounts for the nuances presented by changing technology. Courts should recognize that, while notions of territory are blurred on the internet, some virtual contact is established between forums through online transactions. Part III then presents the above-mentioned two-pronged approach as a solution.

I. THE BASIC PRINCIPLES OF MINIMUM CONTACTS, THE CONFUSION OF CALDER'S EFFECTS TEST, AND THE UNDUE RESTRICTION ON INTERNET JURISDICTION

This Part addresses the Supreme Court's minimum contacts<sup>16</sup> framework and how lower courts assess whether a defendant's online activity brings her within the reach of a state's long-arm jurisdiction. Section I.A outlines the basic framework of the minimum contacts analysis. Section I.B discusses the *Calder* effects test, which courts have widely applied to online activity, and the Court's recent decision in *Walden v. Fiore*. Section I.C analyzes *Advanced Tactical*, which applied *Walden* to online activity.

A state's exercise of specific jurisdiction over a foreign defendant must comport with due process of law, but what satisfies due process fluctuates depending on the case. Since *International Shoe*, the fact-specific minimum contacts analysis has set the constitutionally permissible outer limits of a state's exercise of specific jurisdiction over a foreign defendant.<sup>17</sup> Still, minimum contacts itself is a general analytic proposition and its application has fluctuated over time.

A. *The Basic Framework of the Minimum Contacts Analysis Can Be Adapted to Internet-Jurisdiction Cases*

To subject a defendant to specific jurisdiction, due process requires that, if she is not physically present in the forum state, she must have "certain minimum contacts with [the forum] such that the maintenance of the suit does not offend 'traditional notions of fair play and substantial justice.'"<sup>18</sup>

Even if a defendant has certain contacts with a forum, a court must ask whether such contacts are jurisdictionally relevant: Are the contacts of the right type? The connection with the forum must arise out of contacts the

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16. "Minimum contacts" is simply the level of contact needed for a state to exercise specific jurisdiction over a defendant consistent with due process. See *Int'l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945). What precisely satisfies this standard, however, is often unclear and depends on the case.

17. See *BELLIA ET AL.*, *supra* note 9, at 130–31.

18. *Int'l Shoe*, 326 U.S. at 316 (quoting *Milliken v. Meyer*, 311 U.S. 457, 463 (1940)). "Traditional notions of fair play and substantial justice" is a phrase of art made popular by the *International Shoe* case. It is a general concept baked into the due process requirement for personal jurisdiction—that is, the maintenance of the suit against the defendant cannot "offend 'traditional notions of fair play and substantial justice.'" *Id.* This Note sometimes omits the word "substantial."

defendant herself creates with the forum state;<sup>19</sup> a plaintiff's connections with the forum cannot be a decisive factor in the due process inquiry.<sup>20</sup> Moreover, "[the] unilateral activity of another party or a third person is not an appropriate consideration when determining whether a defendant has sufficient contacts with a forum State to justify an assertion of jurisdiction."<sup>21</sup> Finally, courts assess the relationship between the defendant, the forum, and the litigation—that is, the defendant's suit-related connections with the forum—to determine whether a state can exercise specific jurisdiction over a foreign defendant.<sup>22</sup> A defendant's contacts with the forum state must comport with these principles for a state to exercise specific jurisdiction over the defendant.

A court must also consider whether these contacts, even if they are of the right type, are sufficient to breach the "minimum" threshold. Several cases address transactions and when commercial activity might breach this threshold.<sup>23</sup> These cases can be instructive in the tort context. For instance, *J. McIntyre Machinery, Ltd. v. Nicaastro* addressed whether a New Jersey court could exercise jurisdiction over an English manufacturer based on the fact that the manufacturer targeted the U.S. market and at least one product made its way into New Jersey.<sup>24</sup> Justice Kennedy's plurality held that jurisdiction over the defendant was not established by this single contact because the defendant's conduct was not purposefully directed at New Jersey in particular.<sup>25</sup> Justice Breyer's concurrence pointed to precedent, stating that "[n]one of [the Court's] precedents finds that a single isolated sale, even if

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19. See *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985).

20. See *Rush v. Savchuk*, 444 U.S. 320, 332 (1980).

21. *Helicopteros Nacionales de Colom., S.A. v. Hall*, 466 U.S. 408, 417 (1984).

22. *Shaffer v. Heitner*, 433 U.S. 186, 204 (1977). *Shaffer* further stressed that this relationship, rather than the sovereignty of the forum state, is the central concern of the due process inquiry. *Id.*

23. See, e.g., *Asahi Metal Indus. Co. v. Superior Court*, 480 U.S. 102, 112 (1987) (plurality opinion) (holding that the substantial connection with the forum must be brought about by the defendant purposefully directing action toward the forum); *id.* at 117 (Brennan, J., concurring in part and concurring in the judgment) (arguing that jurisdiction may be permissible where there is a "regular and anticipated flow of products" into the forum); *id.* at 122 (Stevens, J., concurring in part and concurring in the judgment) (arguing that "a regular course of dealing that results in deliveries of over 100,000 units annually over a period of several years would constitute 'purposeful availment' even though the item delivered to the forum State was a standard product marketed throughout the world"); *Burger King*, 471 U.S. at 479–80 (holding that single contract, which contemplates a long-term business relationship between two parties, can establish a substantial connection with the forum such that jurisdiction is permissible); *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 286–87 (1980) (a single sale to customer who takes an accident-causing product into the forum state is insufficient to establish jurisdiction); see also *Boschetto v. Hansing*, 539 F.3d 1011, 1017 (9th Cir. 2008) (holding that a single transaction via eBay, without evidence that the defendant engaged in regular sales over eBay, is insufficient to establish jurisdiction).

24. 564 U.S. 873 (2011).

25. But the defendant's conduct was purposefully directed at the U.S. market generally. See *Nicaastro*, 564 U.S. at 886 (plurality opinion).

accompanied by the kind of sales effort indicated here, is sufficient” to establish jurisdiction over a foreign defendant.<sup>26</sup> A single act, however, can support jurisdiction so long as it creates a substantial connection with the forum.<sup>27</sup> In short, under the minimum contacts framework, certain activity requires more than a single contact with and purposeful direction toward the forum to establish jurisdiction. But a single contact that creates a “substantial,” potentially long-term, or repeated connection with a forum can also be sufficient to establish jurisdiction.

Lastly, even if a defendant has minimum contacts with a forum state, the exercise of jurisdiction over the defendant must also be reasonable. The Court in *Burger King* and *World-Wide Volkswagen* articulated a reasonableness standard that considers five factors:

[C]ourts in “appropriate case[s]” may evaluate “the burden on the defendant,” “the forum State’s interest in adjudicating the dispute,” “the plaintiff’s interest in obtaining convenient and effective relief,” “the interstate judicial system’s interest in obtaining the most efficient resolution of controversies,” and the “shared interest of the several States in furthering fundamental substantive social policies.”<sup>28</sup>

The Court has applied this reasonableness prong of the jurisdictional inquiry sparingly.<sup>29</sup> Section III.B argues for a simplification and more serious application of the reasonableness test.

B. *The Confusion of the Calder Effects Test, Walden’s Clarification, and the Open Question of Internet Jurisdiction*

In intentional tort cases, lower courts also frequently employ the *Calder* effects test.<sup>30</sup> *Calder v. Jones* involved Florida defendants who wrote and edited an allegedly libelous story for the *National Enquirer* about the plaintiff, Shirley Jones, a California resident.<sup>31</sup> The Court held that jurisdiction was “proper in California based on the ‘effects’ of [defendants’] Florida conduct

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26. *Id.* at 888 (Breyer, J., concurring in the judgment).

27. *Burger King*, 471 U.S. at 475 n.18 (citing *McGee v. Int’l Life Ins. Co.*, 355 U.S. 220, 223 (1957)). *Burger King* involved a single contract between a Michigan defendant and a Florida plaintiff, but the contract contemplated a long-term business relationship. *Id.* at 479–80. *McGee* involved an insurance contract between a Texas defendant and a California plaintiff, and the Court also saw this contract as creating a “substantial connection” between the defendant and the forum. *McGee v. Int’l Life Ins. Co.*, 355 U.S. 220, 223–24 (1957); *cf.* *Calder v. Jones*, 465 U.S. 783 (1984) (concluding that a single magazine article could serve as the basis for jurisdiction for a libel suit).

28. *Burger King*, 471 U.S. at 477 (quoting *World-Wide Volkswagen*, 444 U.S. at 292).

29. *See infra* Part III.

30. *See* Julie Cromer Young, *The Online-Contacts Gamble After Walden v. Fiore*, 19 LEWIS & CLARK L. REV. 753, 757–61 (2015) (summarizing courts’ applications of *Calder* to online activity). But *Walden* also framed the *Calder* effects test narrowly and within the confines of the minimum contacts standard. *See* John T. Parry, *Rethinking Personal Jurisdiction after Bauman and Walden*, 19 LEWIS & CLARK L. REV. 607, 621–23 (2015).

31. 465 U.S. 783 (1984).

in California.<sup>32</sup> And contrary to defendants' assertions, the Court stated that the defendants' intentional "actions were *expressly aimed* at California."<sup>33</sup> Whether the "express aiming" statement was holding or dicta is debatable.<sup>34</sup> Regardless, as will be discussed, *Walden's* subsequent reading of *Calder* confirms that effects alone, without more, cannot provide the basis for jurisdiction.<sup>35</sup>

Following *Calder*, most courts set out a three-part effects test that included an express-aiming requirement. Generally, this test requires that a defendant (1) commit an intentional tort (2) expressly aimed at the forum (such that the forum can be considered the focal point of the tortious activity), (3) causing harm that the defendant knows is likely to be suffered in the forum state.<sup>36</sup> The express-aiming requirement is satisfied "when the defendant is alleged to have engaged in wrongful conduct targeted at a plaintiff whom the defendant knows to be a resident of the forum state."<sup>37</sup> *Tamburo v. Dworkin* exemplifies this principle in the online context.<sup>38</sup> There, the Seventh Circuit held that foreign defendants expressly aimed their conduct at Illinois by utilizing their websites and sending email blasts to generate a consumer boycott specifically against the plaintiff, whom the defendants knew lived and operated his business in Illinois.<sup>39</sup> Conversely, other courts, even on similar facts, reached opposite results.<sup>40</sup> For example, in *Shrader v. Biddinger*, a defendant sent an allegedly defamatory email and posted, on a website, a defamatory message specifically targeted at the plaintiff, who the

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32. *Calder*, 465 U.S. at 789. The Court also noted that California was where the brunt of the harm was suffered and was the state in which the *Enquirer* had its largest circulation. *Id.* at 788–90.

33. *Id.* at 789; *cf.* *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 886 (2011) (plurality opinion) (stating a "purposefully directed" requirement); *Asahi Metal Indus. Co. v. Superior Court*, 480 U.S. 102, 112 (1987) (plurality opinion) (same).

34. *Compare, e.g., IMO Indus. v. Kiekert AG*, 155 F.3d 254, 265–66 (3d Cir. 1998) (requiring express aiming), *with Janmark, Inc. v. Reidy*, 132 F.3d 1200, 1202 (7th Cir. 1997) ("[T]he state in which the victim of a tort suffers the injury may entertain a suit against the accused tortfeasor."), *abrogated by Advanced Tactical Ordnance Sys., LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 802 (7th Cir. 2014).

35. *See Walden v. Fiore*, 134 S. Ct. 1115, 1126 (2014); *see also Advanced Tactical Ordnance Sys., LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 802 (7th Cir. 2014).

36. *See, e.g., Picot v. Weston*, 780 F.3d 1206, 1213–14 (9th Cir. 2015); *IMO Indus.*, 155 F.3d at 265–66.

37. *Bancroft & Masters, Inc. v. Augusta Nat'l Inc.*, 223 F.3d 1082, 1087 (9th Cir. 2000). But *Walden* shows even those conditions, though perhaps necessary, are insufficient—rather, the defendant's conduct must be related to the forum beyond the fact that the plaintiff was located in the forum. *See Picot*, 780 F.3d at 1215.

38. 601 F.3d 693, 697–98 (7th Cir. 2010); *see also Panavision Int'l, L.P. v. Toeppen*, 141 F.3d 1316, 1321 (9th Cir. 1998) (holding that California's exercise of jurisdiction was permissible where defendant registered the Panavision's trademarks as domain names for the purpose of extorting money from Panavision, whom the defendant knew to be located in California).

39. *Tamburo*, 601 F.3d at 697.

40. *See, e.g., Griffis v. Luban*, 646 N.W.2d 527 (Minn. 2002); *see also Shrader v. Biddinger*, 633 F.3d 1235, 1245–46 (10th Cir. 2011) (requiring more than the defendant targeting a known forum resident).

defendant knew lived and worked in Oklahoma.<sup>41</sup> The Tenth Circuit reasoned that Oklahoma was not “the focal point” of the defendant’s online conduct and held that Oklahoma did not have jurisdiction over the defendant.<sup>42</sup>

Then in *Walden v. Fiore*, the Supreme Court clarified that the minimum contacts principles apply to intentional tort cases as well<sup>43</sup>—seemingly lessening *Calder*’s relevance. *Walden* addressed a *Bivens* action by Nevada plaintiffs against a Georgia defendant. The defendant was a Drug Enforcement Administration agent who, at an Atlanta airport, seized \$97,000 belonging to the plaintiffs based partly upon a probable cause affidavit that contained knowingly false statements.<sup>44</sup> Although the defendant knew that the plaintiffs resided in a particular forum, the Court held that Nevada could not exercise specific jurisdiction because such contacts arose solely out of the plaintiffs’ contacts with the forum.<sup>45</sup> Importantly, “the defendant had no other contacts with Nevada” itself.<sup>46</sup> Although the defendant formed contacts with the forum insofar as he made contact with the plaintiffs who resided there, the defendant “formed no jurisdictionally relevant contacts with Nevada.”<sup>47</sup>

*Walden*’s significance arises from the fact that it reined in broad applications of *Calder*,<sup>48</sup> which lower courts had employed in cases concerning online contacts. Essentially, the Court found the defendant’s contacts with the forum too random and fortuitous and narrowed the effects test’s application.<sup>49</sup> But the *Walden* framework applied strictly to the internet could result in a rather significant restriction on the reach of states’ long-arm jurisdiction. Recognizing this argument, the Court added a footnote but punted on the issue “for another day.”<sup>50</sup>

In sum, application of the effects test produced rather inconsistent results, even though most courts adopted some form of the express-aiming

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41. *Shrader*, 633 F.3d at 1237–38.

42. *See id.* at 1245.

43. *Walden v. Fiore*, 134 S. Ct. 1115, 1123 (2014).

44. *Id.* at 1119–20.

45. *Id.* at 1124–25.

46. *Id.* at 1119.

47. *Id.* at 1124.

48. *See, e.g.*, *ClearOne, Inc. v. Revolabs, Inc.*, 369 P.3d 1269, 1278 (Utah 2016) (“[T]o the extent that [the court’s previous decision] adopted an interpretation of *Calder* that permitted a plaintiff to be ‘the only link between the defendant and the forum,’ its interpretation is inconsistent with *Walden*.”); *see also* *Younique, L.L.C. v. Youssef*, No. 2:15-cv-00783-JNP-DBP, 2016 WL 6998659, at \*7 (D. Utah Nov. 30, 2016) (“*Walden*’s clarification may significantly narrow otherwise broad readings of *Calder*’s ‘effects’ test.”).

49. *See Walden*, 134 S. Ct. at 1123–25 (“Unlike the broad publication of the forum-focused story in *Calder*, the effects of [the defendant’s] conduct [in Georgia] on [the plaintiffs] are not connected to [Nevada] in a way that makes those effects a proper basis for jurisdiction.”).

50. For the relevant text of the footnote, *see supra* note 5.

requirement. *Walden*, however, suggested that the Court might deviate from the effects test and view internet cases differently.

C. Advanced Tactical: *An Example of Walden Reining in Calder and Restricting Internet Jurisdiction*

The Seventh Circuit recently revisited the issue of establishing specific jurisdiction via a defendant's online activity in *Advanced Tactical Ordnance Systems, LLC v. Real Action Paintball, Inc.*<sup>51</sup> Advanced Tactical considered a trademark-infringement action brought by Advanced Tactical (an Indiana company) against Real Action Paintball (a California company) in an Indiana federal court.<sup>52</sup> Real Action posted an announcement on its website and sent emails to customers declaring that it had acquired PepperBall<sup>53</sup> products and implied that Real Action was now the only maker of those products, when, in fact, Advanced Tactical had bought the rights to PepperBall products.<sup>54</sup> Real Action also fulfilled several sales on allegedly infringing products in Indiana.<sup>55</sup> Moreover, Real Action repeatedly sent other emails to Indiana customers,<sup>56</sup> though it is not apparent whether those other emails also contained infringing declarations. Thus, Advanced Tactical sought to bring an out-of-state defendant into Indiana solely based on the defendant's online activity.

The Seventh Circuit held that the district court lacked personal jurisdiction over the defendant.<sup>57</sup> That the defendant knew Advanced Tactical "was an Indiana company and could foresee that its misleading emails and sales would harm Advanced Tactical in Indiana" was irrelevant to the jurisdictional and due process analyses.<sup>58</sup> Those contacts were created solely by the plaintiff's residence in the forum (and were thus jurisdictionally irrelevant under *Walden*), not by the defendant.<sup>59</sup> In short, a plaintiff's connections with the forum cannot be a decisive factor in the due process inquiry.<sup>60</sup>

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51. 751 F.3d 796 (7th Cir. 2014).

52. Violations of the Lanham Act, unfair competition, trade dress infringement, and misappropriation of trade secrets were also alleged. *Advanced Tactical*, 751 F.3d at 799.

53. Pepperballs are a form of projectile, similar to but more dangerous than paintballs, that contain powdered chemicals that irritate the eyes and nose and are often used by law enforcement and corrections officers. See Eli Hager, *Alternatives to Bullets*, MARSHALL PROJECT (Sept. 23, 2015, 7:15 AM), <https://www.themarshallproject.org/2015/09/23/alternatives-to-bullets#.KrznwVO37> [<https://perma.cc/9UYS-8BRA>].

54. *Advanced Tactical*, 751 F.3d at 798–99. Apparently, Real Action was contacted by a Mexican company called APON to inquire into whether Real Action was interested in acquiring irritant projectiles. *Id.* at 799. Before Advanced Tactical's acquiring of PepperBall, APON had supplied PepperBall with irritant projectiles. *Id.* at 798.

55. *Id.* at 801.

56. *Id.*

57. *Id.* at 798.

58. *Id.* at 801.

59. See *id.* at 802 (citing *Walden v. Fiore*, 134 S. Ct. 1115, 1118 (2014)).

60. See *Walden v. Fiore*, 134 S. Ct. 1115, 1119 (2014) (quoting *Rush v. Savchuk*, 444 U.S. 320, 332 (1980)).

The court noted, however, that “[t]he question [of] whether harming a plaintiff in the forum state creates sufficient minimum contacts is more complex.”<sup>61</sup> The court therefore had to confront how *Calder* might apply in this context, post-*Walden*. Previously, in *Janmark, Inc. v. Reidy*, the Seventh Circuit had applied *Calder* broadly.<sup>62</sup> The *Advanced Tactical* court abrogated *Janmark*, stating that “after *Walden* there can be no doubt that ‘the plaintiff cannot be the only link between the defendant and the forum.’ Any decision that implies otherwise can no longer be considered authoritative.”<sup>63</sup> Pursuant to *Walden*, the court raised the minimum contacts threshold, thereby restricting the exercise of specific jurisdiction.

But what of the defendant’s emails to Indiana residents and allegedly infringing online sales? First, the court concluded that the jurisdictional analysis does not change when a court considers a defendant’s online activity.<sup>64</sup> The core question was still whether the defendant had somehow targeted the forum.<sup>65</sup> The court then addressed the emails: “The connection between the place where an email is opened and a lawsuit is entirely fortuitous . . . . It may be different if there were evidence that a defendant in some way targeted residents of a specific state, perhaps through geographically-restricted online ads.”<sup>66</sup> Furthermore, the defendant’s suit-related conduct of simply posting allegedly infringing material on its website was not related to the forum. Rather, like the emails, where one accesses the website is fortuitous<sup>67</sup> (absent some sort of geographically targeted advertising<sup>68</sup> or geographical access restrictions placed on the website by its operator).<sup>69</sup> Thus, the defendant’s online activity, by itself, did not establish jurisdictionally relevant contacts.

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61. *Advanced Tactical*, 751 F.3d at 802.

62. 132 F.3d 1200, 1202 (7th Cir. 1997) (“[T]here can be no serious doubt after [*Calder*] that the state in which the victim of a tort suffers the injury may entertain a suit against the accused tortfeasor.”), abrogated by *Advanced Tactical*, 751 F.3d 796.

63. *Advanced Tactical*, 751 F.3d at 802 (citation omitted) (quoting *Walden*, 134 S. Ct. at 1122).

64. *Id.* at 802.

65. *Id.* at 802–03 (citing *be2 LLC v. Ivanov*, 642 F.3d 555, 558–59 (7th Cir. 2011)).

66. *Id.* at 803.

67. *Id.* Though applying *Walden*, this reasoning by the Seventh Circuit seems inspired by the *Nicastro* plurality’s “purposeful direction” requirement. See *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 886 (2011) (plurality opinion).

68. See, e.g., *AdWords Help*, GOOGLE, <https://support.google.com/adwords/answer/1722043?hl=EN-GB> [<https://perma.cc/T8UJ-XARV>]; see also *Rilley v. MoneyMutual, LLC*, 884 N.W.2d 321, 335–37 (Minn. 2016) (holding that the defendant’s Google AdWords campaign targeted at Minnesota residents was a relevant contact with the Minnesota forum for the purpose of the minimum contacts analysis).

69. See Marketa Trimble, *The Future of Cybertravel: Legal Implications of the Evasion of Geolocation*, 22 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 567, 584–85 (2012).

Despite an indication that the Supreme Court might view an internet-jurisdiction case differently,<sup>70</sup> *Walden* nonetheless demands that the defendant herself create contacts with the forum.<sup>71</sup> But, as Part II will explain, the Seventh Circuit's contention that jurisdictional standards should apply *without modification* to a defendant's online activity should not go unnoticed. Such an approach is misguided and results in an undue restriction on specific jurisdiction.

## II. THE NEGATIVE IMPLICATIONS OF A STRICT APPLICATION OF *WALDEN* TO ONLINE ACTIVITY

This Part explores the negative implications of strictly applying *Walden* to internet tort suits: that approach tends to immunize defendants from long-arm jurisdiction in cases where the plaintiff is the only direct link between the defendant and the forum. Section II.A argues that the concept of a defendant specifically targeting a forum is misguided because, although notions of territory are blurred on the internet, territory is not as completely "fortuitous," as the court in *Advanced Tactical* suggested. Section II.B argues that the express-aiming requirement provides defendants too much immunity from specific jurisdiction.

### A. *Notions of Territory Are Blurred, but Not Wholly Irrelevant, on the Internet*

The idea that one's virtual conduct can establish any meaningful physical "contact" with a forum is, in part, a fiction.<sup>72</sup> Take the act of sending an email versus sending a physical letter as an example. If Ana drops a letter at the post office in Ann Arbor to Ben in Boston, she initiates a (relatively speaking) physically intensive process to transport that letter from Michigan to Massachusetts. Ana has caused at least some intentional contact with Massachusetts via the letter, and Ben has to be physically at his Boston home to receive and read the letter.

But when Ana sends Ben an email, say, through Microsoft's Outlook email service, something entirely different occurs. First, through the use of a smartphone or tablet, Ben can view the email anywhere. Second, "content" and "noncontent" information is generated by Ana's use of Outlook to send the email, and Microsoft must store that information on a server, which is located in a datacenter.<sup>73</sup> Microsoft might store some of the information

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70. See *Walden v. Fiore*, 134 S. Ct. 1115, 1125 n.9 (2014) ("[T]his case does not present the *very different questions* whether and how a defendant's virtual 'presence' and conduct translate into 'contacts' with a particular State." (emphasis added)).

71. See *id.* at 1125.

72. See Trammell & Bambauer, *supra* note 12, at 1167.

73. See *Microsoft Corp. v. United States (In re Warrant to Search a Certain E-Mail Account Controlled & Maintained by Microsoft Corp.)*, 829 F.3d 197, 202 (2d Cir. 2016), *cert. granted*, No. 17-2, 2017 WL 2869958 (U.S. Oct. 16, 2017). For a "virtual tour" of an example of Microsoft's datacenters, see *Microsoft Global Datacenters*, MICROSOFT, <https://www.microsoft.com/en-us/cloud-platform/global-datacenters> [<https://perma.cc/C5YK-K52L>].

(e.g., basic account information and email address-book information) in a U.S. datacenter, and it might store the other content-based information (e.g., the email's text) in a foreign datacenter.<sup>74</sup> Moreover, if Ben uses Gmail, not Outlook, then Google also has the email on its own servers, which may or may not be located in the same place as Microsoft's servers.<sup>75</sup>

On the other hand, when Ana and Ben send emails to each other, they establish virtual contact with each other's forums. Their computers are sending packets of information over a wired network from the source computer's address to the end computer's address.<sup>76</sup> Additionally, the computers know that they are sending such information to a computer in a particular place because their IP addresses are tied to geographic locations.<sup>77</sup> This same process applies when users visit websites or use apps on their phones—a website's server sends packets of information to the end user's computer to deliver the content.<sup>78</sup> Thus, while notions of territory are blurred on the internet, territory is not completely irrelevant<sup>79</sup>: the physical connection between two users' territories is simply more "underground" (i.e., the wires), while the connection that seems more meaningful (i.e., the content) is virtual.<sup>80</sup>

In *Advanced Tactical*, the use of virtual tools accomplished a similar result (sales to Indiana) for the defendant while also providing a jurisdictional shield. Currently, the law does not accommodate a more serious consideration of the above-mentioned physical connections between internet users

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See also Eugene Kim, *Take a Tour of Google's Secretive Data Centers Where All Your Photos and Emails Are Stored*, BUS. INSIDER (June 30, 2015, 9:55 AM), <http://www.businessinsider.com/google-data-centers-store-all-your-photos-and-emails-2015-6/#ogle-has-data-centers-in-14-different-locations-including-the-netherlands-singapore-and-chile-this-is-the-one-in-finland-1> [<https://perma.cc/PG5Z-6M65>] (images of Google's datacenters).

74. See *Microsoft*, 829 F.3d at 202–03.

75. See Benjamin Mako Hill, *I Don't Use Gmail, but Google Still Has Lots of My Personal Emails*, SLATE: FUTURE TENSE (May 13, 2014, 2:03 PM), [http://www.slate.com/blogs/future\\_tense/2014/05/13/don\\_t\\_use\\_gmail\\_here\\_s\\_how\\_to\\_determine\\_how\\_many\\_of\\_your\\_emails\\_google\\_may.html](http://www.slate.com/blogs/future_tense/2014/05/13/don_t_use_gmail_here_s_how_to_determine_how_many_of_your_emails_google_may.html) [<https://perma.cc/UU3M-8DP7>]; see also *Data Center Locations*, GOOGLE, <https://www.google.com/about/datacenters/inside/locations/index.html> [<https://perma.cc/H24R-TAZR>] (map of Google's data center locations).

76. See, e.g., GAIL HONDA & KIPP MARTIN, *THE ESSENTIAL GUIDE TO INTERNET BUSINESS TECHNOLOGY* 71–76 (2002); see also BELLIA ET AL., *supra* note 9, at 16–24 (providing a simplified overview of the logistics of how information travels over the internet).

77. See *IP Address Geographical Location Finder*, IPFINGERPRINTS, <http://www.ipfingerprints.com/> [<https://perma.cc/8UB9-S7ZJ>].

78. See *supra* notes 76–77.

79. To provide a concrete example, website operators can place geographic restrictions on their websites and deny access to computers with IP addresses tied to particular locations. See, e.g., Trimble, *supra* note 69, at 584–85; Zack Wallace, *How to Block Entire Countries from Accessing Your Website*, SITEPOINT (Apr. 22, 2015), <https://www.sitepoint.com/how-to-block-entire-countries-from-accessing-website/> [<https://perma.cc/65KD-XL3V>].

80. Cf. TED, *Andrew Blum: What Is the Internet, Really?*, YOUTUBE (Sept. 19, 2012), [https://www.youtube.com/watch?v=XE\\_FPEFpHt4](https://www.youtube.com/watch?v=XE_FPEFpHt4) [<https://perma.cc/Q33C-R5SB>] (discussing the physical connections between routers and the cables that physically stretch across the world to provide internet connection and facilitate these virtual transactions).

and forums. The *Advanced Tactical* court seemed to suggest that, had the defendant sent snail mail to the same Indiana customers who received the emails, the company could have been brought to court in Indiana.<sup>81</sup> Likewise, had the defendant opened a brick-and-mortar storefront in Indiana where customers could have seen the allegedly infringing advertisements and made purchases, then jurisdiction would have been proper.<sup>82</sup> If virtual conduct does not create any jurisdictionally relevant connection to a forum, a plaintiff would be severely limited in where she could bring a lawsuit.<sup>83</sup> The court's concern about "fortuitousness"<sup>84</sup> is really related to the defendant's *lack of knowledge* of a user's location—that Indiana residents probably read their emails in Indiana, as they would a letter, is not fortuitous. As Part III notes, the defendant's knowledge of the plaintiff's particular location should not be determinative in the jurisdictional analysis. But before courts adopt that concept, they must first acknowledge that a physical network facilitates users' virtual conduct and that this network connects users to a forum.

B. *The Express-Aiming Requirement Largely Immunizes Defendants from Specific Jurisdiction in Internet Tort Suits*

The express-aiming requirement for an intentional tort renders a defendant largely immune to specific jurisdiction when the defendant engages in conduct broadly via the internet. Express aiming requires (a) alleged wrongful conduct aimed at a particular forum; (b) targeting, which suggests an intentional selection of a particular plaintiff; and (c) knowledge of that plaintiff's location in the forum.<sup>85</sup> This need for targeting produces a counterintuitive result: the wider a defendant engages in allegedly wrongful conduct, the less likely she is subject to specific jurisdiction in any of the forums in which she causes harm.

Justice Breyer, joined by Justice Alito, raised a similar concern in his concurrence in *Nicastro*.<sup>86</sup> The plurality in *Nicastro* suggested that the exercise of specific jurisdiction is limited to instances in which a defendant consents to the power of a foreign sovereign and purposefully targets a forum.<sup>87</sup> Justice Breyer responded:

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81. See *Advanced Tactical Ordnance Sys., LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 803 (7th Cir. 2014).

82. But even online sales stemming from the alleged infringement could have reached a point where it can be said that Real Action could have reasonably been expected to be haled to court in Indiana. See *infra* Part III.

83. See Trammell & Bambauer, *supra* note 12, at 1134–35.

84. See *Advanced Tactical*, 751 F.3d at 803.

85. See *supra* notes 36–37 and accompanying text.

86. *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 890 (2011) (Breyer, J., concurring in the judgment).

87. *Id.* at 880–82 (plurality opinion).

But what do those standards mean when a company targets the world by selling products from its Web site? And does it matter if, instead of shipping the products directly, a company consigns the products through an intermediary (say, Amazon.com) who then receives and fulfills the orders? And what if the company markets its products through popup advertisements that it knows will be viewed in a forum? Those issues have serious commercial consequences but are totally absent in this case.<sup>88</sup>

Justice Breyer's statement may be another hint that internet-jurisdiction cases warrant unique considerations. Relatedly, the concurring justices appeared to sense some unfairness in strict jurisdictional rules in light of modern technology.<sup>89</sup> This sense of unfairness may be exacerbated by the fact that defendants can perpetrate broad harm over the internet with less effort.

*Gullen v. Facebook.com, Inc.*<sup>90</sup> which followed *Advanced Tactical*, confronted this targeting issue. The plaintiff sued Facebook under an Illinois statute, the Biometric Information Protection Act (BIPA), which prohibits private entities from collecting biometric information from individuals absent their express consent.<sup>91</sup> In *Gullen*, a third party uploaded to Facebook a picture of the plaintiff, who was not a Facebook user.<sup>92</sup> Facebook's facial-recognition technology allegedly scanned the plaintiff's face from the picture and thus extracted and stored his biometric information.<sup>93</sup> Despite Facebook developing a substantial user base in Illinois,<sup>94</sup> despite Facebook allegedly violating an Illinois statute through its conduct toward an Illinois plaintiff, and despite Facebook engaging in this wrongdoing broadly, the district court dismissed the case for lack of personal jurisdiction.<sup>95</sup>

The district court rejected the contention that Facebook targeted Illinois users because Facebook uses facial-recognition technology on *every* user-uploaded photo, not just those photos uploaded by Illinois residents.<sup>96</sup> The district court determined there was no "targeting" of Illinois and that Facebook was simply operating an interactive website available to Illinois residents.<sup>97</sup> The court further asserted that "plaintiff does not, and could not plausibly, allege that Facebook knew an Illinois resident would upload a photo of *him* and tag *his name* to it, thereby . . . giving Facebook access to

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88. *Id.* at 890 (Breyer, J., concurring in the judgment).

89. Justice Ginsburg, joined by Justices Sotomayor and Kagan, dissented. *Id.* at 893–914 (Ginsburg, J., dissenting). These justices likely have an even more flexible stance on the exercise of specific jurisdiction; but the concurring and dissenting justices in *Nicaastro* joined the unanimous *Walden* opinion. See *Walden v. Fiore*, 134 S. Ct. 1115, 1118 (2014).

90. No. 15 C 7681, 2016 WL 245910 (N.D. Ill. Jan. 21, 2016).

91. 740 ILL. COMP. STAT. 14/15(a)–(b) (2016).

92. *Gullen*, 2016 WL 245910, at \*1.

93. *Id.*

94. See *Usage and Population Statistics*, INTERNET WORLD STATS, <http://www.internetworldstats.com/unitedstates.htm#IL> [<https://perma.cc/9NET-VKDG>].

95. *Gullen*, 2016 WL 245910, at \*3.

96. *Id.* at \*2.

97. *Id.*

plaintiff's biometric information."<sup>98</sup> The *Gullen* court was therefore focused on Facebook's widespread use of facial-recognition technology and Facebook's lack of knowledge that the technology would harm this specific plaintiff.

Though the *Gullen* court applied *Walden*, *Advanced Tactical*, and the express-aiming requirement correctly according to precedent,<sup>99</sup> its result does not comport with notions of fair play and justice.<sup>100</sup> This case exemplifies the negative implications of the express-aiming requirement for internet cases. The fact that the pervasiveness of alleged wrongful conduct is inversely related to whether the forum state has jurisdiction over the defendant—because such pervasive conduct is not “expressly aimed” at any state—is counterintuitive and irrational. Facebook broke loose from a jurisdictional mooring here because (1) it engaged in alleged wrongful conduct broadly,<sup>101</sup> and (2) it did not intentionally select the individual plaintiff as its target or know that the plaintiff was in the forum. A defendant's lack of knowledge of a plaintiff's location is a recurrent jurisdictional problem in internet tort suits.<sup>102</sup> Facebook knew it had users in Illinois, and it knew about BIPA—and yet it avoided liability (at least for now)<sup>103</sup> on jurisdictional grounds. Part III argues for a solution that avoids this type of overly plaintiff-restrictive result.

### III. FINDING MINIMUM VIRTUAL CONTACTS WHILE COUNSELING AGAINST UNREASONABLE EXERCISES OF SPECIFIC JURISDICTION

The Supreme Court should broaden its narrow jurisdictional rules when assessing whether exercising specific jurisdiction in an internet tort suit comports with traditional notions of fair play and justice. A new “minimum virtual contacts” analysis should consider whether a defendant engaged in substantial or continuous tortious conduct—not whether a defendant, in a strict sense, “expressly aimed” such conduct at a forum. Section III.A outlines two scenarios to illustrate these factors. Section III.B argues that, if

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98. *Id.* at \*3 (emphases added).

99. *But see* *Norberg v. Shutterfly, Inc.*, 152 F. Supp. 3d 1103, 1105 (N.D. Ill. 2015) (reaching the opposite result as *Gullen* and noting that “[t]he statute [the defendant is] accused of violating is an Illinois statute” and the claim “stems out of [the defendant's] contact with Illinois residents”).

100. *See Int'l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945).

101. This widespread conduct flows from the nature of Facebook as a website—its reach is international. *See, e.g.*, FACEBOOK, FACEBOOK Q2 2017 RESULTS 2 (2017), [https://s21.q4cdn.com/399680738/files/doc\\_presentations/FB-Q2'17-Earnings-Presentation.pdf](https://s21.q4cdn.com/399680738/files/doc_presentations/FB-Q2'17-Earnings-Presentation.pdf) [<https://perma.cc/9EH4-HHJE>] (showing that, in the second quarter of 2017, 86.2% of Facebook's daily active users were outside of the United States and Canada).

102. *See* *Grantz*, *supra* note 12, at 1151–56 (discussing courts' treatment of the issue of when a plaintiff's location may be unclear to a defendant); *see also* *Andrews & Newman*, *supra* note 12, at 365–66.

103. In a separate case, a federal district court in California recently denied Facebook's motion to dismiss and allowed the Illinois plaintiffs' BIPA claim to proceed. *See In re Facebook Biometric Info. Privacy Litig.*, 185 F. Supp. 3d 1155 (N.D. Cal. 2016).

minimum virtual contacts are established, courts should look to factors from Supreme Court precedent that militate against unreasonable exercises of jurisdiction. These “reasonableness factors” include the defendant’s burden of litigating the suit in the plaintiff’s forum state compared to the plaintiff’s burden of litigating elsewhere, whether litigating outside the plaintiff’s jurisdiction would inhibit a convenient and an efficient resolution of the suit, and the forum state’s interest in furthering a fundamental substantive policy.<sup>104</sup>

In short, courts should find minimum virtual contacts when (a) the defendant engages in substantial or continuous allegedly wrongful conduct online, (b) that causes harm connected to the forum, and (c) the plaintiff experiences the brunt of that harm in the forum. Furthermore, if a defendant lacks knowledge of the plaintiff’s location in the forum, that fact should not be dispositive in the minimum virtual contacts inquiry.

A. *A Minimum Virtual Contacts Analysis Should Consider a Defendant’s Technological Sophistication and the Frequency of the Tortious Conduct*

Traditional jurisdictional analysis often requires a consideration of how much effort a defendant expends to contact a forum. The more effort a defendant expends—for example, by advertising or opening an office, establishing long-term relationships, or harassing a plaintiff in the forum—the more likely that defendant will be subject to specific jurisdiction.<sup>105</sup> When a defendant is unaware of the plaintiff’s location, courts should consider how much technological sophistication the wrongful conduct required. When the defendant knows the plaintiff’s location, courts should also consider the frequency of the tortious activity. Courts can infer an intent to perpetrate harm from these factors and thus determine whether a defendant has sufficient virtual contacts with the forum.

1. When a Defendant Is Unaware of Plaintiff’s Location

The issue of defendants often not knowing where their potential victims are located<sup>106</sup> necessarily cuts against a defendant’s ability to “reasonably

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104. See *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 477 (1985).

105. See, e.g., *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 886 (2011) (plurality opinion); *Burger King*, 471 U.S. at 480 (defendant “entered into a *carefully structured 20-year relationship* that envisioned continuing and wide-reaching contacts with Burger King in [the forum]” (emphasis added)); *Helicopteros Nacionales de Colom., S.A. v. Hall*, 466 U.S. 408, 411–12 (1984); *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 295 (1980); *Tamburo v. Dworkin*, 601 F.3d 706 (7th Cir. 2010) (defendants engaged in an orchestrated campaign of online harassment against a particular forum plaintiff and his business).

106. See *Grantz*, *supra* note 12, at 1151–56.

anticipate being haled into court” in the forum state.<sup>107</sup> Nonetheless, a defendant can still cause substantial harm to plaintiffs without knowing where they are located. For example, in *Pavlovich v. Superior Court*, DVD Copy Control Association, a California nonprofit, sued Matthew Pavlovich, a Texas resident and technology consultant, for posting code on his website that enabled users to decrypt copyright protections and pirate DVDs.<sup>108</sup> Pavlovich was a technologically sophisticated defendant,<sup>109</sup> he was seemingly aware of the illegality of his conduct,<sup>110</sup> and he apparently knew the industries he sought to harm had a substantial presence in California.<sup>111</sup> But the California Supreme Court held, in a 4–3 vote, that the state could not exercise jurisdiction over Pavlovich,<sup>112</sup> despite the fact that Pavlovich should have reasonably anticipated being brought to court there.<sup>113</sup>

Pavlovich’s website was also not expressly aimed at California<sup>114</sup>—presumably he wanted copyright pirates anywhere to download and utilize the decryption code. Even if the plaintiff had presented evidence that only Californians had downloaded the code,<sup>115</sup> that would be irrelevant to the jurisdictional inquiry under *Walden* and *Advanced Tactical*.<sup>116</sup> Such an approach is misguided because such downloads connect the harm to the forum.<sup>117</sup>

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107. See *World-Wide Volkswagen*, 444 U.S. at 297. This phrase from *World-Wide Volkswagen* is simply a framework for thinking about when a defendant might be subject to long-arm jurisdiction.

108. 58 P.3d 2, 5 (Cal. 2002).

109. Pavlovich worked as a technology consultant and studied computer engineering at Purdue. *Pavlovich*, 58 P.3d at 5.

110. Critically, Pavlovich allegedly left the decryption code on his website even after receiving a cease-and-desist letter from the plaintiff. *Id.* at 15 (Baxter, J., dissenting).

111. *Id.* at 14.

112. *Id.* at 13 (majority opinion).

113. See *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 297 (1980).

114. See *Pavlovich*, 58 P.3d at 10.

115. In fact, the plaintiff presented no evidence that any Californians actually downloaded the code. *Id.*

116. See *Walden v. Fiore*, 134 S. Ct. 1115, 1123 (2014) (“Due process requires that a defendant be haled into court in a forum State based on his own affiliation with the State, not based on the ‘random, fortuitous, or attenuated’ contacts he makes by interacting with other persons affiliated with the State.” (quoting *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985))); see also *Advanced Tactical Ordnance Sys., LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 802 (7th Cir.2014) (“The relation between the defendant and the forum ‘must arise out of contacts that the “defendant himself” creates with the forum State.’” (quoting *Walden*, 134 S. Ct. at 1126)). These cases would see the above hypothetical as a situation where the defendant’s contacts with California are created by third-party downloads of the code, rather than by the “defendant himself.”

117. See *supra* Section II.A; see also *Pokémon Co. Int’l v. Frasier*, No. C14-112Z, 2014 WL 12104551, at \*4 (W.D. Wash. Nov. 21, 2014) (“In light of . . . the substantial number of Washington users of defendant’s allegedly infringing products, and the revenues generated by these users, it is clear that defendant is subject to specific personal jurisdiction in [Washington].”). The *Pokémon* court also noted that numerous Washington residents downloaded the

Instead, courts should look at a *Pavlovich*-type scenario through a different lens. First, if a California user downloaded the code and pirated content, then the defendant's posting the code would have had an effect (decrypting copyrighted material) in California. Second, when a California user visits the website and downloads the code, the website's servers sends packets of information over a network to the California computer's IP address in order to execute the transaction.<sup>118</sup> Additionally, to engineer code that decrypts copyright protections requires technical sophistication. Contrary to the *Pavlovich* court's view,<sup>119</sup> the upshot is that virtual contacts like this are established by more effort than a simple click of a download button.

Technological sophistication is an important factor in the virtual contacts analysis because sophisticated defendants are more aware of the potential effects of their conduct and should reasonably anticipate being brought to court in the forum in which they cause harm. Both a defendant's experience with particular technology and the complexity of a defendant's conduct can indicate sophistication. Courts have applied a similar principle in cases about eBay transactions, and courts have found jurisdiction was established when a defendant was a more sophisticated seller (i.e., a more regular eBay user).<sup>120</sup> Thus, this sophistication factor should also apply when defendants know the location of plaintiffs. This approach makes sense because more technologically sophisticated conduct can generally cause more substantial harm.<sup>121</sup> The greater the harm, the stronger the tie is to a given forum. In such cases, it may not be unreasonable for defendants to take their plaintiffs in the forum where they find them.<sup>122</sup>

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app in question and defendant's website was visited thousands of times by Washington residents. *Id.* at \*2.

118. See *supra* notes 76–78 and accompanying text.

119. See *Pavlovich*, 58 P.3d at 10 (stating that the website “merely posts information” (emphasis added)).

120. See, e.g., *Dedvukaj v. Maloney*, 447 F. Supp. 2d 813, 822–23 (E.D. Mich. 2006) (noting that the argument that the defendant does not operate eBay itself, and therefore should not be subject to jurisdiction, is less plausible “when applied to a seller of the Defendants’ sophistication”); *Malcolm v. Esposito*, 63 Va. Cir. 440, 446 (Va. Cir. Ct. 2003); cf. *Boschetto v. Hansing*, 539 F.3d 1011, 1018–19 (9th Cir. 2008) (citing the aforementioned cases with approval); *Crummey v. Morgan*, 965 So. 2d 497, 506 (La. Ct. App. 2007) (Welch, J., dissenting) (disagreeing with the exercise of jurisdiction in part because of a lack of evidence to support the contention that defendants were sophisticated eBay sellers).

121. See, e.g., ‘Internet of Things’ Hacking Attack Led to Widespread Outrage of Popular Websites, NPR (Oct. 22, 2016, 8:10 AM), <http://www.npr.org/2016/10/22/498954197/internet-outage-update-internet-of-things-hacking-attack-led-to-outage-of-popula> (on file with the *Michigan Law Review*); #97 What Kind of Idiot Gets Phished?, GIMLET: REPLY ALL (May 18, 2017), <https://gimletmedia.com/episode/97-what-kind-of-idiot-gets-phished/> [<https://perma.cc/4XVL-6DMK>] (generally discussing how hackers go about phishing schemes and how phishing allows hackers to steal users’ personal information).

122. See *Andrews & Newman*, *supra* note 12, at 365–68.

## 2. When a Defendant Knows Plaintiff's Location

Even in cases where the defendant knows where a plaintiff is located, that knowledge does not automatically establish minimum contacts to justify exercising specific jurisdiction. When the defendant knows where the plaintiff is located, the jurisdictional analysis should also consider the frequency with which a defendant engaged in tortious conduct over the internet to establish minimum contacts. More frequent conduct supports an inference of intent to perpetrate harm in a particular location.<sup>123</sup>

For example, this inference could have been drawn in *Griffis v. Luban*, where a Minnesota defendant, over several months, posted allegedly defamatory statements about an Alabama plaintiff on an internet newsgroup forum.<sup>124</sup> While an Alabama court entered a default judgment against the defendant,<sup>125</sup> the Minnesota Supreme Court held that Alabama could not exercise specific jurisdiction over the defendant because she had not expressly aimed her conduct at Alabama.<sup>126</sup> The defendant, despite knowing the plaintiff resided in and suffered harm in the forum state, evaded jurisdiction because she broadly disseminated her statements on the internet and thereby failed to satisfy the express-aiming requirement. But because of the frequency with which the defendant engaged in this conduct, which she knew would have its impact in Alabama, the court could have allowed Alabama to exercise jurisdiction consistent with notions of fair play and justice.<sup>127</sup>

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123. This inference could also be made even if the plaintiff's location is unknown to the tortfeasor. See *Facebook, Inc. v. ConnectU LLC*, No. C 07-01389 RS, 2007 WL 2326090, at \*5–6 (N.D. Cal. Aug. 13, 2007); *Verizon Online Servs., Inc. v. Ralsky*, 203 F. Supp. 2d 601, 620 (E.D. Va. 2002) (“Defendants allegedly purposefully transmitted millions of [unsolicited bulk email] to Verizon’s e-mail servers. They cannot seek to escape answering for these actions by simply pleading ignorance as to where these servers were physically located.”); see *infra* note 127. But this Section will not focus on this scenario.

124. 646 N.W.2d 527, 529–30 (Minn. 2002). The defendant also knew the plaintiff lived and worked in Alabama. *Griffis*, 646 N.W.2d at 535.

125. *Id.* at 529.

126. *Id.* at 536.

127. See, e.g., *Internet Sols. Corp. v. Marshall*, 39 So.3d 1201, 1203–04, 1214–16 (Fla. 2010) (finding that specific jurisdiction was established where defendant posted repeated defamatory statements online and plaintiff provided evidence that the website was accessed and read by Florida residents); *Kauffman Racing Equip., LLC v. Roberts*, 930 N.E.2d 784, 788–89, 796 (Ohio 2010) (finding that the defendant posted repeated defamatory statements online, which were read by Ohio residents, and concluding that defendant intended an Ohio resident to be the victim); cf. *Facebook*, 2007 WL 2326090. In *Facebook*, the district court found that the defendant, ConnectU, though under the belief that the plaintiff, Facebook, was located in Massachusetts, nonetheless specifically targeted their conduct at the plaintiff, see *Facebook*, 2007 WL 2326090, at \*6, and the court stated:

Reconciling “traditional notions of fair play and substantial justice” that underlie all jurisdictional analysis with the established tests for personal jurisdiction . . . the Court finds that a defendant need not have knowledge as to which geographic forum the plaintiff resides in, so long as the conduct was aimed at and likely to cause harm in that forum.

It is not clear that the *Advanced Tactical* court would consider this factor. Even if the defendant had ignored Advanced Tactical's cease-and-desist letter after the first round of emails and online posts, the court would have probably emphasized that the location at which such statements are seen was fortuitous.<sup>128</sup> Therefore, the Seventh Circuit would have likely disregarded this factor and found no minimum contacts because the defendant's suit-related contact would still have arisen out of the plaintiff's residence in the forum. Furthermore, the defendant's conduct would still have been targeted broadly, via email blasts and online posts, rather than expressly aimed at Indiana.

But if the defendant knew it was profiting from Indiana customers via its online trademark infringement and had been put on notice by a particular plaintiff, then the defendant should have reasonably anticipated being brought to court in the forum. Emails and online posts establish some virtual contact with the forum,<sup>129</sup> so frequent emails and online posts increase virtual contact with the forum. These contacts should eventually cross the minimum contacts threshold such that the exercise of specific jurisdiction comports with notions of fair play and justice.<sup>130</sup>

Some scholars, like Judge Frank Easterbrook, may object to this consideration of different factors as a specialized endeavor that deviates from the general rules of jurisdiction.<sup>131</sup> These scholars would probably see this standard as unhelpful and confusing. While the minimum virtual contacts approach seeks to apply the general minimum contacts standard, it concededly applies the general standard in a slightly different way. But the premise that cyberspace is a specialized, or niche, endeavor is increasingly untenable: the internet is only growing in ubiquity and importance. The number and importance of cases involving online activity will naturally increase, and this solution recognizes that reality.

In sum, if a defendant engages in technologically sophisticated or continuous wrongdoing, such conduct supports the inference that the defendant intended harm in a forum. If other forum residents are involved (e.g.,

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*Id.* at \*1. This case presents a scenario where the defendant knew the plaintiff but was mistaken as to the plaintiff's location. Once again, in these situations, defendants should reasonably expect to take their plaintiffs in the forum where they find them. *See Andrews & Newman, supra* note 12, at 365–68.

128. Advanced Tactical sent Real Action a cease-and-desist letter after Real Action's alleged trademark infringement, which stemmed from the content of their emails and online posts. *See Advanced Tactical Ordnance Sys. LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 799, 803 (7th Cir. 2014).

129. *See supra* notes 76–78 and accompanying text; *see also supra* note 117 and accompanying text.

130. *See Int'l Shoe Co., v. Washington*, 326 U.S. 310, 316 (1946); *see also Pokémon Co. Int'l v. Frasier*, No. C14–112Z, 2014 WL 12104551, at \*2 (W.D. Wash. Nov. 21, 2014).

131. *See* Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207. Easterbrook notes that “the best way to learn the law applicable to specialized endeavors is to study general rules.” *Id.* at 207. For example, Judge Easterbrook would equate a class about the law of the internet with a class about “The Law of the Horse.” *See id.* at 207–08.

by purchasing infringing products or reading defamatory statements online), then the harm is further connected to the forum. Finally, plaintiffs who reside in the forum likely experience the brunt of the harm in the forum, even if they could theoretically also access the internet in other locations. If these factors are satisfied, then courts should find the defendant established sufficient minimum virtual contacts with the forum.

B. *Courts Should Simplify the Existing Reasonableness Test and Apply It Seriously*

Due process mandates that the exercise of jurisdiction over a defendant be reasonable and fair. Therefore, even where virtual contacts are established, courts look to other factors, which may counsel against the exercise of jurisdiction if it would be unreasonable and unfair. This Section outlines and applies these factors to *Advanced Tactical* and *Gullen*.

*Burger King's* five “reasonableness factors” guide courts’ determination of whether exercising specific jurisdiction would be reasonable.<sup>132</sup> Rather than going through each of the five factors, courts should simplify the reasonableness test to the following questions: (a) whether the defendant carries a greater burden if the suit is litigated in the plaintiff’s forum compared to the plaintiff’s burden of litigating the suit elsewhere, (b) whether litigating in a forum outside the plaintiff’s jurisdiction would inhibit a convenient and an efficient resolution of the suit, and (c) whether the plaintiff’s forum state has an interest in furthering a fundamental substantive policy. An affirmative answer to the first question and a negative answer to the second and third would tip the scales in favor of the defendant. Because the plaintiff carries the burden of establishing personal jurisdiction, the reasonableness test should have some bite and thus counteract unreasonable and unfair exercises of specific jurisdiction in close cases.

Courts should give far more weight to these factors than the Supreme Court has. *Asahi*, in which all the justices agreed that subjecting the defendant to jurisdiction in California would be unreasonable,<sup>133</sup> was the last time the whole Court seriously considered reasonableness. Of late, only Justice Sotomayor has applied the reasonableness factors—and she has shown how reasonableness does not counsel in favor of only one side.<sup>134</sup> In the Court’s latest specific jurisdiction case, *Bristol-Myers Squibb*, the majority did not so

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132. See *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 477 (1985) (quoting *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 292 (1979)).

133. *Asahi Metal Indus. Co. v. Superior Court*, 480 U.S. 102 (1987).

134. See *Bristol-Myers Squibb Co. v. Superior Court*, 137 S. Ct. 1773, 1786–87 (2017) (Sotomayor, J., dissenting) (finding that jurisdiction would be reasonable); *Daimler AG v. Bauman*, 134 S. Ct. 746, 764 (2014) (Sotomayor, J., concurring in the judgment) (“[N]o matter how extensive [the defendant’s] contacts with California, that State’s exercise of jurisdiction would be unreasonable given that the case involves foreign plaintiffs suing a foreign defendant based on foreign conduct, and given that a more appropriate forum is available.”).

much as mention reasonableness.<sup>135</sup> This should change because reasonableness can help ensure fairness when courts assess specific jurisdiction in the digital age.

### 1. *Advanced Tactical* Reconsidered

When Indiana customers viewed Real Action's emails and visited the Real Action website, and then Real Action affirmatively fulfilled their orders, Real Action established virtual contacts with the forum on its own. For purposes of this discussion, assume that those contacts were sufficient to establish "minimum" contacts.

Even with such virtual contacts, Real Action does not necessarily come within the long arm of Indiana's jurisdiction because the reasonableness factors, taken together, weigh against the exercise of long-arm jurisdiction. Because the defendant's burden of litigating in Indiana is at least equal to, if not greater than, the plaintiff's burden of litigating elsewhere, it would not necessarily be inefficient to litigate in California instead of Indiana, and the plaintiff's home state had no substantive policy at stake. *Advanced Tactical* primarily sought to litigate federal trademark claims,<sup>136</sup> and it should not matter which federal court hears those claims;<sup>137</sup> *Advanced Tactical* also included some state trademark claims, but it is unclear whether any substantive state social policy was at issue. Furthermore, while *Advanced Tactical* was a private Indiana company, it also had an office in California (Real Action's home forum).<sup>138</sup>

### 2. *Gullen* Reconsidered

On the other hand, *Gullen* would have been decided differently under this approach. When the person who uploaded the picture of the plaintiff visited Facebook's website, Facebook established virtual contacts with the forum. Facebook, which operates servers throughout the country,<sup>139</sup> sent packets of information through the packet-switch network to the third party's computer, which was located in Illinois. Facebook, by nature of its

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135. *Bristol-Myers Squibb*, 137 S. Ct. at 1773–84.

136. See *Advanced Tactical Ordnance Sys., LLC v. Real Action Paintball, Inc.*, 751 F.3d 796, 798, 800 (7th Cir. 2014).

137. See Robert E. Pfeffer, *A 21st Century Approach to Personal Jurisdiction*, 13 U.N.H. L. REV. 65, 126–27 (2015). That is, litigating the federal claim in a different federal court presents no loss of judicial efficiency, whereas litigating an Indiana state law claim in a California federal court may result in a certain amount of inefficiency due to the federal court's relative lack of experience with the foreign jurisdiction's state law.

138. See *Advanced Tactical*, 751 F.3d at 798–99.

139. See *The Facebook Data Center FAQ*, DATA CTR. KNOWLEDGE, <http://www.datacenterknowledge.com/the-facebook-data-center-faq/> [<https://perma.cc/UE2T-KTUR>]. Facebook also apparently has servers in California, but those servers reached capacity years ago, which resulted in the need for an expansion in infrastructure. See Becca Logan, *Keeping Up*, FACEBOOK (Dec. 21, 2007, 1:01 PM), <https://www.facebook.com/notes/facebook/keeping-up/7899307130/> [<https://perma.cc/5WPD-SY6V>].

Illinois user base,<sup>140</sup> thus has substantial virtual contact with the forum. If Facebook had failed to follow the disclosure process outlined in BIPA,<sup>141</sup> its conduct (utilizing facial-recognition technology) would have been related to the suit. Additionally, developing the algorithm and code behind the facial-recognition technology required significant effort<sup>142</sup> and sophistication on the part of Facebook and its employees.<sup>143</sup> The frequency with which Facebook deploys its facial-recognition technology and the technological sophistication of the conduct tip the scales in favor of finding minimum virtual contacts with Illinois. Therefore, the defendant (a) engaged in substantial and continuous allegedly wrongful conduct by deploying its facial-recognition technology and storing biometric information without users' consent; (b) that conduct caused harm connected to the forum when Illinois users uploaded photos to Facebook; and (c) the plaintiff experienced the brunt of the harm in Illinois because he was a resident of the state, which passed a law prohibiting Facebook's alleged conduct.

The analysis should also consider the aforementioned factors to determine whether exercising such jurisdiction would be reasonable. First, the large corporate defendant, Facebook, which has offices in Illinois,<sup>144</sup> carries a substantially lighter burden if it were required to litigate in Illinois compared to the plaintiff if he were required to litigate in California. Second, requiring California's federal district courts to interpret an Illinois state law and adjudicate claims arising out of that law smacks of judicial inefficiency. Third, BIPA represents a social policy adopted by Illinois in favor of public security and privacy in light of the growing use of biometric information.<sup>145</sup> Taken together, these factors weigh heavily in favor of requiring Facebook to litigate this case in Illinois.<sup>146</sup>

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140. See *Usage and Population Statistics*, *supra* note 94.

141. 740 ILL. COMP. STAT. 14/15 (2016).

142. See, e.g., Mathew Ingram, *Facebook's New Algorithm Can Recognize You Even if Your Face Is Hidden*, FORTUNE (June 23, 2015), <http://fortune.com/2015/06/23/facebook-facial-recognition/> [<https://perma.cc/K942-YBKR>] ("The research [to develop the face memory technology] took 40,000 public photos from the social network . . .").

143. For an example of a Facebook software engineer's desired qualifications, see Software Eng'g, *Applied Research Scientist, Core Machine Learning*, FACEBOOK, <https://www.facebook.com/careers/jobs/a011200000LSIn5EAH/?ref=a811200000KymFAAS> [<https://perma.cc/SU9H-8JFH>].

144. See *Gullen v. Facebook.com, Inc.*, No. 15 C 7681, 2016 WL 245910, at \*2 (N.D. Ill. Jan. 21, 2016).

145. See 740 ILL. COMP. STAT. 14/15.

146. The year prior to *Gullen*, the same federal district court in Illinois held that Shutterfly was subject to jurisdiction for a BIPA violation based, in part, on its analysis of these factors. See *Norberg v. Shutterfly, Inc.*, 152 F. Supp. 3d 1103, 1105 (N.D. Ill. 2015). The court, however, made rather quick work of its jurisdictional inquiry and seemingly rested its analysis of Shutterfly's contacts with Illinois on the fact that Shutterfly ships products into the state. See *id.* Under a strict application of *Walden*, this analysis seems incorrect. The shipping of products into the forum is not related to the suit. Rather Shutterfly's scanning and storing Illinois residents' biometric information without their consent constitutes the suit-related conduct, which the court only references when it addresses the 12(b)(6) motion. See *id.* at 1105–06.

Even with this second reasonableness prong, however, one could argue that the minimum virtual contacts approach is too permissive and has the potential to infringe on defendants' due process rights. But under this approach it would not be fair to subject a defendant to specific jurisdiction if she were technologically unsophisticated and engaged in infrequent allegedly tortious conduct via the internet. Instead, under this virtual contacts standard, the more effort a defendant expends in perpetrating harm, the more likely that defendant will be subject to specific jurisdiction. The absence of technological sophistication and frequent tortious conduct counsel against finding sufficient contacts at prong one. As shown above, prong two also counsels against unreasonable exercises of jurisdiction.<sup>147</sup>

Because the minimum virtual contacts standard requires courts to assess technological sophistication, the frequency of the tortious conduct, and the reasonableness of exercising jurisdiction, some scholars may argue that the standard suffers from the same deficiency as traditional minimum contacts: it is too unpredictable and fact specific.<sup>148</sup> But it may be difficult to discern *ex ante* what exactly satisfies due process and fairness amid an ever-evolving commercial and technological landscape.<sup>149</sup> Fairness does not necessarily require total predictability.<sup>150</sup> Furthermore, this virtual contacts standard is not wholly unpredictable: technologically unsophisticated and infrequent tortious conduct—for example, a few allegedly defamatory tweets—would not establish sufficient contact with a forum state. This standard is more flexible and therefore better suited to adapt to the changing technological landscape, analyze close cases, and achieve equitable results.

#### CONCLUSION

In sum, the current minimum contacts approach to online activity, exemplified by *Advanced Tactical's* and *Gullen's* application of *Walden*, fails to account for the unique considerations presented by online activity. As commerce and technology developed between *Pennoyer* and *International Shoe*, courts adapted to that change and adopted the minimum contacts approach. Courts today should likewise modify their analysis when they assess minimum virtual contacts by considering a defendant's sophistication and the frequency with which a defendant engages in tortious conduct. Due process

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147. Cf. *Asahi Metal Indus. Co. v. Superior Court*, 480 U.S. 102 (1987) (holding unanimously that California's exercise of jurisdiction over the defendant was unreasonable).

148. See, e.g., Simona Grossi, *Personal Jurisdiction: A Doctrinal Labyrinth with No Exit*, 47 AKRON L. REV. 617 (2014); Pfeffer, *supra* note 137, at 133–34; Sachs, *supra* note 12, at 1302.

149. See *BELLIA ET AL.*, *supra* note 9, at 130–31.

150. For example, it might be unpredictable for out-of-state *plaintiffs* to bring an out-of-state defendant into a state in which neither those plaintiffs nor the defendant reside. But Justice Sotomayor asserted, perhaps rightly, that this would be fair at least in some cases. See *Bristol-Myers Squibb Co. v. Superior Court*, 137 S. Ct. 1773, 1784 (2017) (Sotomayor, J., dissenting) (“A core concern in this Court’s personal jurisdiction cases is fairness. And there is nothing unfair about subjecting a massive corporation to suit in a State for a nationwide course of conduct that injures both forum residents and nonresidents alike.”).

does not mandate simply extending, wholesale and without modification, yesterday's legal rules to today's environment.

Future scholarship should further explore internet infrastructure and how that virtual infrastructure translates into contacts with physical places. Additionally, what level of contacts is sufficient to constitute "minimum" contacts needs to be refined, particularly for cases involving commercial activity like *Advanced Tactical*. Ultimately, fairness is at the core of due process and personal jurisdiction cases. But the strict application of recent precedent to internet tort suits reaches fundamentally unfair and intolerable results. The minimum virtual contacts standard seeks to better adhere to notions of fair play and justice.