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Escaping Circularity: the Fourth Amendment and Property Law

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ESCAPING CIRCULARITY: THE FOURTH AMENDMENT AND PROPERTY LAW

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The Supreme Court's "reasonable expectation of privacy" test under the Fourth Amendment has often been criticized as circular, and hence subjective and unpredictable. The Court is presumed to base its decisions on society's expectations of privacy, while society's expectations of privacy are themselves presumed to be based on the Court's judgements. As a solution to this problem, property law has been repeatedly propounded as an allegedly independent, autonomous area of law from which the Supreme Court can glean reasonable expectations of privacy without falling back into tautological reasoning.

Such an approach presupposes that property law is not itself circular. If it were, then property would be subject to the very same criticisms that plague the reasonable expectation of privacy test. The ubiquitous "bundle-of-sticks" interpretation of property law, however, is inherently circular. Therefore, this common realist analysis of property fails to offer a coherent solution to the Supreme Court's doctrinal concerns. In spite of this, property law can nonetheless provide solutions to circularity when viewed through another lens.

This Article applies the "New Private Law" research framework in the context of the Fourth Amendment and property law, thereby incorporating findings from cognitive science, sociology, and complex systems theory alongside doctrinal private law analyses. The Article demonstrates that an intensional definition of property, as well as of thinghood and possession, provides the necessary analytical tools to understand when and how property law can aid in avoiding circularity. Such a solution, however, would require that the realist approaches to property law—currently embraced by courts and legislatures—make way for a more nuanced vision informed by the growing interdisciplinary approaches to private law.

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INTRODUCTION

The Fourth Amendment protects the "right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures."[1] Through its language, the Amendment presupposes a universe in which the distinction between the public world and our private spaces is clear. This distinction, however, has begun to disintegrate as culture and technology continue to evolve.[2] What, then, does the Fourth Amendment still protect? Does it protect the "airspace" over our homes, where both

1. U.S. CONST. amend. IV ("The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.").

2. *See, e.g.*, Carol A. Sullivan, *Going Out on a Limb: Advocating for Enhanced Legal Protections for Advanced Prosthetic Limbs*, 51 SUFFOLK U. L. REV. 669, 670 (2018) ("In recent years . . . technologies have blurred the once clear dichotomy between previously established conceptions of personhood and property."); Lauren Bass, Note, *The Concealed Cost of Convenience: Protecting Personal Data Privacy in the Age of Alexa*, 30 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 261, 302, 324 (2019) ("Alexa's [Amazon's smart assistant] natural-language processing erases any tactile reminder that one's data is constantly being collected . . . . [T]he data collection capabilities of AI have infiltrated the most personal spheres of its users such as the home. It is only a matter of time before AI dominates other traditionally 'protected' spaces such as our cars, our businesses, and our classrooms."); J.G. Allen, *Property in Digital Coins*, 8 EUR. PROP. L.J. 64, 82–84 (2019) ("[D]ocumentary intangibles" such as "negotiable instruments, stock, shares, policies of insurance, and bills of lading" are "dematerializing before our eyes").

police agencies and private companies like Amazon want to fly drones?[3] Does it protect our DNA samples or cloned cells as if they were our private effects?[4]

One way of answering these questions would be to return to the "traditional property-based understanding of the Fourth Amendment."[5] Under this approach, the questions above would be answered solely by considering whether each of these are, indeed, property. Speaking for the U.S. Supreme Court, Justice Scalia noted that this "property-rights baseline" is helpful because it "keeps easy cases easy."[6] Justice Thomas has continued to promote this property baseline because it allegedly also solves an intractable "problem."[7] The problem is that of circularity, which has been a criticized element of Fourth Amendment jurisprudence ever since *Katz v. United States*[8] introduced the reasonable expectation of privacy test in 1967.[9] Under the *Katz* test, the Court is meant to grant Fourth Amendment protections when society has a reasonable expectation of privacy, but society's expectations of privacy may themselves be based on the Court's judgements. Mirroring Justices Scalia and Thomas, Justice Kennedy too concluded that property must therefore be "fundamental 'in determining the

3. Katrina M. Wyman, *The New Essentialism in Property*, 9 J. LEGAL ANALYSIS 183, 183 (2017); *see also* Cade Metz, *Police Drones Are Starting to Think for Themselves*, N.Y. TIMES (Dec. 5, 2020), https://www.nytimes.com/2020/12/05/technology/police-drones.html ("Police agencies from Hawaii to New York have used drones for years . . . [b]ut the latest drone technology . . . has the power to transform everyday policing . . . . That newfound automation, however, raises civil liberties concerns, especially as drones gain the power to track vehicles and people automatically. As the police use more drones, they could collect and store more video of life in the city, which could remove any expectation of privacy once you leave the home.").

4. Wyman, *supra* note 3, at 183–84 (summarizing arguments against the bundle-of-rights conceptualization of property made by James E. Penner, *The Bundle of Rights Picture of Property*, 43 UCLA L. REV. 711, 721–22 (1996) and Thomas W. Merrill & Henry E. Smith, *Why Restate the Bundle: The Disintegration of the Restatement of Property*, 79 BROOK. L. REV. 681, 683 (2013)); *see also* Jordan Mason, *No Longer Innocent Until Proven Guilty: How Ohio Violates the Fourth Amendment Through Familial DNA Searches of Felony Arrestees*, 69 CLEV. ST. L. REV. 185, 202–03 (2020) (citing State v. Emerson, 981 N.E.2d 787, 792 (Ohio 2012)) ("[A] defendant [can] not plausibly assert any expectation of privacy with respect to the scientific analysis of a lawfully seized item of *tangible property*, such as a gun or a controlled substance. Although, human blood, with its unique genetic properties, may initially be quantitatively different from such evidence, once constitutional concerns have been satisfied, *a blood sample is not unlike other tangible property* which can be subject to a battery of scientific tests.") (alteration in original) (emphasis added).

5. Florida v. Jardines, 569 U.S. 1, 11 (2013).

6. *Id.*

7. Carpenter v. United States, 138 S. Ct. 2206, 2245 (2018) (Thomas, J., dissenting).

8. 389 U.S. 347 (1967).

9. *Id.* at 361 (Harlan, J., concurring) (noting that the Fourth Amendment protects the "expectation[s] of privacy . . . that society is prepared to recognize as 'reasonable'") ("the *Katz* test").

presence or absence of the privacy interests protected by [the Fourth] Amendment.'"[10]

More recently, property law analyses of the Fourth Amendment have gained an even stronger footing in the Supreme Court. By appointing three new textualist-originalist Justices to the Court, former President Trump all but assured property law's continued role in Fourth Amendment jurisprudence. Justice Gorsuch, for example, has argued "that *Katz* is insufficiently founded in the text of the Fourth Amendment because it sets forth a standard not contained within its language."[11] Instead, Justice Gorsuch claims "that both the past and future of the Fourth Amendment support" the idea that "property-based concepts should shape Fourth Amendment jurisprudence."[12]

Thus, regardless of whether one believes that property law *should* define Fourth Amendment protections, property law is here to stay and may enjoy a growing base of support from the Justices in the years to come. Given this turn toward property-based interpretations of the Fourth Amendment, however, it is concerning that the Court's analyses of property law are frequently "both incomplete and disconcertingly disconnected."[13] As Thomas Merrill summarized, the Court's analyses of property law "reinforce the impression of nine Justices speaking past one another about the meaning of property."[14]

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10. *Carpenter*, 138 S. Ct. at 2227 (Kennedy, J., dissenting) (quoting Rakas v. Illinois, 439 U.S. 128, 143–44 n.12)).

11. Chris Machold, *Could Justice Gorsuch's Libertarian Fourth Amendment Be the Future of Digital Privacy? A Moderate Contracts Approach to Protecting Defendants After Carpenter*, 53 U.C. DAVIS L. REV. 1643, 1657 (2019); *see also* Carpenter, 138 S. Ct. at 2264 (Gorsuch, J., dissenting) ("Katz's problems start with the text and original understanding of the Fourth Amendment . . . . The Amendment's protections do not depend on the breach of some abstract 'expectation of privacy' whose contours are left to the judicial imagination."). *But cf.* Orin Kerr, Katz *as Originalism*, 71 DUKE L.J. 1047, 1104 (2022) ("The substance of the *Katz* inquiry is entirely consistent with the Fourth Amendment's text and history.").

12. Machold, *supra* note 11, at 1658. It is, however, possible that Gorsuch's "property model would be more expansive than the pre-*Katz* trespass test that the Court rehabilitated in 2012. If that is the case . . . this framework might closely resemble outcomes under a principled privacy-based analysis." Nicholas A. Kahn-Fogel, *Property, Privacy, and Justice Gorsuch's Expansive Fourth Amendment Originalism*, 43 HARV. J.L. & PUB. POL'Y 425, 429 (2020). This shift towards property has also been noticed outside the Court. *See, e.g.*, Damon Root, *Criminal Justice Divides the 'Conservative' Judiciary*, REASON (July 2020), https://reason.com/2020/06/13/criminal-justice-divides-the-conservative-judiciary/ ("Gorsuch wanted to scrap those third-party precedents and have the Court adhere instead to an originalist, property rights-based theory of the Fourth Amendment.").

13. Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 996 (2000) (discussing specifically the Supreme Court's analysis of constitutional takings using the language of property law).

14. *Id.* at 996–97 ("None of the authors of the key opinions appeared to feel any obligation to contribute to a cumulative jurisprudence of constitutional property. Rather, the reigning impulse

What *is* frequently agreed upon in the Court's analyses, however, is that property may be characterized as a "'bundle of sticks'—a collection of individual rights."[15] The Justices have also agreed that this bundle is flexible—that it "can be reshaped in accordance with . . . evolving values and policy goals."[16] Such descriptions have come to be the "conventional wisdom" of modern American property law.[17] If the property bundle is simply a moldable policy tool, however, property law can provide us with no analytical definition—or baseline—to be used as a starting point in determining whether airspace, cell cultures, or anything else is property, and consequently whether they are protected by a property-based analysis of the Fourth Amendment.[18]

Despite these concerns, many Justices have returned to property law as the basis of Fourth Amendment analysis. Some have done so in an attempt to *avoid* the *Katz* test entirely through an allegedly more textual property-based interpretation while others have applied property law concepts *within* the *Katz* test itself.[19] Property's role within the *Katz* test rests on the Supreme Court's insistence that "expectations of privacy *must* come from outside its Fourth Amendment precedents" to avoid circular reasoning.[20] And because property law lies outside Fourth Amendment jurisprudence, it is meant to serve as a solution to the circularity pitfalls of a standalone analysis of *Katz*.

Given the resurgence of interest in property-based analyses of the Fourth Amendment, this Article adopts the Justices' concerns about Fourth Amendment circularity to then determine whether property law can coherently address their concerns at all. It does not seek to validate whether

seems to be a desire to advance some personal objective that is the product of value commitments that remain below the surface.").

15. Manhattan Cmty. Access Corp. v. Halleck, 139 S. Ct. 1921, 1937–38 (2019) (Sotomayor, J., dissenting); *see also, e.g.*, Murr v. Wisconsin, 137 S. Ct. 1933, 1952 (2017) (Roberts, C.J., dissenting); Horne v. Dep't of Agric., 576 U.S. 350, 361–62 (2015); Henderson v. United States, 575 U.S. 622, 626 (2015); Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 327 (2002); United States v. Craft, 535 U.S. 274, 278–79 (2002).

16. Wyman, *supra* note 3, at 184.

17. Henry E. Smith, *The Persistence of System in Property Law*, 163 U. PA. L. REV. 2055, 2059 (2015) ("The most famous legacy of realist nominalism in property law is the bundle of rights, which eventually was accepted as conventional wisdom.").

18. Wyman, *supra* note 3, at 183–84; Penner, *supra* note 4, at 721 (citing Moore v. Regents of Univ. of Cal., 793 P.2d 479 (Cal. 1990)). The Fourth Amendment consequences of treating DNA samples as property (or not) can be seen in Mason, *supra* note 4.

19. *See, e.g.*, Carpenter v. United States, 138 S. Ct. 2206, 2245 (2018) (Thomas, J., dissenting); Kyllo v. United States, 533 U.S. 27, 32–34 (2001); Byrd v. United States, 138 S. Ct. 1518, 1526–27 (2018); United States v. Jones, 565 U.S. 400, 407–08 (2012).

20. *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting) (citing Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978)) (emphasis added).

Katz is indeed circular,[21] or whether such circularity is inherently problematic,[22] or even whether property norms can sufficiently protect privacy rights.[23] Each of these assertions has rightly been and will continue to be the subject of much scholarly debate. This Article, however, for the sake of argument, adopts the Supreme Court's articulated concerns over Fourth Amendment circularity as valid. It does so in an attempt to demonstrate that even if all of the Court's views were irrefutably true, the Court's currently articulated bundle-of-sticks view of property law cannot be logically used to address its circularity concerns.

Through this analysis, this Article first demonstrates that while property-based analyses of the Fourth Amendment are meant to address the "circularity problem,"[24] they may be vulnerable to the very circularity that property law is meant to avoid. Property law, however, *may* shield against circularity when viewed through intensional approaches, including through the interdisciplinary lens of the New Private Law.[25] Accordingly, the core interconnected principles of property law may provide a non-circular baseline for defining the "things" for which Fourth Amendment protections are reasonably expected.[26] The Article concludes, however, that before property can serve as a shield against circularity, the commonly cited utilitarian bundle-of-sticks conceptualization of property law must make way for a new intensional definition of property.

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21. Matthew B. Kugler & Lior Jacob Strahilevitz, *The Myth of Fourth Amendment Circularity*, 84 U. CHI. L. REV. 1747 (2017) (arguing that the Fourth Amendment test is not circular). *But cf.* Raff Donelson, *The Real Problem with* Katz *Circularity*, 65 ST. LOUIS U. L.J. 809 (2021) (arguing that the problem with *Katz*'s circularity is even more expansive than the traditionally cited concerns).

22. Michael Abramowicz, *Constitutional Circularity*, 49 UCLA L. REV. 1, 47 (2001) (noting that circularity may increase the "danger of law through judicial fiat"). *But cf.* Wendy Gerwick Couture, *Materiality and a Theory of Legal Circularity*, 17 U. PA. J. BUS. L. 453, 453–54 (2015) (arguing that "courts and scholars should explicitly embrace the legal circularity" in the context of materiality in securities fraud).

23. Thomas K. Clancy, *What Does the Fourth Amendment Protect: Property, Privacy, or Security?*, 33 WAKE FOREST L. REV. 307, 367 (1998) (arguing that the right to exclude, as derived from property law, is the right defined by the Fourth Amendment). *But cf.* Janine Young Kim, *On the Broadness of the Fourth Amendment*, 74 SMU L. REV. 3, 57 (2021) (arguing that "[a] study of the Amendment's history, language, and Supreme Court interpretations shows that its protections have always been broader in scope [than merely property] and have consistently included at least a concern for individual privacy").

24. *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting).

25. The New Private Law is a research framework that attempts to understand and explain the structure and function of private law by incorporating interdisciplinary insights from fields including psychology, economics, and complex systems theory, while not rejecting the central role of legal concepts, legal reasoning, and doctrine. *See generally* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW (Andrew S. Gold et al. eds., 2021).

26. Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1691 (2012). As will be explained, however, I do not mean to say that *all* doctrines of property law should be used to answer Fourth Amendment questions. *See infra* Part III.

The Article proceeds in three parts. Part I dissects modern Fourth Amendment doctrine and its reliance on concepts of property law. It uncovers the doctrine's underlying assumptions about the very foundations of property and how these assumptions are incompatible with the language used by the Supreme Court. Part II argues that while the Court uses the "bundle of rights" metaphor, the bundle approach runs into two main problems. First, the conceptual bundle-of-rights theory does not map onto actual juridical practices (i.e., American property law as a whole). Second, it fails to solve the Court's circularity problem in the Fourth Amendment. Part III presents an alternative analysis of property law that *can* serve as a solution to circularity. It does so by acknowledging that the very core of property is not tautological; rather an intensional definition of property, based on its role as a tool for private ordering, provides a doctrinal anchor. This intensional definition of property ties property law's core principles to perceptual salience, social practice, and shared expectations.

The Article concludes that if Fourth Amendment doctrine is to be coherent, it cannot simultaneously avoid circularity while continuing to rely on the bundle-of-rights analysis of property law. Thus, only two options remain. One is to surrender to circularity as an intractable, benign, or nonexistent problem while retaining the realist bundle-of-rights. Another alternative, however—the one explored in Parts III and IV of this Article[27]—may be to adopt a more resilient and determinate analysis of property law. If (i) circularity is indeed a problem for the Court and (ii) a property-based analysis of the Fourth Amendment is sought, then, the analysis of property law proposed in this Article would better address the Court's concerns while providing clearer answers to Fourth Amendment questions.

I. CIRCULARITY IN THE FOURTH AMENDMENT: PRIVACY OR PROPERTY?

The "basic purpose" of the Fourth Amendment "is to safeguard the privacy and security of individuals against arbitrary invasions by governmental officials."[28] Historically, the Supreme Court's analysis of the Fourth Amendment relied on doctrines of "common-law trespass" in property law.[29] Later recognizing that "the Fourth Amendment protects people, not places," the Supreme Court held that "property rights are not the sole measure of Fourth Amendment violations."[30] Rather, the Fourth

27. *See infra* Parts III and IV.

28. *Carpenter*, 138 S. Ct. at 2213 (quoting Camara v. Mun. Ct. of City & Cnty. of San Francisco, 387 U.S. 523, 528 (1967)).

29. *Id.* (citing United States v. Jones, 565 U.S. 400, 405, 406 n.3 (2012)).

30. *Id.* (first quoting Katz v. United States, 389 U.S. 347, 351 (1967); then quoting Soldal v. Cook Cnty., 506 U.S. 56, 64 (1992)).

Amendment protects the "expectation[s] of privacy . . . that society is prepared to recognize as 'reasonable,'" as laid down in *Katz*.[31]

The Court's shift to a reasonable expectation of privacy test was severely scrutinized by both academics and several Justices themselves.[32] The test is frequently characterized as "doctrinally circular, or tautological"[33] and consequently "subjective and unpredictable."[34] Justice Thomas summarized this critique by observing that "[w]hile this Court is supposed to base its decisions on society's expectations of privacy, society's expectations of privacy are, in turn, shaped by [the] Court's decisions."[35] Consequently, such circularity, especially at the constitutional level, may threaten the legitimacy of the Court by increasing "the danger of law through judicial fiat."[36]

In response to these critiques, some of the Court's more textualist Justices "resuscitated" property law as a potential basis of Fourth Amendment analysis,[37] clarifying that the "*Katz* reasonable-expectations test 'has been *added to*, not *substituted for*,' the traditional property-based understanding of the Fourth Amendment."[38] Since then, the Court's reasoning has been fragmented, with each Justice choosing to expand upon the reasonable expectation of privacy approach, the property law approach, or both.[39] Even when applying the reasonable expectation test, some Justices believe that "an expectation of privacy becomes 'reasonable' only when it is

31. *Katz*, 389 U.S. at 361 (Harlan, J., concurring) (the so-called "*Katz* test").

32. *See, e.g.*, Kyllo v. United States, 533 U.S. 27, 34 (2001); United States v. Jacobsen, 466 U.S. 109, 123 n.22 (1984); United States v. Jones, 565 U.S. 400, 427 (Alito, J., concurring); *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting); *see also, e.g.*, Jeffrey Bellin, *Fourth Amendment Textualism*, 118 MICH. L. REV. 233, 251–54 (2019); Nicholas A. Kahn-Fogel, *Katz, Carpenter, and Classical Conservatism*, 29 CORNELL J.L. & PUB. POL'Y 95, 95 (2018) (footnote omitted); Amitai Etzioni, *Eight Nails into Katz's Coffin*, 65 CASE W. RSRV. L. REV. 413, 413–16 (2014); Andrew D. Selbst, *Contextual Expectations of Privacy*, 35 CARDOZO L. REV. 643, 656–62 (2013); Jed Rubenfeld, *The End of Privacy*, 61 STAN. L. REV. 101, 132–33 (2008).

33. Kahn-Fogel, *supra* note 32, at 103 (footnote omitted).

34. *Kyllo*, 533 U.S. at 34.

35. *Carpenter*, 138 S. Ct. at 2245–46 (Thomas, J., dissenting) ("Truth be told, this Court does not treat the *Katz* test as a descriptive inquiry. Although the *Katz* test is phrased in descriptive terms about society's views, this Court treats it like a normative question—whether a particular practice *should* be considered a search under the Fourth Amendment.").

36. Abramowicz, *supra* note 22, at 47, 53 ("A judge's own doctrinal preferences may influence the decision, and constitutional circularity may give judges an opportunity to reach a desired result that simply would be indefensible given conventional approaches to constitutional interpretation.").

37. Kahn-Fogel, *supra* note 32, at 104 (citing United States v. Jones, 565 U.S. 400 (2012)).

38. Florida v. Jardines, 569 U.S. 1, 11 (2013) (quoting *Jones*, 565 U.S. at 952).

39. In 2013, Justice Scalia's analysis of the Fourth Amendment cited to *Blackstone's Commentaries on the Laws of England* (1769)'s analysis of "curtilage or homestall" in property law. *Jardines*, 569 U.S. at 6–7. But in 2018, "the Court [made] no mention of property law, except to reject its relevance." *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting).

backed by a *right to exclude* borrowed from . . . property law."[40] As Justice Kennedy explained, property law is fundamental in determining privacy interests protected by the Fourth Amendment because (1) "individuals often have greater expectations of privacy in things and places that belong to them;" and (2) the Fourth Amendment may, textually, only protect "a person's own 'houses, papers, and effects."[41]

A. Finding Circularity

Based on the Justices' analyses described above,[42] "*Katz* did not abandon reliance on property-based concepts" and property law is here to stay.[43] As noted, this Article does not seek to determine whether it is normatively desirable for property law to delineate Fourth Amendment protections. Rather, it aims to determine whether property law can fulfill the role it has been given, as a solution to the Fourth Amendment's criticized circularity. Of particular relevance to this goal is the Court's rationale for referring to property law in the post-*Katz* era. Justice Thomas summarized that "[t]o address this circularity problem, the Court has insisted that expectations of privacy must come from outside its Fourth Amendment precedents."[44] In other words, the Court saw it necessary to adopt an independent, autonomous reference point. This reference point could be "tethered" either to "concepts of real or personal property law or to

40. Kahn-Fogel, *supra* note 32, at 133 (emphasis added).

41. *Carpenter*, 138 S. Ct. at 2227 (Kennedy, J., dissenting) ("The concept of reasonable expectations of privacy, first announced in [*Katz*], sought to look beyond the 'arcane distinctions developed in property . . . ' in evaluating whether a person has a sufficient connection to the thing or place searched to assert Fourth Amendment interests in it. Yet 'property concepts' are, nonetheless, fundamental 'in determining the presence or absence of the privacy interests protected by that Amendment.'" (citations omitted)).

42. That is not to say that all Justices agree. The majority in *Jones* read Justice Alito's concurrence as arguing that *Katz* should now be the "exclusive test." United States v. Jones, 565 U.S. 400, 411 (2012). Justice Alito's *Jones* concurrence, joined by Justices Ginsburg, Breyer, and Kagan, argued that "the majority is hard pressed to find support in post-*Katz* cases for its [property] trespass-based theory" of the Fourth Amendment. *Id.* at 424 (Alito, J., concurring).

43. *Carpenter*, 138 S. Ct. at 2227–28 (Kennedy, J., dissenting) ("The Court in *Katz* analogized the phone booth used in that case to a friend's apartment, a taxicab, and a hotel room. So when the defendant 'shu[t] the door behind him' and 'pa[id] the toll,' he had a temporary interest in the space and a legitimate expectation that others would not intrude, much like the interest a hotel guest has in a hotel room, or an overnight guest has in a host's home. The Government intruded on that space when it attached a listening device to the phone booth." (citations omitted)); *see, e.g.*, Byrd v. United States, 138 S. Ct. 1518, 1527, 1529 (2018) ("Reference to property concepts . . . aids the Court in assessing the precise [Fourth Amendment] question here: Does a driver of a rental car have a reasonable expectation of privacy in the car when he or she is not listed as an authorized driver on the rental agreement? . . . The central inquiry at this point turns on the concept of lawful possession . . . .").

44. *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting) (citing Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978)).

understandings that are recognized and permitted by society" to the extent that these are truly independent from the Court's Fourth Amendment precedents.[45]

But is the problem of circularity truly addressed by merely looking "outside . . . *Fourth Amendment* precedents"?[46] Justice Blackmun's Orwellian hypothetical demonstrates that it is not: "[I]f the Government were suddenly to announce on nationwide television that all homes henceforth would be subject to warrantless entry, individuals thereafter might not in fact entertain any actual expectation of privacy regarding their homes, papers, and effects."[47]

Note that in this scenario there is no Fourth Amendment *precedent*. The government, through a widespread *television campaign*, intentionally and successfully lowers society's expectations of privacy, which, under an application of the *Katz* test, lowers society's Fourth Amendment protections. It is of particular relevance that the contents of the television campaign do not have to be true at the time of the campaign; much like a self-fulfilling prophecy, the campaign's existence and success renders its contents true. If the only problematic version of circularity stemmed from Fourth Amendment precedents, this television campaign would be a legitimate government move. The government could "deny privacy just by letting people know in advance not to expect any" through any other means.[48]

The problem of circularity and its resulting lack of legitimacy, however, would nonetheless be present. Justice Thomas recognized this issue when describing the "circularity problem" while citing to Justice Blackmun's dystopian hypothetical.[49] It is reliance on government action, not merely Fourth Amendment precedent, that engenders the problem of circularity.[50]

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45. *Id.* at 2227 (Kennedy, J., dissenting); *id.* at 2245 (Thomas, J., dissenting) (quoting *Rakas*, 439 U.S. at 144 n.12 (1978)). Note that some empirical work has demonstrated that, at least in the short term, societal expectations of privacy are not easily changed directly by Supreme Court precedent. *See, e.g.*, Kugler & Strahilevitz, *supra* note 21. But notably, even in such work, the authors do not evaluate the validity of circularity over an "extended period." *Id.* at 1758. This work, however, may not be relevant to the circularity problem as the Supreme Court "does not treat the *Katz* test as a descriptive inquiry . . . this Court treats it like a normative question—whether a particular practice *should* be considered a search under the Fourth Amendment." *Carpenter*, 138 S. Ct. at 2246 (Thomas, J., dissenting).

46. *Carpenter*, 138 S. Ct. at 2245 (citing *Rakas*, 439 U.S. at 144 n.12) (emphasis added).

47. Smith v. Maryland, 442 U.S. 735, 741 n.5 (1979).

48. Erwin Chemerinsky, *Rediscovering Brandeis's Right to Privacy*, 45 BRANDEIS L.J. 643, 650 (2006).

49. *Carpenter*, 138 S. Ct. at 2245 (Thomas, J., dissenting).

50. It is also known that changes in technology may trigger a spiral in which expectations of privacy are extinguished in return for consumer services and convenience. This is also a form of circularity: social expectations of privacy are lowered as new technologies become more and more intrusive while even newer technologies are developed to take advantage of these lowered expectations of privacy. Although this problem is significant and poses its own threats to privacy,

An alternative version of Justice Blackmun's scenario demonstrates this further. Imagine that the government suddenly clarified on nationwide television that property rights do not include the right to exclude police officers (i.e., that right-to-exclude stick in the bundle were now slightly smaller and no longer allowed for trespass suits against police officers). In this scenario, a property-based analysis of Fourth Amendment protections would be just as circular as the *Katz* test.[51] A malevolent state court, for example, could issue property law precedents to yield the desired Fourth Amendment conclusion, thus changing Fourth Amendment protections through the very "judicial fiat" that property law was meant to prevent.[52] Even if the property bundle were *legislatively* manipulated for Fourth Amendment purposes, the circularity engendered by government action would be equally problematic, as explained by Justice Gorsuch.[53]

For the purposes of this Article, the takeaway of this hypothetical does not depend on such drastic and perhaps unrealistic changes to existing property law. Rather, each and every time a court encounters a property law question of first impression, the results could have property-based Fourth Amendment consequences. The commonly taught case of *Moore v. Regents of the University of California*[54] may serve as a great example. In this case, John Moore underwent medical procedures during which cells were extracted from his body. Researchers used "his cells in potentially lucrative medical research without his permission."[55] Moore sued for conversion, alleging that his property interests in the cells were violated. The Supreme Court of

it is outside the scope of this Article. Nonetheless, the Supreme Court has already begun to address this additional threat. *See, e.g.*, United States v. Jones, 565 U.S. 400, 427 (2012) ("[T]he *Katz* test rests on the assumption that this hypothetical reasonable person has a well-developed and stable set of privacy expectations. But technology can change those expectations."); United States v. Gonzalez, 300 F.3d 1048, 1054 (9th Cir. 2002).

51. That such action could very likely be a judicial, legislative, or regulatory taking under the Fifth Amendment will come into play later. *See infra* notes 202–204 and accompanying text. *But cf.* Brian Angelo Lee, *Emergency Takings*, 114 MICH. L. REV. 391, 393, 399 (2015) (noting that "[p]olice activities to apprehend criminal suspects are also a fertile source of emergency-takings claims. For example, suits have sought compensation for the destruction of windows (and other property damage)" but have run into the so-called "noncompensation principle."). Nonetheless, Lee concludes that the noncompensation principle is less historically and doctrinally sound than previously argued.

52. Abramowicz, *supra* note 22, at 47, 53 ("[C]onstitutional circularity may give judges an opportunity to reach a desired result that simply would be indefensible given conventional approaches to constitutional interpretation.").

53. *See Carpenter*, 138 S. Ct. at 2270–71 (Gorsuch, J., dissenting) ("Legislatures cannot pass laws declaring your house or papers to be your property except to the extent the police wish to search them without cause [because] . . . 'we must assur[e] preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted.'" (quoting *Jones*, 565 U.S. at 406)).

54. 793 P.2d 479 (Cal. 1990).

55. *Id.* at 480.

California, in a divided decision, ultimately concluded that no property right existed, so no conversion could have occurred. The majority's property law logic, or lack thereof,[56] led to the situation in which Moore lacked property rights over cells containing his own DNA. If "an expectation of privacy becomes 'reasonable' only when it is backed by a *right to exclude* borrowed from . . . property law,"[57] Moore would have no reasonable privacy interests in his own DNA. While *Moore* may not have been malevolently decided for this purpose, it is possible to see the implications of such property law precedents on Fourth Amendment protections.

The Supreme Court has not addressed this concern. Without saying so, the Court's rulings assume that property law is shielded from accidental Fourth Amendment consequences or even malicious Fourth Amendment-informed manipulation because "society's traditional commitments are often reflected in positive property law, be it statutory law or common law principles."[58] Thus, in this view, property law would *not* be vulnerable to intentional government manipulation because of its tight interdependence with society's traditional commitments, understandings, and expectations. Property law would thereby serve to shield Fourth Amendment reasoning from the dangers of circularity.

This assumption, which may continue to shape the core of Fourth Amendment doctrine, however, has not been sufficiently tested by courts or academics. In this Article, I attempt to examine the validity and doctrinal consequences of this assumption by turning to the very foundations of property law. By analyzing the academic and judicial understandings of property, I demonstrate that an unconstrained, realist bundle-of-rights ("BOR") analysis of property law is indeed circular and subject to the same criticisms as the *Katz* test. This, however, does not mean that property law is intractably circular. The concept of legal thinghood, espoused by leading property scholars, brings the necessary directionality and autonomy required not only for property law to serve as a means for private ordering but also for breaking tautological reasoning. I demonstrate that this frequently undertheorized conceptualization of property law can serve as a potential solution to doctrinal circularity. This solution, however, requires that judges and legislators move beyond the realist BOR approach to property law.

56. Penner, *supra* note 4, at 718 ("[W]hat is conspicuously absent from the court's reasoning is any focused discussion about what constitutes a right to property.").

57. Kahn-Fogel, *supra* note 32, at 133 (emphasis added).

58. *Id.* A more pessimistic reading of the Court's analyses is that it may feel "no obligation to reconcile its statements about constitutional meaning [of property] made in closely related contexts." Merrill, *supra* note 13, at 998. If true, "[a]ll that will be left . . . is to pick the precedents you like, ignore the ones you don't, and hope for five votes." *Id.* at 999.

B. Defining Circularity

Before diving into how property may or may not address circularity, we must first define circularity itself.[59] To do so, let us stay on the Supreme Court's reasonable expectation of privacy test. If the Court bases "whether someone has a reasonable expectation of privacy on whether the court cases say he or she does," the Court's decision only looks to how it has answered the very same question in the past;[60] it is an analytical closed loop. Matthew Kugler and Lior Jacob Strahilevitz have called this type of reasoning "*doctrinal circularity*."[61] The Court, in an attempt to solve the problem of doctrinal circularity, has clarified that it looks not only to its own precedent, but to "understandings that are recognized and permitted by society" as well.[62] Many fear, however, that these "understandings" are themselves "determined by legal pronouncements."[63] This is termed "*attitudinal circularity*,"[64] which is also a closed loop but now with two steps: "[T]he content of the doctrine would still depend on the content of the doctrine, just with the additional step of popular expectations being influenced by, and in turn influencing, doctrine."[65]

Analytically, both doctrinal circularity and attitudinal circularity can be seen as versions of infinite recursion—infinite loops of reasoning that do not rely on any external justification. This recursion would give the government, namely through judges, the power to define the boundaries of rights from scratch. By visualizing doctrinal circularity as a recursive question (or recursive function), it is possible to see the problem in another light. For the sake of illustration, imagine that the Court's reasonableness analysis is represented by question Q. The Court's reasoning is doctrinally circular when the Court answers Q by asking the very same question Q. This is known as direct recursion.[66]

In the case of attitudinal circularity, two separate questions (or functions) when applied together also lead to an infinite loop. The first,

59. Wendy Gerwick Couture, *Materiality and a Theory of Legal Circularity*, 17 U. PA. J. BUS. L. 453, 453 (2014) ("A legal doctrine is potentially circular if: (1) the legal doctrine incorporates the behavior or attitude of a population or person, either hypothetical or real; and (2) the subject population or person either would (if hypothetical) or does (if real) consider prior precedent interpreting the legal doctrine when choosing said behavior or when adopting said attitude.").

60. Kugler & Strahilevitz, *supra* note 21, at 1752.

61. *Id.* at 1753.

62. Carpenter v. United States, 138 S. Ct. 2206, 2245 (2018) (Thomas, J., dissenting) (quoting Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978)).

63. Kugler & Strahilevitz, *supra* note 21, at 1753 (citing *Rakas*, 439 U.S. at 143 n.12).

64. *Id.*

65. *Id.*

66. Mariyana Raykova & Petya Asenova, *System of Tasks on Recursion*, 15 COMP. SCI. & EDUC. COMP. SCI. 62, 64 (2019) ("Direct recursion is when a function calls itself.").

question Q, still refers to the question of whether an expectation of privacy is reasonable according to the *Court*. The second, question S, asks whether *society* believes an expectation of privacy is reasonable. With these questions defined, it is possible to see how attitudinal circularity leads to another infinite loop of reasoning: To answer question Q, the Court asks question S. But to answer question S, the Court must first answer question Q. This two-step loop found in attitudinal circularity is known as indirect recursion.[67] In both doctrinal and attitudinal circularity, infinite recursion occurs because to answer whether an expectation of privacy is reasonable, we need to already know the answer to whether the Court believes the expectation is reasonable. Notably, though, doctrinal and attitudinal circularity are just two types of infinite recursion. There are many other ways in which infinite recursion can sneak its way into judicial analyses. If any of the intermediate steps in the Court's reasoning suffers from circular logic, the ultimate conclusion of the legal analysis will nonetheless "be determined by legal pronouncements."[68]

For the sake of argument, let us assume that the Court only looks at property law in determining Fourth Amendment protections: To answer question Q, the Court asks whether a property interest exists, which is called question P. What happens, though, if property law were itself doctrinally circular (in other words, if to answer question P we must first answer question P). In realist terms, this would mean that property interests exist only when the courts say they do. The property-based Fourth Amendment protections would again return to an infinite loop. This time, however, the loop would be in the definition of property rights: To answer question Q, the Court asks question P. But to answer question P, the Court must first answer question P. In this two-step analysis, no external justifications would be cited in answering question P, which means no external justification would be necessary to determine the answer to question Q. Thus, it is crucial to determine whether property rights themselves are circular to determine whether they can provide a solution to the Fourth Amendment's circularity problem.

II. FOUNDATIONS OF THE BUNDLE OF RIGHTS

Prior to the twentieth century, much of property law was conceptualized through the lens of natural law. As Merrill summarized, the view "that all individuals are endowed with rights that roughly correspond to those

67. *Id.* ("Indirect recursion is when a function calls another function and that function calls the calling function.").

68. Kugler & Strahilevitz, *supra* note 21, at 1753.

protected by private law, was ascendant."[69] In the twentieth century, however, "various schools of thought derived from utilitarianism . . . denied the existence of natural rights, and . . . assimilated both private and public rights to the same general criterion of aggregate welfare analysis."[70] Such proposals led to the conceptualization of property law as inherently vacuous: "'[P]roperty' is just a word that means nothing until we spell out—using different words—exactly what we are talking about in any given context."[71] This view has been described as the bundle-of-sticks[72] or bundle-of-rights[73] view of property law. As demonstrated by Justice Sotomayor, this view is also prevalent among judges and Justices: "A common idiom describes property as a 'bundle of sticks'—a collection of individual rights which, in certain combinations, constitute property."[74]

Crucially, as Henry Smith and Thomas Merrill have noted, this BOR perspective of property law also "implies that one can add to or subtract from the bundle more or less without limit, and still talk about the bundle as property."[75] Specifically, in the American context, it is "state law" that "determines . . . which sticks are in a person's bundle."[76] Under this view, states and, by extension, state judges, are those who may "add to or subtract from"[77] the property bundle in an attempt to increase "aggregate welfare."[78] Given this metaphor promulgated by the Supreme Court,[79] can property law serve as a solution to Fourth Amendment circularity? The BOR conceptualization of property cannot.

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69. Thomas W. Merrill, *Private and Public Law*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 575, 575.

70. *Id.*

71. THOMAS W. MERRILL & HENRY E. SMITH, PROPERTY: PRINCIPLES AND POLICIES 17 (3rd ed. 2017).

72. United States v. Craft, 535 U.S. 274, 291 (2002) (Thomas, J., dissenting).

73. Murr v. Wisconsin, 137 S. Ct. 1933, 1952 (2017) (Roberts, C.J., dissenting).

74. Manhattan Cmty. Access Corp. v. Halleck, 139 S. Ct. 1921, 1937–38 (2019) (Sotomayor, J., dissenting) (quoting *Craft*, 535 U.S. at 278) (noting that "[r]ights to exclude and to use are two of the most crucial sticks in the bundle").

75. MERRILL & SMITH, *supra* note 71.

76. *Manhattan Cmty. Access Corp.*, 139 S. Ct. at 1937–38 (Sotomayor, J., dissenting) (noting that "defining property . . . is a state-law exercise"); *see also* Bd. of Regents v. Roth, 408 U.S. 564, 577 (1972) ("Property interests, of course, are not created by the Constitution. Rather, they are created and their dimensions are defined by existing rules or understandings that stem from an independent source such as state law . . . .").

77. MERRILL & SMITH, *supra* note 71.

78. Merrill, *supra* note 69.

79. See, for example, Chief Justice Roberts's majority opinion in Horne v. Dep't of Agric., 576 U.S. 350, 361 (2015); Justice Kagan's majority opinion in Henderson v. United States, 135 S. Ct. 1780, 1784 (2015); Justice Scalia's majority opinion in Coll. Sav. Bank v. Fla. Prepaid Postsecondary Educ. Expense Bd., 527 U.S. 666, 673 (1999); Justice Ginsberg's majority opinion in Babbitt v. Youpee, 519 U.S. 234, 242 (1997).

Without private law constraints on the power of the government (i.e., the power of legislators, judges, or executives) to change the contents of the property bundle, we are left in the same circular situation. A person would only have "a reasonable expectation of privacy when the courts decide to protect it."[80] And a person would only have a property interest when the courts decide to protect that.[81] The good news is that the bundle metaphor is neither the only way to define property nor is it observed literally by the courts, despite the linguistic metaphor commonly used. To understand how the bundle metaphor fails in these ways, its history and theoretical conceptualizations are of crucial importance.

A. Property Law as a Bundle

In the BOR perspective of property law, "property is composed of discrete rights, such as 'a right of exclusion, a right of use, a right of possession, and a right of alienation.'"[82] Each state controls and "determines . . . which sticks are in a person's bundle."[83] More precisely, "it is generally agreed that state property law—and typically, the *judge-made common law* of the state—define the range of interests that qualify for constitutional protection."[84] This perspective—that law may pick, choose, or rearrange sticks in the bundle—seems to be validated by the Supreme Court. As the Court noted:

> [T]he property owner necessarily expects the uses of his property to be restricted . . . by . . . the *State* in legitimate exercise of its police powers . . . . And in the case of personal property, by reason of the State's traditionally high degree of control over commercial dealings, he ought to be aware of the possibility that new regulation might even render his property economically worthless . . . .[85]

But that is not where the story ends. The Supreme Court in its Fifth Amendment jurisprudence notes that states do not have unlimited ability to

80. Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 808 (2003).

81. *Id.*

82. Wyman, *supra* note 3, at 188.

83. Manhattan Cmty. Access Corp. v. Halleck, 139 S. Ct. 1921, 1937–38 (2019) (Sotomayor, J., dissenting) (quoting United States v. Craft, 535 U.S. 274, 278 (2002)).

84. Maureen E. Brady, *Property's Ceiling: State Courts and the Expansion of Takings Clause Property*, 102 VA. L. REV. 1167, 1168 (2016) (emphasis added).

85. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1027–28 (1992) (emphasis added). State property and nuisance laws are cited as examples. *Id.* at 1029 ("Any limitation so severe cannot be newly legislated or decreed (without compensation), but must inhere . . . in the restrictions that background principles of the *State's law of property and nuisance* already place upon land ownership. A law or decree with such an effect must . . . do no more than duplicate the result that could have been achieved in the courts—by adjacent landowners (or other uniquely affected persons) under the *State's law of private* [or public] *nuisance*." (emphasis added)).

tinker with the contents of the property bundle. Justice Kennedy, writing for the Supreme Court in *Murr v. Wisconsin*,[86] noted that "[a]lthough property interests have their foundations in state law . . . States do not have the unfettered authority to 'shape and define property rights.'"[87] Many state courts themselves have agreed. The Supreme Court of Texas, for example, noted that property rights are "not derived from the legislature" and may in fact "preexist[] even constitutions."[88]

A literal conceptual application of the BOR theory of property—in which "one can add to or subtract from the bundle more or less without limit"—does not seem to have sufficient explanatory power in these cases.[89] As the law stands, "[s]tates do not have the unfettered authority to 'shape'" the bundle.[90] But where does this limitation on the states' authority come from? In the alternative, who *does* have the authority to define the content of property rights? This question is not just a philosophical puzzle or simply a matter of legal theory. Rather, the answer demonstrates how an interdisciplinary analysis of private law may help solve the problem of doctrinal circularity.

To adequately address these questions, it is first necessary to fully understand (a) what the BOR picture can and cannot accomplish in legal doctrine and theory and (b) whether its conceptualizations of property law sufficiently explain American property law in practice. To do so, I begin by providing a very abridged history of BOR and the legal-philosophical momentum behind it.

The intellectual history of the bundle-of-rights conceptualization of property begins with Wesley Hohfeld's theory of jural relations.[91] According

86. 137 S. Ct. 1933 (2017).

87. *Id.* at 1944–45 (2017) (quoting Palazzolo v. Rhode Island, 533 U.S. 606, 626–27 (2001)) (mentioning "investment-backed expectations" as well (quoting Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 124 (1978))).

88. Harris Cnty. Flood Control Dist. v. Kerr, 499 S.W.3d 793, 804 (Tex. 2016) (alterations in original) ("Locke deemed the preservation of property rights '[t]he great and chief end' of government, a view we echoed almost 300 years later, calling it 'one of the most important purposes of government.' Individual property rights are 'a foundational liberty, not a contingent privilege.'" (alteration in original) (footnotes omitted)).

89. MERRILL & SMITH, *supra* note 71.

90. *Murr*, 137 S. Ct. at 1944–45 (quoting *Palazzolo*, 533 U.S. at 626).

91. *See* Penner, *supra* note 4, at 712 (citing WESLEY NEWCOMB HOHFELD, FUNDAMENTAL LEGAL CONCEPTIONS AS APPLIED IN JUDICIAL REASONING AND OTHER LEGAL ESSAYS 67 (Walter Wheeler Cook ed., 1923)). Even though Hohfeld "did not originate the metaphor or even use the term 'bundle of rights,' property scholars assert that his unpacking of legal rights into component jural correlatives and opposites provided both the 'intellectual justification' and the 'analytic vocabulary' for the bundle-of-rights conception." Jane B. Baron, *Rescuing the Bundle-of-Rights Metaphor in Property Law*, 82 U. CIN. L. REV. 57, 62 (2013) (footnotes omitted) (first quoting Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163, 1191 (1999); then quoting Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and*

to Hohfeld, "any right in rem should be regarded as a myriad of personal rights between individuals."[92] Ownership of a car, in this view, is not "a legal relation between me and a thing . . . but [i]s a series of rights I hold against all others, each of whom has a correlative duty not to interfere with my ownership of the car, by damaging it, or stealing it, and so on."[93] Ownership, then, would be a bundle—rather than a unified concept—for three reasons. First, ownership would comprise the "bundle of rights the owner holds against many others."[94] Second, "the substance of the property right itself is subject to fractionation" such that land may be divided, easements granted, licenses given, etc.[95] And third, the sticks in the bundle are not all of the same quality: "Hohfeld splinters a property right into a bundle of 'rights' of various kinds, including liberties, claim-rights, powers, and immunities."[96] An important consequence of this view, however, is that "every stick [could] be evaluated in isolation and sticks [could] be added or subtracted at will, with the meaningless label 'property' stuck on as an afterthought."[97]

With this analytical infrastructure in place, BOR's path to dominance and stature as "conventional wisdom" was assured by the rise of American Legal Realism.[98] While scholars disagree on whether the Realists (a) merely "popularized" and "embraced" or (b) "co-opted" and "appropriated" Hohfeld's framework,[99] it is accepted that the "Realists' reliance on an

Economics?, 111 YALE L.J. 357, 365 (2001); and then quoting STEPHEN R. MUNZER, A THEORY OF PROPERTY 18 (1990)).

92. Penner, *supra* note 4, at 712.

93. *Id.*

94. *Id.*

95. *Id.*

96. *Id.* (citing HOHFELD, *supra* note 91, at 96).

97. Thomas W. Merrill & Henry E. Smith, *The Architecture of Property*, *in* RESEARCH HANDBOOK ON PRIVATE LAW THEORY 136 (Hanoch Dagan & Benjamin C. Zipursky eds., 2020). In the essentialist view, on the other hand, property's inherent architecture is critical to its form and function. *Id.* at 154 ("[T]he architectural theory . . . highlights how property achieves its objectives (or does not) in a world of complex interaction. It is the complexity of the world and the interactions that the law has to manage which give property law and institutions many of their characteristic contours, including their design principles and their inherent dynamism.").

98. *See* Smith, *supra* note 17, at 2056. "The most famous legacy of realist nominalism in property law is the bundle of rights, which eventually was accepted as conventional wisdom." *Id.* at 2059; *see also* Baron, *supra* note 91, at 63. BOR's ascendance was also aided by the anti-regulatory political climate of the late nineteeth century. STUART BANNER, AMERICAN PROPERTY: A HISTORY OF HOW, WHY, AND WHAT WE OWN 71–72 (2011) ("In the late nineteenth century the . . . bundle of rights was a distinctly antiregulatory idea . . . justifying constitutional doctrines that would limit the power of legislatures to regulate in ways that would reduce the value of property. . . . [BOR] had been in the air for some time, but before the late nineteenth century there had never been any particularly pressing reason to espouse it.").

99. Baron, *supra* note 91, at 63 (first quoting GREGORY S. ALEXANDER, COMMODITY & PROPRIETY 319 (1997); then quoting Thomas W. Merrill, *The Property Prism*, 8 ECON J. WATCH 247, 248 (2011); and then quoting Eric R. Claeys, *Property 101: Is Property a Thing or a Bundle?*, 32 SEATTLE U. L. REV. 617, 635–36 (2009)).

extreme version of the bundle of rights, under which no baselines are privileged and bundles are plastic in the hands of courts and legislatures, has become a sort of conventional baseline itself for property theorists."[100] Once popularized, Hohfeld's analytical framework was complemented by A.M. Honoré's "list of the 'incidents' of ownership . . . which outlines in some detail the right to possess, the right to use . . . and so on."[101] Such incidents noted *which bundles* of *which rights* would be deemed property. Ultimately, the historical foundations of BOR have come to stand for "the thesis that property constitutes a legal complex of various normative relations, not simply rights."[102] The Realists' largely accomplished goal "to remove the sanctity that had traditionally attached to the rights of property" was captured in Thomas Grey's famous characterization:

> In the English-speaking countries today, the conception of property held by the specialist (the lawyer or economist) is quite different from that held by the ordinary person. Most people, including most specialists in their unprofessional moments, conceive of property as *things* that are *owned* by *persons*. To own property is to have exclusive control of something—to be able to use it as one wishes, to sell it, give it away, leave it idle, or destroy it. . . .
>
> By contrast, the theory of property rights held by the modern specialist [lawyer] tends both to dissolve the notion of ownership and to eliminate any necessary connection between property rights and things. Consider ownership first. The specialist fragments the robust unitary conception of ownership into a more shadowy "bundle of rights."[103]

Grey's educated lawyer rejects the singular idea of ownership and adopts what James Penner has summarized as the "Hohfeld-Honoré Synthesis": a "tripartite structure of title."[104] First, title contains "the possessory right, namely the right to immediate, exclusive possession."[105] Second, the title also contains "two powers that go with title, namely the power to license others to enter into or take possession whilst retaining title," and finally "the power to dispose of one's title, by grant of a lesser title or

100. Thomas Merrill & Henry Edward Smith, *The Morality of Property*, 48 WM. & MARY L. REV. 1849, 1869 (2007). In fact, this "underlying conception of property as a bundle of rights was given a decisive boost by the ALI's endorsement [in the first Restatement of Property], and quickly became a kind of American orthodoxy." Merrill & Smith, *supra* note 4, at 706.

101. Penner, *supra* note 4, at 712–13 (citing A.M. Honoré, *Ownership*, *in* OXFORD ESSAYS IN JURISPRUDENCE 107, 112–24 (A.G. Guest ed., 1961)).

102. *Id.* at 713.

103. Smith, *supra* note 17, at 2062–63 (citing Thomas C. Grey, *The Disintegration of Property*, *in* PROPERTY: NOMOS XXII 69, 69 (J. Roland Pennock & John W. Chapman eds., 1980)).

104. J.E. PENNER, PROPERTY RIGHTS: A RE-EXAMINATION 6 n.11 (2020).

105. *Id.* at 13.

outright transfer."[106] Notably, under Grey's conceptualization, each of these three strands of the bundle "can be put together or pulled apart at will, such that any configuration is, more or less, a realization of our concept of property or ownership."[107]

In more recent work, Penner noted that these foundational ideas have led to two conceptually distinct but mutually reinforcing theses. First, "we can apply the concept of property to particular rights or bundles of rights pretty much as we wish."[108] Second, "the reality of the legal relations which fall under the rubric of property are a battery . . . of Hohfeldian jural relations."[109] Under these theses, complex property rights, such as "A's fee simple title to Blackacre, have no genuine or real normative force within the legal system."[110] Rather, "[l]egal normativity lies in, and only in, the normative force of the [individual] Hohfeldian jural relations themselves, taken one by one."[111] Together, both theses would not only mean that property is conceptually vapid, but also that each stick in the bundle is completely "in the hands of courts and legislatures."[112]

In fact, "the main lesson of the bundle of rights picture of property is that property is a collection of interests and property law is a collection of individual policy-driven rules."[113] Highlighting the state's power to create, destroy, or separate any individual stick in the property bundle, Thomas Ross notes that the "metaphorical conception" of BOR emphasizes the "separation" from a singular idea of ownership into individual, severable, and manipulable sticks:

> Within both the Hohfeldian abstraction and the metaphorical conception, my legally recognized right, for example, to lease my home is distinguishable from my other rights. But within the metaphorical conception if the state changes or takes away this particular right, all other rights are presumptively left intact and unaffected. To take one stick out of the bundle leaves the remaining sticks undisturbed.[114]

The separability of fully detachable sticks "would make reform easy: one simply has to maximize the contribution of each stick in order to

106. *Id.*
107. *Id.* at 15.
108. *Id.* at 1.
109. *Id.* at 2.
110. *Id.*
111. *Id.*
112. Merrill & Smith, *supra* note 100, at 1869.
113. Merrill & Smith, *supra* note 4, at 707.
114. Thomas Ross, *Metaphor and Paradox*, 23 GA. L. REV. 1053, 1061–62 (1989).

maximize the fitness of the whole bundle."[115] This is why those who seek property reform, including the Realists, promulgate the BOR conceptualization. Not only would this metaphor allow such tinkering, but the "various schools of thought derived from utilitarianism" in the twentieth and twenty-first centuries, including embodiments of the law and economics movement, would normatively *require* that judges and legislatures tinker away in the hope of increasing aggregate welfare.[116]

If BOR is conceptually embraced beyond its mere language, property law is circular: Property rights would be defined as those that judges decide to protect, whether due to common law or statute. Although this point will be fleshed out below, BOR's history already demonstrates how its vision of property cannot serve as a solution to Fourth Amendment circularity.

Unfortunately, such a view that "property rights are arbitrary assemblages of rights that the state creates for its own instrumental purposes, and which it can undo almost at will for the same instrumental ends" aligns with what Richard Epstein considers the widespread, but nonetheless erroneous, modern perspective of many governments.[117] Before diving into such deontological critiques of, and alternatives to BOR, it is also important to explore the bundle metaphor further to pinpoint where circularity is found and whether its conceptual entailments even map onto American property law in the first place.

B. The Bundle's Struggles

Although I do not attempt to provide an exhaustive legal or philosophical analysis of BOR, the following short two-part discussion

115. Henry E. Smith, *Systems Theory: Emergent Private Law*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 143, 148. This idea has even led to computational models of optimizing property law. *See* Lee Alston & Bernardo Mueller, *Towards a More Evolutionary Theory of Property Rights*, 100 IOWA L. REV. 2255, 2259 (2015) ("More specifically, we . . . portray the evolution of property rights as a search problem over a design space of all possible bundles of property rights. . . . Property rights with independent sticks will tend to have smooth, single-peaked (Mount Fuji) landscapes, which are easily searched and thus tend to yield optimal designs."); *see also* Henry E. Smith, *Complexity and the Cathedral: Making Law and Economics More Calabresian*, 48 EUR. J.L. & ECON. 43, 51 (2019) (stating that in BOR, "[e]ach time we make a positive change we need not worry about it making anything worse").

116. Merrill, *supra* note 69.

117. Jeremy Waldron, *To Bestow Stability upon Possession: Hume's Alternative to Locke*, *in* PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW 1, 1 (James Penner & Henry E. Smith eds., 2013) (quoting RICHARD A. EPSTEIN, DESIGN FOR LIBERTY: PRIVATE PROPERTY, PUBLIC ADMINISTRATION, AND THE RULE OF LAW 63 (2011)). Notably, though, Epstein has been a proponent of BOR. His conceptualization, however, is not that BOR yields a malleable idea of property. Rather, in his conceptualization, BOR contains "a strong and internally coherent notion of what property is," allowing a clear stick-by-stick accounting of "the state's power of eminent domain." Richard A. Epstein, *Bundle-of-Rights Theory as a Bulwark Against Statist Conceptions of Private Property*, 8 ECON J. WATCH 223, 226 (2011).

should sufficiently demonstrate this conceptualization's potential weaknesses as the foundation of property law. First, I return to Penner's "Hohfeld-Honoré Synthesis," the "tripartite structure of title."[118] Under this conceptualization of BOR, title to property contains the right to immediate exclusive possession, the power to license, dispose, or grant lesser title, each of which is a fully independent stick in the bundle that may be disaggregated at will.[119] Notice, however, that when the tripartite structure is disaggregated, legal confusion may be inevitable. What sub-bundles, if any, constitute ownership? In other words, Penner asks what property and ownership mean when:

A has the right to exclude, but
B has the power to license,[120] and
C the power to transfer.[121]

For example, while a "security guard may have the legal powers to exclude"—one of the rights in the tripartite bundle—the guard is not "an owner of what he is guarding."[122] Similarly, a trustee "has the right of immediate exclusive possession of the trust assets"—another right in the tripartite bundle—but "he has no liberty to use the property for his own benefit," and is therefore not the true owner either.[123] Who is the property owner if no stick or sticks "are privileged" in the BOR conceptualization of property?[124] In this scenario, the concept of property might as well not even exist.

This conclusion, however, ignores the fact that "some uses that A would wish to make could be thwarted by B, but B's exercise of this power, except insofar as he licenses himself singly or with others, would be of no benefit to B per se. The same could be said of C's power to transfer."[125] In other words, BOR leaves us with no legal methodology to distinguish between the legal positions of A, B, and C. We are left without a way to determine who among A, B, or C would be able to lawfully enforce their rights or use their powers. Additionally, BOR's conclusion that A, B, and C are all owners—or that none of them are owners (because such terminology is meaningless)—does not align with the traditional perspective of property. The right to exclude without the liberty to use or the liberty to transfer "is not what we would

118. PENNER, *supra* note 104, at 6.
119. *Id.* at 13.
120. The power to license is the ability to allow what would otherwise be a trespass.
121. PENNER, *supra* note 104, at 26.
122. *Id.* at 27.
123. *Id.*
124. Merrill & Smith, *supra* note 100, at 1869.
125. PENNER, *supra* note 104, at 26.

normally conceive of as a right of ownership."[126] And as Merrill explained, the right to exclude is not only "'one of the most essential' constituents of property—it is the *sine qua non*. Give someone the right to exclude others from a valued resource . . . and you give them property."[127] Ultimately, BOR fails to acknowledge what Chief Justice Roberts succinctly expressed: "The question of *who* owns *what* is pretty important."[128]

Furthermore, by failing to determine which subset of the bundle entails property ownership (e.g., A, B, or C), this conceptualization also fails to provide legal mechanisms to determine whether any asset is property at all. Property would simply serve "a peculiar linguistic role, as an identifier that a certain sort of legal or philosophical discussion has concluded."[129] Property, in this case, would be a conclusory statement "only used *prescriptively* . . . [and] never used *descriptively*, to characterize a normative situation simply because of the features it manifests."[130]

Returning to the broader topic of this Article, it is also noteworthy that a prescriptive BOR definition of property could not be more circular. A specific bundle of rights would be called property simply as a legal conclusion that courts have deemed it so. As Arnold S. Weinrib noted, "[t]he fact that property is a conclusory term does not help us decide in what circumstances property rights should be awarded."[131]

For our purposes, this would also mean that BOR does not help us decide in what novel circumstances the Fourth Amendment offers protection. These discrepancies between BOR's conclusions and our "intuitions" of property[132] can be seen both in the Supreme Court's own struggle to apply the bundle metaphor and in the conceptual ramifications of BOR itself, as described in the following two Sections.

1. Explanatory Problems

At least two foundational aspects of property law cannot be accounted for under a BOR conceptualization of property. Nonetheless, both aspects are frequently referenced by the Supreme Court. The first is that while the Supreme Court adopts the language of the bundle metaphor, it

126. *Id.* at 26–27. Rather, according to Penner, the "high-level or abstract concepts" he "identified in the tripartite structure of title *do* structure our understanding of property rights and property law doctrine, and do so splendidly." PENNER, *supra* note 104, at 42.

127. Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) (quoting Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979)).

128. Murr v. Wisconsin, 137 S. Ct. 1933, 1953 (2017) (Roberts, C.J., dissenting) (emphasis added).

129. Penner, *supra* note 4, at 771.

130. *Id.*

131. Arnold S. Weinrib, *Information and Property*, 38 U. TORONTO L.J. 117, 121 (1988).

132. Penner, *supra* note 4, at 773.

simultaneously rejects the idea that all sticks in the bundle are of equal importance and that none are privileged in the conceptualization of property or ownership. Above, I noted that Justice Sotomayor referred to the "common idiom" used to describe property as a "bundle of sticks."[133] Immediately afterwards, however, she clarifies that the "[r]ights to exclude and to use are two of the most crucial sticks in the bundle."[134] By ranking these sticks above all or almost all others, Justice Sotomayor rejects BOR's thesis that any sticks in the bundle "can be put together or pulled apart at will, such that any configuration is, more or less, [still] a realization of our concept of property or ownership."[135] Justice Sotomayor's perspective is not merely dicta that deviates from the theoretical conclusions of BOR—it is the default position of the Supreme Court.[136] This ranking of sticks in the bundle is also the position widely adopted by most, if not all, state courts.[137]

The second manner in which BOR's conclusions do not align with the Supreme Court's application of the bundle metaphor lies in the realm of regulatory takings. Consider the "notorious 'denominator problem.'"[138] To determine whether government action amounts to a taking, the Supreme Court casts "what was possessed (y) versus what was taken (x) as the integers of an arithmetic fraction . . . where the nearer x/y comes to 1 the greater the probability of a taking."[139] While the normative, doctrinal, and economic consequences of the Court's jurisprudence on regulatory takings could themselves fill up many articles, all that is required here is a mere superficial understanding of the denominator y and what it logically entails. Because "the Court has generally evaluated the impact of regulations on the value of the [property] parcel as a whole, rather than on any subpart of ownership

133. Manhattan Cmty. Access Corp. v. Halleck, 139 S. Ct. 1921, 1937–38 (2019) (Sotomayor, J., dissenting) (quoting United States v. Craft, 535 U.S. 274, 278 (2002)) (noting that "[r]ights to exclude and to use are two of the most crucial sticks in the bundle").

134. *Id.* The Supreme Court of Texas implemented the same two-step adoption and qualification of the bundle metaphor in Lightning Oil Co. v. Anadarko E&P Onshore, LLC, 520 S.W.3d 39, 48 (Tex. 2017).

135. PENNER, *supra* note 104, at 15.

136. *See e.g.*, *Craft*, 535 U.S. at 283 ("[T]he most essential property rights [are] the right to use the property, to receive income produced by it, and to exclude others from it."); Coll. Sav. Bank v. Fla. Prepaid Postsecondary Educ. Expense Bd., 527 U.S. 666, 673 (1999) ("The hallmark of a protected property interest is the right to exclude others."); Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) ("[T]he owner has somehow lost one of the most essential sticks in the bundle of rights that are commonly characterized as property—the right to exclude others.").

137. *See e.g.*, Smith v. Town of Mendon, 822 N.E.2d 1214, 1219 (N.Y. 2004) ("[T]he most important 'stick' in the proverbial bundle of property rights [is] the right to exclude others."); *Lightning Oil Co.*, 520 S.W.3d at 48 ("[T]he right to exclude all others from the use of the property [is] one of the most essential sticks in the bundle." (citation omitted)).

138. Carol M. Rose, *Rations and Takings*, 2020 WIS. L. REV. 343, 351 (2020).

139. Jamison E. Colburn, *Don't Go in the Water: On Pathological Jurisdiction Splitting*, 39 STAN. ENV'T L.J. 3, 37 n.253 (2019).

rights," the bounds of the composite property bundle (i.e., the bounds of the property parcel as a whole) are frequently dispositive of whether a taking has occurred.[140]

In *Penn Central Transportation Co. v. City of New York*,[141] for example, the Supreme Court noted that "'[t]aking' jurisprudence does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated."[142] Rather, as Joseph Blocher summarized, "[t]he Court held that takings claims should instead be assessed according to 'the nature and extent of the interference with rights in the *parcel as a whole*.'"[143] This reliance on defining the parcel as a whole smuggles with it concepts which are antithetical to BOR. Under BOR, complex property rights such as "A's fee simple title to Blackacre[] [would] have no genuine or real normative force within the legal system."[144] Only individual "Hohfeldian jural relations themselves, taken one by one," would carry legal weight.[145]

The Court's doctrinal use of a denominator *y*, which refers to the complex sum of property rights (i.e., the whole parcel), is therefore incompatible with BOR; BOR would indeed "divide a single parcel into discrete segments" (i.e., discrete Hohfeldian relationships) "and attempt to determine whether rights in a particular segment have been entirely abrogated" (i.e., attempt to determine which Hohfeldian relationships have been altered).[146] The Court's analysis requires that the full fee simple title to Blackacre carry normative force and legal conclusions, which, as stated, is in violation of BOR's theses.[147]

2. Theoretical Incoherence

BOR's attractiveness can be described through an analogy: If I have a piece of apple pie and I want you to have some, what should I do? I could give you my entire piece, as unrealistic as that would be. More plausibly, I

140. Joseph Blocher, *Bans*, 129 YALE L.J. 308, 332 (2019).

141. 438 U.S. 104 (1978).

142. *Id.* at 130.

143. Blocher, *supra* note 140, at 332 (quoting *Penn Cent. Transp. Co.*, 438 U.S. at 130–31).

144. PENNER, *supra* note 104, at 2.

145. *Id.*

146. *Penn Cent. Transp. Co.*, 438 U.S. at 130–31.

147. The alternative rejected approach has been called "conceptual severance," under which the "court would not have considered the possibility of a . . . denominator[] because the conceptual-severance doctrine disregards the denominator problem and automatically treats the severed use interest as an entire, free-standing unit of property." Courtney C. Tedrowe, *Conceptual Severance and Takings in the Federal Circuit*, 85 CORNELL L. REV. 586, 615 (2000) (citing Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1676 (1988)).

could cut my piece in half and give you (the smaller) half of my original piece. Notably, both halves were in existence prior to the cutting; the transaction merely severed them. By applying this thought process to property, it would seem that "the power to grant interests is the power to transfer one's own interest. So the "power to grant a different, 'lesser' interest must then be a power to 'divide' one's [existing] interest, handing a piece to X."[148] This conceptualization can be traced back to Hohfeld's idea of multital rights: "A multital right, or claim, (right *in rem*) is always one of a large class of fundamentally similar yet separate rights, *actual and potential*, residing in a single person . . . but availing respectively against persons constituting a very large and indefinite class of people."[149]

This property bundle is envisioned to contain all actual and all future jural relations as currently "residing in a single person" who can disaggregate relations at will.[150] Another way to think about this is that instead of conceiving of property as "a right which permits an owner to do *anything* or nothing with his property . . . [the BOR] thesis insists that an owner may do *everything* with his property."[151] By conceptually referring to all actual and potential jural relations, BOR "holds that the essence of property is an infinite number of rights to use a thing, in the same way that the Hohfeldian idea of a right in rem entails having millions of rights against all other people."[152]

Although such conceptualizations may seem innocuous (or merely just inconsequential legal semantics), when BOR is used to explain the mechanisms behind various property doctrines, problems begin to emerge. Consider, for example, property licenses. The power to license can be defined as: "the right to decide how and by whom the thing owned shall be used. This right depends, legally, on a cluster of powers, chiefly powers of licensing acts which would otherwise be unlawful and powers of contracting."[153]

Imagine that Blackacre's owner O wants to lease the property to lessee L. When the owner O "grants a lease to Blackacre, the [BOR] analysis of this transaction is not that he exercised a power to create an interest in Blackacre that did not exist before . . . but rather that he transferred some pre-

148. PENNER, *supra* note 104, at 24.

149. Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L. J. 710, 718 (1917) (emphasis added and altered) (footnote omitted).

150. *Id.* (emphasis omitted).

151. Penner, *supra* note 4, at 758.

152. *Id.* (emphasis omitted).

153. Honoré, *supra* note 101, at 116. This is Honoré's right to manage. The right to license may also rely on Honoré's the right to use (which "refers to the owner's personal use and enjoyment of the thing owned") and the right to income (which refers to rights to the "brute product of a thing, made by nature or by other persons"). *Id.* at 116–17.

existing lease-stick in his bundle to the lessee."[154] Because Hohfeldian jural relations are strictly bipolar,[155] the lease-stick transferred in this transaction would consist of the bipolar relation between O and L. It would be the stick holding L, as the relation's single specified individual, liable to O for trespass onto O's land. The transaction would also involve the multiple bipolar relations holding L, as the single specified individual for each relation, liable to O for enjoyment of Blackacre. While this conceptualization is already complicated, the situation becomes exponentially more complex when theorizing non-exclusive licenses. As Penner concludes:

> However various are the rights in the owner's bundle, it boggles the mind to suppose that it includes actual rights permitting everyone else to do everything with the property, each of which can be transferred to the proper person at will. But this is what the disaggregative bundle of rights thesis requires to account for non-exclusive licenses. On this view, *A*, the owner, holds in his bundle of rights the millions of rights of *B* to do each and every thing with *A*'s property, and the millions of rights of *C*, and *D*, ad infinitum. . . . If it is a non-exclusive license, then *A* can do the same in turn for *C* or *D*. . . . The disaggregative bundle of rights thesis logically entails that an owner of a piece of property holds the rights that every person could conceivably have to use that particular thing, *i.e.*, that the owner is actually *all owners* in one; that when anyone is born or dies the owner's bundle of rights changes; that there is some way to either . . . individuate or define these millions of rights as discrete, countable legal relations, etc.[156]

As Penner noted, "[t]his is not mere nit-picking."[157] If property law is meant to guide expectations,[158] allocate ownership,[159] facilitate social interaction,[160] and, as the Supreme Court has held, "empower[] persons to shape and to plan their own destiny,"[161] then it must also be adequately

154. PENNER, *supra* note 104, at 20.

155. Under BOR and Hohfeld's own analysis, *in rem* mutital rights are nothing more than millions of bipolar Hohfeldian relations.

156. Penner, *supra* note 4, at 758–59.

157. *Id.* at 758.

158. *Id.* at 759.

159. *See* James Y. Stern, *The Essential Structure of Property Law*, 115 MICH. L. REV. 1167, 1168 (2017) ("Two people cannot both be complete owners of the same thing . . . . It may take a moment to absorb this idea—precisely because it is so obvious—but it is fundamental to the structure of property law."); *see also* John A. Humbach, *Property as Prophesy: Legal Realism and the Indeterminacy of Ownership*, 49 CASE W. RSRV. J. INT'L L. 211, 224 (2017).

160. *See* Merrill & Smith, *supra* note 100, at 1850 ("Property is a device for coordinating both personal and impersonal interactions over things.").

161. Murr v. Wisconsin, 137 S. Ct. 1933, 1943 (2017) ("Property rights are necessary to preserve freedom."); *see also* United States v. James Daniel Good Real Property, 510 U.S. 43, 61 (1993) ("Individual freedom finds tangible expression in property rights.").

understood by those relying on it.[162] As Penner ultimately concludes, "[a]ny normative system whose purpose is actually to guide people's behavior, including how they should think about what they are doing, must founder on this kind of profound confusion of potentiality with actuality."[163]

Thus, because it fails to adequately explain jurisprudence, and because it leads to a conceptually incoherent theoretical understanding of private ordering, BOR cannot serve as the foundation of property law. Notably, this is the case even without considering property law's role in the Fourth Amendment. But for such constitutional purposes, it is also important to note that BOR fails to provide us with a mechanism to determine when and where property rights are found without resorting to the same circularity that property law was meant to avoid. Does this mean that Fourth Amendment doctrine is doomed to be circular even when relying on property law? Not necessarily. Fourth Amendment doctrine may be spared from circularity if BOR is ultimately rejected as the default conceptualization of property law.

In the second half of this Article, I will demonstrate that the concept of legal thinghood, espoused by leading property scholars, provides the necessary analytical and theoretical tools to understand the directionality, autonomy, and scope of property law as a means for private ordering without resorting to BOR's circularity.

III. PROPERTY LAW AS NEW PRIVATE LAW

So far, this Article has analyzed the history of BOR and discussed how it neither maps fully onto American property law nor solves the Fourth Amendment's circularity problem. In the second half of this Article, alternative conceptualizations of property law are proposed, which may not only provide an analytical definition of property rights, but may also ground property law while providing a solution to circularity. To do so, it is first necessary to address the wider philosophical background of American property law to uncover what the concept of private law may bring to property and circularity.

BOR and the wider law and economics movement find their roots in the utilitarian theories proposed by Jeremy Bentham and John Stuart Mill.[164] These theories collapsed the distinction between private and public rights, arguing that "[a]ll social policy," from property law to constitutional law, "must be justified by the criterion of collective social welfare—the greatest

162. In these ways, property law is similar to other fields of private law. As Merrill notes, "[p]rivate law supplies the tools that make private ordering possible—the discretionary decisions that individuals make in structuring their lives." Merrill, *supra* note 69.

163. Penner, *supra* note 4, at 759.

164. Merrill, *supra* note 69, at 586–87.

good for the greatest number—taking into account both aggregate wealth and distributional considerations."[165] The legal movements derived from these utilitarian theories attempted to debunk "any notion of natural rights," replacing all notions of naturalness with the notions of political choice.[166] Bentham "argued that without law there would be no property."[167] He "extolled the *legislator* who, above all else, protects the security of property rights" not because they are inherently important, but rather because, in his view, property rights are fully within the legislator's control to design, protect, and optimize, as any other public right.[168] In this way, property is seen as "post-political," a creation of the government through a public political apparatus.[169]

By conceptualizing all law as public law, proponents of these theories claimed that the "private rights of property . . . exist only 'at the sufferance of the state'" and only until the state decides to retract them.[170] As may have become apparent, the American Legal Realist movement was a "jurisprudential offshoot" of these utilitarian theories,[171] bringing with it ideas which ultimately crystalized into the modern understanding of BOR.

The utilitarian tradition, however, is not property law's only philosophical foundation. Another foundational conceptualization of American property law stems from what Merrill calls "liberal individualism."[172] In this tradition, private law "is the law that is anchored in the natural rights of individuals and protects individuals from having these rights taken without their consent" whether by "absolutism, class hierarchy, or majoritarian bias."[173]

In Germany, for example, ideas of liberal individualism were adopted and expanded upon such that private law was treated "as an autonomous body

165. *Id.* Bentham, for example, defended property law "in terms of the stimulus to industry and cultivation that it affords, stress[ing] that the benefits of property accrue both to persons of wealth and to those living at the margin of existence." Merrill & Smith, *supra* note 91, at 363 (footnote omitted) (citing JEREMY BENTHAM, THE THEORY OF LEGISLATION 101–02, 113–14, 116–19 (C.K. Ogden ed., 1st ed. 1931)).

166. Merrill, *supra* note 69, at 587.

167. *Id.* (citing BENTHAM, *supra* note 165, at 113). According to Bentham, "[p]roperty and law are born together, and die together. Before laws were made there was no property take away laws, and property ceases." BENTHAM, *supra* note 165, at 113.

168. Merrill & Smith, *supra* note 91, at 363 (emphasis added).

169. *See* Nestor M. Davidson, *Standardization and Pluralism in Property Law*, 61 VAND. L. REV. 1597, 1645 (2008).

170. Merrill, *supra* note 69, at 587 (citing BARBARA H. FRIED, THE PROGRESSIVE ASSAULT ON LAISSEZ FAIRE: ROBERT HALE AND THE FIRST LAW AND ECONOMICS MOVEMENT 87 (1998)).

171. *Id.*

172. *Id.* at 585.

173. *Id.*

of law having no connection to public law or the state."[174] German private law "had no social responsibilities" and was therefore "kept strictly free of any interference by the state."[175]

While the Anglo-American legal tradition did not follow the German model, private law was nonetheless seen as distinct, building on ideas proposed by Thomas Hobbes and John Locke.[176] These liberal individualistic theories saw property rights as inalienable pre-legal natural rights that existed independently of the state. This claim is not merely philosophical; it is also historical. Proponents of liberal individualism note that the "role of private law preceded the idea of the modern state."[177] Concepts of pre-legal natural rights were eventually "packaged by Blackstone as core principles of the common law."[178] As Justice Thomas recounted:

> In the tradition of John Locke, William Blackstone in his Commentaries identified the private rights to life, liberty, and *property* as the three "absolute" rights—so called because they "appertain[ed] and belong[ed] to particular men . . . merely as individuals," not "to them as members of society [or] standing in various relations to each other"—that is, not dependent upon the will of the government.[179]

This distinction meant that over time, Anglo-American common law evolved to contain a "highly individualistic jurisprudence that regarded private property as nearly inviolate."[180] In the United States, these ideas took the form of "Lockean natural rights adopted as constitutional rights."[181] As Justice Stewart explained:

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174. *Id.*

175. Hans-Peter Haferkamp, *The Science of Private Law and the State in Nineteenth Century Germany*, 56 AM. J. COMPAR. L. 667, 684 (2008).

176. Merrill, *supra* note 69, at 585.

177. Hanoch Dagan, *Autonomy and Pluralism in Private Law*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 177, 177.

178. Merrill, *supra* note 69, at 586. Common law was itself a "distillation of custom that existed from time immemorial." *Id.*

179. Wellness Int'l Network, Ltd. v. Sharif, 135 S. Ct. 1932, 1965 (2015) (Thomas, J., dissenting) (citing 1 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 119 (1765)) (alteration in original) (emphasis added).

180. Merrill, *supra* note 69, at 586.

181. *Id.*; *see also* O. Lee Reed, *What Is "Property"?*, 41 AM. BUS. L. J. 459, 473 (2004) (noting that property's "basic aspect is constitutional"). On a surface level, property is constitutionally protected by the Due Process Clause. But that is not the only place where liberal individualism and its perspectives of property law are constitutionally present. As Justice Thomas observed, "[t]he concept of security in property recognized by Locke and the English legal tradition appeared throughout the materials that inspired the Fourth Amendment." Carpenter v. United States, 138 S. Ct. 2206, 2239 (2018) (Thomas, J., dissenting). Notably, the distinction between public and private rights has a long tradition in both federal and state courts, including in the public rights doctrine. *See, e.g.*, Lansing v. Smith, 4 Wend. 9, 21 (N.Y. 1829) ("The right to navigate the public waters of the state . . . are all *public* rights belonging to the people at large. They are not the *private*

> It is a purpose of the *ancient institution of property* to protect those claims upon which people rely in their daily lives, reliance that must not be arbitrarily undermined. It is a purpose of the *constitutional right* to a hearing to provide an opportunity for a person to vindicate those claims.[182]

With these two radically different foundations, it is no wonder that American property law has struggled to find a coherent identity.[183] With Utilitarianism as one parent and Liberal Individualism as the other, property law (and the language used to describe it) has floundered in its attempt at conceptual unity and coherence. Merrill explains this struggle through a historical lens:

> [T]he foundation of the public-private distinction was laid at a time when the liberal view was ascendant, with its strong intuitive understanding of private rights as the rights of individuals grounded in natural law. That foundation still exists, but is submerged under a thick stratum of utilitarian theory, with its central assumption that there is no such thing as natural rights, and hence no meaningful distinction between private and public rights.[184]

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unalienable rights of each individual. Hence the legislature as the representatives of the public may restrict and regulate the exercise of those rights in such manner as may be deemed most beneficial to the public at large; provided they do not interfere with vested rights which have been granted to individuals."); *see also Wellness Int'l Network, Ltd*., 135 S. Ct. at 1965 (Thomas, J., dissenting) ("This distinction [between public and private rights] is significant to our understanding of Article III, for while the legislative and executive branches may dispose of public rights at will . . . an exercise of the judicial power is required 'when the government want[s] to act authoritatively upon core private rights . . . .'" (second alteration in original) (quoting Caleb Nelson, *Adjudication in the Political Branches*, 107 COLUM. L. REV. 559, 569 (2007)). More recently, this distinction has been crucial in determining the nature of patent rights. *See, e.g.*, Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC, 138 S. Ct. 1365, 1373–74 (2018) ("This Court has long recognized that the grant of a patent is a 'matte[r] involving public rights.' . . . That right 'did not exist at common law.' . . . Rather, it is a 'creature of statute law.' . . . Accordingly, the determination to grant a patent is a 'matte[r] involving public rights.' . . . It need not be adjudicated in Article III court.") (first quoting United States v. Duell, 172 U.S. 576, 582–83 (1899); then quoting Gayler v. Wilder, 51 U.S. (10 How.) 477, 494 (1851); and then quoting Crown Die & Tool Co. v. Nye Tool & Machine Works, 261 U.S. 24, 40 (1923)).

182. Bd. of Regents v. Roth, 408 U.S. 564, 577 (1972) (emphasis added).

183. Penner also notes that even within BOR itself, the Hohfeld-Honoré synthesis struggles with conflicting approaches to legal theory. "The synthesis rests upon a fairly serious mistake, which is that while the Hohfeldian examination of jural norms is *analytic* if it is anything, Honoré's elaboration of the incidents making up ownership is anything but—it is *functional*." J.E. Penner, *Property*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 277, 279 (footnote omitted).

184. Merrill, *supra* note 69, at 588–89. Hanoch Dagan and Avihay Dorfman provide another take:

> For more than a century, most approaches to the study of private law have been divided . . . into two categories. On the one side are the traditionalists, who argue that private law expresses an apolitical idea of ordering horizontal interactions between

Despite this complexity, Merrill proposes that an analysis of property law within the New Private Law research framework may help untangle these conflicting approaches and provide a solution to circularity.[185] Rather than merely describing private law, the New Private Law aims to explain it. The New Private Law acknowledges the central role of "legal concepts and reasoning" in legal systems while incorporating "understanding of how legal institutions work in practice, of what fact patterns impact judicial psychology, and of which cognitive biases or heuristics are in play."[186] By relying on fields ranging from psychology[187] to systems theory,[188] this research framework takes "institutional constraints seriously as a source of explanation of what we do and do not find" in private law.[189] It is this New Private Law analysis that provides the basis for the rest of this Article.

Functionally speaking, "private law can be said to be the law that supports private ordering" while "public law is the law that generates public goods that must be collectively supplied because they cannot be adequately supplied through private ordering."[190] This functional approach can be visualized as follows: Private law governs the "horizontal relations" between individuals; public law, on the other hand, "governs the "vertical relationship" between the individual and the [state]."[191] In order to live their lives, pursue their goals, and plan for their futures, individuals employ the legal "tools" provided by private law.[192] These tools allow individuals to reasonably rely on "a temporally extended horizon of action."[193] They protect "private authority over resources" and allow individuals "to reliably benefit

> formally free and equal persons. On the other side are critical thinkers and lawyer-economists, who take private law to be nothing more than an offshoot of public law that hides well its fundamentally regulatory orientation.

Hanoch Dagan & Avihay Dorfman, *Just Relationships*, 116 COLUM. L. REV. 1395, 1459 (2016).

185. Merrill, *supra* note 69, at 578.

186. Andrew S. Gold, *Internal and External Perspectives: On Methodology in the New Private Law*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 3–4, 7.

187. *See generally* Tess Wilkinson-Ryan, *Psychology and the New Private Law*, *in* THE OXFORD HANDBOOK OF THE NEW PRIVATE LAW, *supra* note 25, at 125.

188. *See generally* Smith, *supra* note 115.

189. Smith, *supra* note 26, at 1700.

190. Merrill, *supra* note 69, at 578. This functional perspective circumvents the various potentially conflicting definitions of public and private law floating in the American judiciary and academy. Other definitions currently in use include: (a) a mere "classification of different fields of law. Property, contracts, torts, and restitution are generally agreed to be private law. Constitutional, administrative, criminal, and tax law are regarded as public law"; (b) a distinction based on "the presence or absence of the government as a party"; (c) a distinction based on the "source of law," where "[p]rivate law is thought to have its source in customary or common law . . . public law is grounded in positive law enacted by the sovereign"; (d) a distinction based on the "number of persons affected by the individual applications of the law." *Id.* at 576–77.

191. *Id.* at 578.

192. *Id.*

193. Dagan, *supra* note 177, at 178.

from others' promises."[194] Ultimately, as Hanoch Dagan summarized, these tools are "conducive, perhaps crucial, to people's ability to plan."[195]

It is important to note that employing these legal tools does not mean turning to litigation. Quite the opposite. Private law empowers individuals to pursue their goals by protecting their reliance on social behavior. Crucially, private law could not "exist without a significant degree of voluntary compliance," as most private ordering never sees the inside of a lawyer's office, let alone a courtroom.[196] It is a shared understanding about the content of social norms that allows private law to serve as a tool for private ordering, and allows property law, specifically, to serve as a "device for coordinating both personal and impersonal interactions over things."[197]

Unlike public law, which "can deviate more sharply from social norms," private law must comply with three general features to fulfill its role in protecting individuals' reliance interests and in continuously promoting voluntary compliance.[198] Under the New Private Law research framework, private law must: (1) "draw from and reinforce social norms;" (2) "evolve slowly and incrementally;" and (3) "at any point in time enjoy a high degree of consensus about its content."[199]

How does this analysis of private law relate to our discussions of the Fourth Amendment? Let us return to the Supreme Court's untested assumption that prompted this Article. The Supreme Court, in its attempts to avoid circularity, turned to property law as a litmus test to measure society's expectations, which were purportedly insulated from the Court's rulings. Without saying so, the Court assumed that "society's traditional commitments" were "reflected in positive property law"[200] so much so that property law was seen as sufficiently insulated from government manipulation for Fourth Amendment purposes.

In the first half of this Article, I demonstrated how a BOR analysis of property would, if anything, undermine the Court's rationale. This New Private Law analysis, on the other hand, may provide a way in which property law could indeed be sufficiently grounded in social norms to fulfill its role as a solution to doctrinal circularity. Notably, this approach is not foreign to the Supreme Court. In fact, in its Fifth Amendment jurisprudence, the Court has

194. *Id.*

195. *Id.* ("Moreover, contract and alienable property are also key for people's mobility, which is a prerequisite for self-determination . . . .").

196. Merrill, *supra* note 69, at 578.

197. Merrill & Smith, *supra* note 100, at 1850.

198. Merrill, *supra* note 69, at 578.

199. *Id.* ("These features also explain why private law tends to be anchored in history, whether through custom, settled precedent, or the *jus commune* derived from Roman law.").

200. Kahn-Fogel, *supra* note 32, at 133 (noting positive law can be reflected through "statutory law or common law principles").

already relied on property law's foundations in shared social expectations to avoid circularity in cases concerning takings. In *Lucas v. South Carolina Coastal Council*,[201] for example, Justice Kennedy explained the possible circularity in the definition of "reasonable, investment-backed expectations" while also clarifying how property law may provide tools to escape this problem.[202]

Notice that in spite of BOR and the idea that property is a vacuous term with no core features, Justice Kennedy rejected the circular analysis that "property tends to become what courts say it is."[203] He noted that property also relies on "objective rules and customs that can be understood as reasonable by all parties involved."[204] This shared understanding, according to Justice Kennedy, provides an independent—or objective—foundation to property law and serves as a solution to circularity. Justice Kennedy independently deduced Merrill's requirement that private law be based on shared social norms that "enjoy a high degree of consensus about its content."[205] In this way, the Supreme Court has already shown an interest in non-BOR conceptualization of property law to solve problems of circularity.[206]

IV. NEW PRIVATE LAW'S SOLUTION TO CIRCULARITY

In the rest of this Article, I apply a New Private Law analysis of property to avoid circularity by sufficiently grounding it in shared social expectations, which are drawn both from cognitive principles and from the very fabric of

201. Lucas v. S.C. Coastal Council, 505 U.S. 1003 (1992).

202. *Id.* at 1034 (Kennedy, J., concurring in the judgment).

203. *Id.* at 1034–35 ("The Takings Clause, while conferring substantial protection on property owners, does not eliminate the police power of the State to enact limitations on the use of their property. . . . Where a taking is alleged from regulations which deprive the property of all value, the test must be whether the deprivation is contrary to *reasonable, investment-backed expectations*. There is an inherent tendency towards *circularity* in this synthesis, of course; for if the owner's reasonable expectations are shaped by what courts allow as a proper exercise of governmental authority, property tends to become what courts say it is. . . . The definition, moreover, is not circular in its entirety. The expectations protected by the Constitution are based on *objective rules and customs that can be understood as reasonable by all parties involved*.") (emphasis added) (citation omitted).

204. *Id.* at 1035. But note that in other cases, Justice Kennedy's takings reasoning has been deemed "unavoidabl[y]" circular. See Gregory M. Stein, *Takings in the 21st Century: Reasonable Investment-Backed Expectations After* Palazzolo *and* Tahoe-Sierra, 69 TENN. L. REV. 891, 934 (2002), citing Palazzolo v. Rhode Island, 533 U.S. 606 (2001) as a prime example.

205. Merrill, *supra* note 69, at 578.

206. It is also possible that certain takings can be characterized as limits to the private right to contract rather than the removal of a stick in the property bundle. Penner explains that in "the case of rent control . . . "the interference here is not with rights of property, but interference in the *property market*. . . . [It interferes with the market] by directly interfering with the right to make contracts, which is exactly what rent control does." Penner, *supra* note 4, at 815.

our social engagements. Based on this understanding, certain core aspects of property law are emergent from society and from aspects of human cognition. Therefore, without fully manipulating the underlying fabric of society or of human cognition, these core features of property law cannot be altered without also undermining its very role as a tool for private ordering.[207]

It is in this way that property law may indeed serve as a solution to Fourth Amendment circularity. It may also serve as a means to determine when and why property law "keeps easy cases easy."[208] This solution, however, requires a more nuanced and coherent analysis (and language) of property law than the Court currently employs.

A. The Intension and Extension of Property Law

This alternative conceptualization of property law, stemming from the New Private Law research framework, suggests that property rights may be understood as emergent complexes of relations and norms whose internal coherence is meaningful. What may be surprising is that this analysis nonetheless refers to BOR's building blocks, including Hohfeldian jural relations and the Hohfeld-Honoré Synthesis tripartite structure of title.[209] Such building blocks, however, are the emergent features or consequences of underlying property principles rather than property's foundation. To understand how this can be so, it is first important to distinguish between *intensional* and *extensional* definitions. The New Private Law provides an *intension* to property law whereas BOR itemizes property's *extension*. Here, the function of mathematical multiplication serves as an illustrative example.

We know that 1 x 1 = 1, 1 x 2 = 2, and 2 x 4 = 8. Many, if not most of us, were even expected to memorize a full ten-by-ten (or twelve-by-twelve) multiplication table in early childhood.[210] Frequently, children begin to learn the concept of multiplication by simply aggregating individual

207. A more normative take on this argument is "[g]iven that reciprocal respect for self-determination is the premise of private law's own legitimacy, any attempt to recruit private law in defiance of this premise must be treated as ultra vires: it is an abuse of the idea of property or of contract, that is, use of private law for a purpose that contravenes its *telos*." Dagan, *supra* note 177, at 178.

208. Florida v. Jardines, 569 U.S. 1, 11 (2013).

209. The tripartite structure of title, according to Penner's analysis of the Hohfeld-Honoré Synthesis discussed above, is that title contains the "possessory right, namely the right to immediate, exclusive possession," the "power to license others to enter into or take possession whilst retaining title," and "the power to dispose of one's title, by grant of lesser title or transfer outright." PENNER, *supra* note 104, at 6, 13, 15; *see also supra* Section II.B.

210. *See* John Trivett, *The Multiplication Table: To Be Memorized or Mastered?*, FOR LEARNING MATHEMATICS, July 1980, at 21, 21–22; *see also* Rob Eastaway, *In Praise of the 12 Times Table*, BBC NEWS BLOG (Jul. 8, 2013), https://www.bbc.com/news/blogs-magazine-monitor-23230183.

"*multiplication facts*" through "statements like: 'three times two is six.'"[211] Until we understand the underlying process that multiplication is meant to represent, we are simply expected to memorize a set of *facts* in the arbitrary shape of *multiplicand x multiplier = product*.[212]

Is this set of facts truly the definition of multiplication? Your instinct may be that it is not, but to complicate the question further, imagine that this set included the infinite list of all possible multiplication operations. If one had access to this set, one would have access to all possible *multiplication facts*. This infinite set is called the *extensional* definition of multiplication. *Extensional* definitions describe "a concept by enumerating all of its subordinate concepts under one criterion of subdivision."[213] More concretely, a concept's "*extension* is the set of all objects [or facts] in the 'actual' world which fall under the concept."[214]

Notice that if this *extensional* definition were accepted as truth, nothing in the "actual world" would change.[215] All multiplication results would remain the same. Children, however, do not have infinite memory to learn all possible multiplication facts.[216] Yet, they are asked to calculate operations such as 15 x 2, which were never memorized in the first place. How do we know that the answer is 30 without much difficulty? It is because we understand the *intensional* definition of multiplication, the underlying process or rules that multiplication represents (e.g., 15 x 2 = 15 + 15 = 30).[217] By specifying a concept's underlying principles, the concept's "*intension*" can uncover "the set of objects that fall under the concept in '*all* possible worlds,'" even in those we have not yet encountered or memorized.[218] Rather

211. Trivett, *supra* note 210, at 21 (emphasis added).

212. Or factor x factor = product.

213. Georg Löckinger, Hendrik J. Kockaert & Gerhard Budin, *Intensional Definitions*, *in* 1 HANDBOOK OF TERMINOLOGY 61, 67 n.4 (Hendrik J. Kockaert & Frieda Steurs eds., 2015).

214. James A. Hampton, *Concepts*, *in* THE MIT ENCYCLOPEDIA OF THE COGNITIVE SCIENCES 176, 177 (Robert A. Wilson & Frank C. Keil eds., 2001).

215. *Id.*

216. In this way, extensional approaches to multiplication parallel extensional approaches to linguistics and cognition: "[E]xtensional definition[s are] of limited interest from a cognitive point of view and a more fruitful generative approach entails the specification of (finite) [intensional] mechanisms . . . [including] principles of combinations as well as non-terminal symbols over which these mechanisms operate." Karl Magnus Petersson, *On the Relevance of the Neurobiological Analogue of the Finite-State Architecture*, 65 NEUROCOMPUTING 825, 826 (2005).

217. Löckinger et al., *supra* note 213, at 63–64 (explaining that an intensional definition "describes the intension of a concept by stating the generic concept and the delimiting characteristics" where the generic concept is the "superordinate concept").

218. Hampton, *supra* note 214, at 177 (emphasis added). The definitions of intension and extension presented here are philosophical in nature. Nonetheless, the cognitive implementation of these ideas provides the same support for the arguments of this Article. In cognitive science, an intension "resembles a dictionary definition, in that each concept is defined by its relation to others." *Id.* For example, "chairs are for sitting on." *Id.* Meanwhile, an extension is "the class of objects, actions, or situations in the actual external world which the concept represents and to which the

than merely enumerating items that fit within the concept, *intensional* definitions "highlight characteristics that would otherwise be hidden."[219]

In fact, Merriam-Webster defines multiplication through an *intensional* definition: "a mathematical operation that at its simplest is an abbreviated process of adding an integer to zero a specified number of times and that is extended to other numbers in accordance with laws that are valid for integers."[220] This definition allows us to apply the concept of multiplication to scenarios never previously seen. Notably, for our purposes, a well-formed "intensional definition should not be written in a way that makes it *circular* either within itself, in reference to the relevant term or in connection with other intensional definitions of the same language resource."[221]

Circularity, however, is inherent in extensional approaches; extensional concepts are defined as nothing more than their enumerated contents. In other words, extensionally, the answer to whether something falls within concept X can only be answered by looking up whether it falls within concept X.

Applying these ideas to property law, we can see that a realist Hohfeldian BOR conceptualization of property is extensional. BOR "purports to explain or analyse a norm of general applicability as a series of special individual jural relations."[222] The problem here "is that even if we could spell out exhaustively all the jural relations in which A stands, we would have no understanding of the laws that govern A."[223] In other words, the *extensional* enumeration of jural relations does not contain any information with which to determine the *intension* of property, the rules and definitions that govern where, when, and how property rights are found. It is merely circular. Ultimately, as Penner concluded:

> All of this grants the Hohfeldian [theorist] the assumption that, in principle, at any time one could provide a complete snapshot of

concept term therefore refers (Frege's 'reference')." *Id.* For example, the extension of chair is the set of all existing objects that are represented by the concept of chair.

219. Löckinger et al., *supra* note 213, at 67.

220. *Multiplication*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/multiplication (last visited Nov. 13, 2020).

221. Löckinger et al., *supra* note 213, at 72 (emphasis added). It is also important to acknowledge that for every extensional definition there are an infinite number of intensional definitions. For an analysis of a faulty—and circular—implementation of intentional definitions in the context of property law, see João Marinotti, *Possessing Intangibles*, 116 NW. U. L. REV. (forthcoming 2022) (manuscript at 20–21 n. 118–23), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3834643.

222. PENNER, *supra* note 104, at 56. An intensional approach to property could also make use of jural relations and a tripartite structure of title. These elements, however, would not themselves be the *intension* of property; rather, jural relations and structures of title emerge when the intension of property is applied to existing facts.

223. *Id.*

> A's legal position, *expressed* as a series of Hohfeldian jural relations between identified individuals. . . . [But] this does not amount to an *analysis*. It provides no insight into the norms that make up the law and, indeed, it tends to obscure them because, purporting to be fundamental, it suggests that nothing further needs to be said.[224]

Even so, one is left with a lingering question: Is it even possible to find the intension of property, the underlying "norms that make up the law"?[225] As discussed above, many of us were explicitly taught that such a task would be fruitless.[226] But perhaps ambitiously, certain property scholars are attempting to do just that. Acknowledging the intension-extension dichotomy, Smith and Merrill concluded that if the extensional approach "is correct, it is unclear why it makes any sense to devote significant intellectual energy to trying to restate the law of property" with any sort of coherence or purpose.[227] Of course, this is not their position, nor is it mine. Rather, these property scholars believe that there is an *intension* of property law (i.e., an "architecture") that is "grounded in a basic commitment to owners' exclusion rights, modified by select governance regimes that respond to problems generated in part by transaction costs."[228] It is this approach, rooted in the New Private Law research framework, that may provide us with a solution to circularity.[229] Ultimately, the following Section provides a demonstration of what an *intensional* private law of property could look like, and an analysis of how and when property law could solve the problem of circularity.

At this point it is worth remembering that proving or disproving the validity of property law as *intensional* private law or even the validity of the New Private Law research framework is wholly outside the scope of this Article. Rather, I merely aim to determine if there are any mechanisms by which property law could coherently serve as a solution to circularity for the purposes of the Fourth Amendment and beyond. If one seeks to retain the realist bundle-of-rights conceptualization of property, the conclusion of this Article is easy: Property law simply cannot escape circularity. However, if

224. *Id.*

225. *Id.*

226. *See e.g.*, MERRILL & SMITH, *supra* note 71.

227. Merrill & Smith, *supra* note 4, at 683. In fact, the authors have argued that prior restatements of property adopted a "concatenation of rules" conceptualization of property and that this "choice of Hohfeldian framework, interpreted as the bundle of rights—with its atomized legal relations and its reductionist approach to in rem rights—contributed to the shortcomings of the *Restatement of Property*." *Id.* at 683, 707.

228. *Id.* at 708.

229. Smith, *supra* note 26, at 1725 ("[T]he information-cost theory helps hold the New Private Law together."). Furthermore, this *intension* of property law, as expanded in Section IV.B., aligns directly with Merrill's three requisites of private law.

one's Fourth Amendment analyses continue to rely on property law, one must also eschew the bundle-of-rights conceptualization of property.

Those hoping to rely on property must also acknowledge its existence as *intensional* private law. Therefore, the following Section presents one such analysis of property law as *intensional* private law, demonstrating that such conceptualization could, in defined circumstances, aid in avoiding circularity.

B. The Concept of Emergence in Property Law

With the goal of understanding an intensional, non-circular vision of property law, let us begin with a single proposition: "Property law coordinates activities and resolves conflict between members of society over external resources."[230] Put simply, property law allocates the right to use "things."[231] As a form of private law, it concerns the horizontal relationship between individuals granting them the legal tools necessary to pursue their goals.[232] As noted above, to succeed (or even function), private law must (1) align with or reinforce social customs; (2) evolve gradually and iteratively; and (3) "enjoy a high degree of consensus about its content."[233] Such requirements are doubly true of property law, as property is "a platform for the rest of private law."[234] These ideas, however, can quickly unravel if applied haphazardly in the context of property:

> If we think about all the effects produced by the [horizontal] relation between each pair of persons and then unlimited chains of such interactions—*A* sells Blackacre to *B*, who sells to *C*, who mortgages to *D* and rents to *E*, and so on—then prescribing results for such interactions is a potentially intractable problem.[235]

Itemizing the prescribed legal result of each horizontal interaction is, simply, an intractable "nonstarter."[236] It would entail defining the "object of property, specifying the legal interests in it, and providing notice to the relevant parties, including duty bearers and enforcers" for each and every *thing* and every *one* in society.[237] The *in rem* nature of property rights entails "duties owed by the *rest of the world*" to each owner to not deliberately or

230. Smith, *supra* note 17, at 2057.

231. Smith, *supra* note 26, at 1693 ("The purposes of property relate to our interest in using things.").

232. Merrill, *supra* note 69, at 578.

233. *Id.* ("These features also explain why private law tends to be anchored in history, whether through custom, settled precedent, or the *jus commune* derived from Roman law.").

234. Smith, *supra* note 26.

235. *Id.*

236. *Id.* at 1698, 1704.

237. *Id.* at 1698.

carelessly interfere with the owned property.[238] Therefore, every single individual in society is a duty bearer for every owned asset and would, consequently, require notice as a relevant party.[239]

Given this unmanageable complexity, Smith notes that while "it might be interesting to think of property as a list of use rights availing pairwise between all people in society" (i.e., the extensional approach), generating and implementing this list would be an "impossible enterprise."[240] The information cost of this extensional system would be prohibitive; the institution of property law would fail to serve the goal of allocating usage rights.

The role of information costs for a functional and efficient system of property can also be seen in a more concrete example. Imagine that Juliette owns a fully paved parking lot on Blackacre that sits above fresh groundwater.[241] Juliette's parking lot does not need or use the groundwater. Kendra's farm next door, on the other hand, is suffering because of this year's drought and is in desperate need of water. Without water, Kendra cannot grow the heirloom tomatoes that Juliette loves to buy at the local farmer's market. Optimally, the rights to Blackacre's groundwater should be in the hands of Kendra.[242] In a Coasean "zero-transaction-cost world," we would be assured that this optimal allocation of property rights would ultimately be achieved regardless of the initial allotment.[243] But, as Smith has noted, this "is not our world."[244]

In a world of positive transaction and information costs, it may very well be the case that if the water rights were initially granted to Juliette, a bargain between the two would never be struck. Whether this occurs because the two

238. Simon Douglas & Ben McFarlane, *Defining Property Rights*, *in* PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW, *supra* note 117, at 219, 224 (emphasis added).

239. Henry E. Smith, *Emergent Property*, *in* PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW, *supra* note 117, at 320, 336 ("Large numbers of far-flung and impersonal duty bearers cannot be expected to keep track of large amounts of idiosyncratic information.").

240. Smith, *supra* note 26, at 1691, 1704. With zero transaction costs, the initial allocation of property is irrelevant; the optimal allocation of property rights will always be reached. *See generally* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 7 (1960).

241. A skate park is "an outdoor area having structures and surfaces for roller-skating and skateboarding." *Skate Park*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/skate%20park (last visited Dec. 19, 2020). For our purposes, assume that the skate park has not, does not, and will not use any groundwater.

242. If the rights to Blackacre's groundwater were not in Kendra's hands, the water would remain unutilized by Juliette, ensuring suboptimal consequences such as: (i) Kendra would have to spend more money securing access to other sources water, rendering the tomatoes more expensive for Juliette to purchase; or (ii) the tomatoes would be an unprofitable/untenable crop for Kendra to grow at all, leading to the loss of enjoyment by both Kendra and Juliette.

243. Smith, *supra* note 26, at 1704.

244. *Id.*

do not ever talk or because hiring a lawyer to draft the needed contract would be too expensive, the result would be suboptimal.

Thus, the initial allocation of these usage rights is of crucial importance. Of course, an omniscient administrator of property rights would have granted Blackacre's surface rights to Juliette and Blackacre's water rights to Kendra from the very beginning, but such an administrator does not exist. Nor do we live in the impracticable world described above where everyone receives notice of everyone else's *in rem* property rights to be able to bargain for optimal allocation. What, then, is a viable mechanism for property to initially allocate usage rights in a "roughly cost-effective way"?[245]

Because there is no omniscient administrator, property relies on the "shortcut" of exclusion to initially allocate usage rights.[246] Exclusion is a shortcut because it allows "many uses to be protected (indirectly) without the need to spell out most uses individually."[247] It may not always achieve the optimal result (e.g., Juliette's ownership of Blackacre's groundwater), but it is a practicable second-best.[248] Exclusion as a legal shortcut may seem "nasty and selfish, but whether it is efficient, fair, just, or virtue-promoting is sometimes only assessable in the context of the system as a whole."[249]

According to Smith, delineating property rights through exclusion is in fact the process from which the "architecture of property emerges."[250] Counterintuitively, the rights that emerge as a result of this "property process" may resemble those described by BOR.[251] Unlike BOR's bundles, however, which are merely descriptive of the end result, the process by which these rights emerge is generative[252] and the reason for their internal structure

245. *Id.*; *see also* Smith, *supra* note 239, at 330 (noting that exclusion is not an interest, but rather "[o]ur interest in dealing with things is in using them"); Smith, *supra* note 26, at 1705 (noting that property relies on "a use-neutral exclusion strategy, and then refinement through contracts, regulations, common law doctrine, and norms. Exclusion is at the core of this architecture because it is a default . . . . [E]xclusion is a rough first cut—and only that—at serving the purposes of property" (footnote omitted)).

246. Smith, *supra* note 26, at 1704 (noting that exclusion is a "*shortcut* over direct delineation of [a] more 'complete' [i.e., extensional] set of legal relations").

247. Smith, *supra* note 239, at 324 (noting also that "only in especially important contexts does the law focus in on particular uses, through 'off-the-shelf' law (e.g., nuisance, zoning) or parties' contracting").

248. Smith, *supra* note 26, at 1704 ("Rights to exclude are a means to an end, and the ends in property relate to people's interests in using things.").

249. *Id.* at 1718. "For example, the law of trespass "in its individual applications can look very arbitrary, unfair, and even irrational, but it permits owners the space . . . to pursue projects without having to answer to others, thus generally promoting efficiency and liberty." *Id.*

250. *Id.* at 1704; *see also* Smith, *supra* note 239, at 330.

251. Marinotti, *supra* note 221 (manuscript at 46).

252. Henry E. Smith, *On the Economy of Concepts in Property*, U. PA. L. REV. 2097, 2108 (2012) ("[C]oncepts of law should not only generate the desired results but also reflect a general theory of the system. Cognitive science hypothesizes that shortness of description in an agreed upon meta-language corresponds to genuine generalizability.").

is explanatory.[253] Exclusion, however, does require defining the asset from which others are excluded. In other words, exclusion only works as a shortcut if the bounds of the exclusion are clearly delimited. This is where property leverages the concept of salience and our "robust and automatic prelegal intuitions" to sufficiently delineate the things in question.[254]

More generally, the salience of boundaries stems from shared social customs and intuitions. These can be grounded in subconscious cognitive processes or learned associations, whether social, economic, or otherwise. Tangible property, for example, relies heavily on the salience of physical boundaries generated through deep-seeded perceptual biases.[255] Even in infancy, we show a propensity to categorize and assign discrete identities to "solid objects" when they are "cohesive, bounded, spatiotemporally continuous, and solid or substantial."[256] The cognitive salience of tangible boundaries is demonstrated by the fact that even infants "conceptualize solid

253. For a New Private Law-inspired Hohfeldian formulation of property rights, see generally Douglas & McFarlane, *supra* note 238. Douglas and McFarlane conclude that emergent property rights entail a Hohfeldian liberty right to use and a Hohfeldian claim of right to exclude. *See id.* at 224, 226 ("[W]hen an owner claims that he has a 'right to use' his thing . . . he is asserting that he himself is permitted to behave in a certain way . . . . [W]hen A claims that he has a 'right to use' his thing, he is asserting that he is under no legal duty to B, C, D . . . etc. not to use his thing and, in the absence of such a duty, his use is permitted. When an owner asserts a 'right' in this sense, the better word is 'privilege' or [Hohfeldian] 'liberty' . . . . The 'right to exclude', as a claim-right prima facie binding on the rest of the world, correlates to duties owed by the rest of the world to [the owner]. . . . It is the law of torts, therefore, which recognizes that the holder of a clear property right in a thing is owed a legal duty by all others not to physically interfere with the thing.").

254. Merrill & Smith, *supra* note 100, at 1894. For property law's possible connections to evolutionary biology, see, e.g., Jeffrey Evans Stake, *The Property Instinct*, 359 PHIL. TRANSACTIONS ROYAL SOC'Y LONDON: BIOLOGICAL SCIS. 1763, 1763 (2004) ("In denying the importance of the relationship between the person and his things, however, this professional [legal/BOR] view obscures the possibility that the institution of property rests in part on deep-seated connections to and attitudes toward things."); BART J. WILSON, *The Meaning of Property in Things*, *in* THE PROPERTY SPECIES: MINE, YOURS, AND THE HUMAN MIND (2020) (arguing that property has an evolutionary—and therefore instinctual and prelegal—foundation).

255. Note that as used here, bias is *not* normatively negative. Rather perceptual biases are commonly analyzed as "simple heuristics in complex, unfamiliar, uncertain, and/or time-constrained situations because we can only process a limited amount of the available information." Johan E. Korteling, Anne-Marie Brouwer & Alexander Toet, *A Neural Network Framework for Cognitive Bias*, FRONTIERS IN PSYCH. 2 (Sept. 3, 2018), https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01561/full (describing the standard "cognitive-psychological" perspective on cognitive and perceptual biases).

256. Nancy N. Soja, Susan Carey & Elizabeth S. Spelke, *Ontological Categories Guide Young Children's Inductions of Word Meaning: Object Terms and Substance Terms*, 38 COGNITION 179, 183 (1991) (noting that solid objects "move as connected wholes, independently of one another, on connected paths though unoccupied space").

objects in a way that distinguishes them from non-solid substances"[257] and assign value to distinct objects more quickly than to indiscrete substances.[258]

In this way, the property system functions in a world of positive information and transaction costs by first relying on salience to "*define* what a *thing* is in the first place" and then relying on an exclusion strategy as a rough shortcut to grant usage rights to these *defined things*.[259]

James Penner's famous parking lot example illustrates this shortcut in action.[260] Imagine Ana strolling through a parking lot. She walks past a car and, perhaps subconsciously, delineates the boundaries of the car. In this case, delineation is simple because of the perceptual salience of the car's tangible boundaries. Ana does not know whether the car is owned by Carlos, is on loan to Carlos's friend, or whether the car has just been sold to Carlos's coworker. Ana, however, does know two things: (1) the boundary between the outside world and the car; and (2) that Ana herself does not own the car. From these simple facts, Ana (i.e., the non-owner) acknowledges and upholds her duty to not interfere with the car (e.g., by wrecking it or taking it).[261]

It is perhaps too obvious to state, but the bounds of the car are necessary so that Ana can determine where she may and may not encroach. The car's very *thing*hood conveys the content and boundaries of each individual's rights and duties, effectively and efficiently communicating the *in rem* nature of property rights.[262] Thinghood avoids increasing the information cost of a

257. *Id.*

258. Lance J. Rips & Susan J. Hespos, *Concepts of Objects and Substances in Language*, 26 PSYCHONOMIC BULL. & REV. 1238, 1240–41 (2019).

259. Smith, *supra* note 26, at 1725 (emphasis added). *But see* João Marinotti, *Tangibility as Technology*, 37 GA. ST. U. L. REV. 671, 703 (noting that although an intensional approach to property law requires clear boundaries, "tangibility is only *one* manner of delineating boundaries; it is not the *only* manner") (first emphasis added). Salient shared social customs or intuitions may be equally useful in delineating property boundaries. *Id.* at 709.

260. JAMES E. PENNER, THE IDEA OF PROPERTY IN LAW 75–76 (1997) ("As I walk through a car park, my actual, practical duty is only capable of being understood as a duty which applies to the cars there, not to a series of owners. . . . The content of my duty not to interfere is not structured in any way by the actual ownership relation of the cars' owners to their specific cars. . . . Thus transactions between an owner and a specific other do not change the duties of everyone else not to interfere with the property.").

261. Carol M. Rose, *Psychologies of Property (and Why Property is Not a Hawk/Dove Game)*, *in* PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW, *supra* note 117, at 272, 283 ("[M]ost non-owners are not larcenists, and they do not like larcenists. . . . [Y]ou do not have to guard your things all the time, because the 'world' of non-owners respects your ownership.").

262. *See* Smith, *supra* note 239, at 324 ("If A has property in [the car], a cost-effective intension would require the *in rem* aspect of property to specify the duty bearers largely at one stroke, and would rely on the definition of a thing to deal with many resource features at once. . . . Actual property delineation in terms of things and exclusion is a huge short cut over the fully articulated stick-by-stick method of elimination and many less economic intermediate versions as well. Same extension, vastly different intension."). For a new private law-inspired Hohfeldian analysis of property rights, see Douglas & McFarlane, *supra* note 238.

property system by taking advantage of the information already present in our cognition and in society. In fact, property law and the concept of thinghood may rely on external information in the form of moral intuitions,[263] social norms,[264] and physical facts.[265] These various sources of information render the boundary of *in rem* property rights easily discernable by both owners and non-owners, without increasing information costs.

It is by relying on salience and thinghood that property law may escape circularity. By fulfilling Merrill's three requisites of private law, the institution of property may be derived from extralegal sources, shielding it from government or judicial control. Property law must align with, or reinforce, shared social customs or intuitions because its very contents are informed by these same shared social customs or intuitions. Property law evolves iteratively as society's shared social customs gradually change to address societal and technological advancements. And finally, property law "enjoy[s] a high degree of consensus about its content"[266] because without such consensus, high information costs would render it a dysfunctional foundation for the rest of private law.

1. The Fourth Amendment's Reliance on the Hubs and Spokes of Property

This Article could simply conclude that because the New Private Law's vision of property relies on extralegal facts, such conceptualization avoids circularity. But the reality is not that simple. While it is true that underlying cognitive principles may be outside the influence of government action, the same is not true of economic or social customs. This is cause for concern if it reopens the door to circularity. As noted above, problematic circularity in the Fourth Amendment context extends to *attitudinal* circularity: "[T]he content of the doctrine would still depend on the content of the doctrine, just with the additional step of popular expectations [of privacy] being influenced

263. Merrill & Smith, *supra* note 100, at 1890–91 ("Simple and robust everyday moral intuitions provide crucial support for the core of property—the right to exclude from a thing, good against the world.").

264. Ori Friedman & Karen R. Neary, *First Possession Beyond the Law: Adults' and Young Children's Intuitions About Ownership*, 83 TUL. L. REV. 679, 684 (2009) ("[F]our- and five-year-olds' intuitions about property disputes may be consistent with those of adults and also consistent with basic principles of property law. The children's preference for the first possessor over the initial pursuer is striking because it seems unlikely that children were explicitly taught how to settle such property disputes.").

265. Andrew Guthrie Ferguson, *Personal Curtilage: Fourth Amendment Security in Public*, 55 WM. & MARY L. REV. 1283, 1314 (2014) ("Property law established physical boundaries, so that one property could be distinguished from another.").

266. Merrill, *supra* note 69, at 578 ("These features also explain why private law tends to be anchored in history, whether through custom, settled precedent, or the *jus commune* derived from Roman law.").

by, and in turn influencing, doctrine."[267] Similarly, if the content of property rights ultimately and solely depends on doctrine, just with the additional step of social custom "being influenced by, and in turn influencing, doctrine,"[268] property law would be just as circular.

The question, then, is whether (or when) property doctrine and social customs are vulnerable to government manipulation. In spite of the daunting nature of this question, New Private Law research is beginning to address this topic through the use of complex systems theory.[269] This research aims to understand the connection between underlying social and doctrinal conditions and the emergent system of private law as a whole.[270] While this research is still in its infancy, what is known is that the aspects of property law "that are highly interconnected with the rest of the system" are more entrenched and therefore riskier and more "difficult to change."[271] The "fear of unintended consequences" holds judges and legislators from manipulating such core interconnected elements of property law.[272] To illustrate this point, Yun-chien Chang and Smith expand on the highly interconnected concept of possession:

> [P]ossession is a fundamental concept and lawmakers worry that changes in definition may bring unintended consequences. . . . Aspects of possession intersect with bailment and with agency, security interests, and the like. A change in the definition of possession might have implications throughout property law, which might require adjustment in those areas.[273]

Unlike possession, however, isolated property doctrines (e.g., "features of co-ownership such as sale, partition, and condominium") may be more easily targeted by a judge or legislator and subjected to policy manipulation

267. Kugler & Strahilevitz, *supra* note 21, at 1753.

268. *Id.*

269. *See generally* Smith, *supra* note 115. Especially in the context of evolving technologies, the role of private law is complicated. On the one hand, private law generally adopts existing social customs, but if consensus does not yet exist, private law may help establish new customs. In this latter "mode," private law would potentially be as circular as BOR. Distinguishing between the adopting and creating modes of private law warrants further research.

270. *Id.* at 151 ("Systems theory can be used to help develop rules of thumb for pushing evolution [of private law] in certain directions. To begin with, change will be easier to accomplish for those aspects of the system that are less interconnected. . . . [M]ajor changes will be riskier the more they touch on highly connected parts of the system. Complex systems are not immune to reform, but we could be clearer about when and how much we should worry about unintended effects." (footnote omitted)).

271. Yun-chien Chang & Henry E. Smith, *Convergence and Divergence in Systems of Property Law: Theoretical and Empirical Analyses*, 92 S. CAL. L. REV. 785, 789 (2019).

272. *Id.* at 795.

273. *Id.* at 801–02.

without fear of unintended consequences.[274] As such, isolated doctrines are much more susceptible to governmental policy decisions.[275]

The crucial distinction is between central *interconnected* doctrines of property law and *isolated* ones. This distinction can be visualized as the hubs and spokes of a wheel: Central interconnected doctrines are hubs that influence a high number of other doctrines while isolated doctrines are spokes that cite to hub doctrines but are not themselves relied upon by other property doctrines.

Perhaps, then, Justice Scalia's analysis that the "Fourth Amendment's property-rights baseline" is helpful because it "keeps easy cases easy" should be reframed.[276] Rather than distinguishing between easy and hard cases, the law should distinguish between cases that rely on property's *interconnected* doctrines and those that rely on *isolated* ones.

In practice, however, property doctrines are not binarily categorized. Rather, doctrines in a complex system lie on a spectrum between interconnected and isolated. Thankfully, the nuances of the rule against perpetuities, or any other isolated doctrine, are rarely the crux of a Fourth Amendment question. In *United States v. Jones*,[277] for example, Justice Scalia relied on questions of possession and trespass—some of the most central of property doctrines[278]—to render a Fourth Amendment decision.[279] He noted that the government "trespassorily inserted the information-gathering device," a GPS tracker, into Jones's Jeep while it was in his possession.[280] It was by "physically occupy[ing] private property for the purpose of obtaining information" that the police had violated the Fourth Amendment.[281]

In *Byrd v. United States*,[282] the Court relied on the core property "right to exclude" and the concept of possession in determining that "a driver has a reasonable expectation of privacy in a rental car [even] when he or she is not listed as an authorized driver on the rental agreement."[283] In *Rakas v.*

274. *Id.* at 808.

275. *Id.* at 789 (e.g., "the contractual aspects of leases").

276. Florida v. Jardines, 569 U.S. 1, 11 (2013).

277. 565 U.S. 400 (2012).

278. Chang & Smith, *supra* note 271, at 801–02.

279. United States v. Jones, 565 U.S. 400, 404–05 (2012).

280. *Id.* at 410.

281. *Id.* at 404; *see also* Andrew Guthrie Ferguson, *The Smart Fourth Amendment*, 102 CORNELL L. REV. 547, 572 (2016) ("Justice Scalia reiterated the importance of the term 'effect' and its close association with the protection of private property" when deciding *Jones*).

282. 138 S. Ct. 1518 (2018).

283. *Id.* at 1523–24; *see also id.* at 1527 ("The two concepts in cases like this one are often linked. 'One of the main rights attaching to property is the right to exclude others,' and, in the main, 'one who owns or lawfully possesses or controls property will in all likelihood have a legitimate

Illinois,[284] a case similar to *Byrd* but instead involving a passenger rather than a driver, the Court again found that core property law doctrines were dispositive; the defendants had "asserted neither a property nor a possessory interest in the automobile," so no Fourth Amendment violation occurred.[285]

Ultimately, these questions relied on the concepts of thinghood, possession, and the right to exclude, which are some of the most interconnected of the core property doctrines. It is in *these* cases that property law can indeed serve as a solution to circularity. These are cases that rely on property's unquestionable core. Such an analysis of property and circularity is even helpful when the Court engages with emerging technologies as the following Section demonstrates.

2. Emerging Technology & Emergent Law

As Justice Scalia noted, "[i]t would be foolish to contend that the degree of privacy secured to citizens by the Fourth Amendment has been entirely unaffected by the advance of technology."[286] This is not the first time that Justices on the Supreme Court have discussed the relationship between emerging technologies, privacy, and the Fourth Amendment.

Notably, in 1928, Justice Brandeis urged courts to "protect our liberties as technology advances" by ensuring that "every unjustifiable intrusion by the Government upon the privacy of the individual, *whatever the means employed*, must be deemed a violation of the Fourth Amendment."[287] Justice Brandeis's words were unfortunately not heeded and, nearly a century later, we have yet to adopt a coherent approach to future-proof the Fourth Amendment in the face of a digital revolution.[288] This is an increasingly pressing problem as the "[t]echnology now exists that can support mass DNA

expectation of privacy by virtue of the right to exclude.' This general property-based concept guides resolution of this case." (quoting Rakas v. Illinois, 439 U.S. 128, 144 n.12 (1978)).

284. 439 U.S. 128 (1978).

285. *Id.* at 148.

286. Kyllo v. United States, 533 U.S. 27, 33–34 (2001) ("The question we confront today is what limits there are upon this power of technology to shrink the realm of guaranteed privacy.").

287. Kerr, *supra* note 80, at 804 (quoting Olmstead v. United States, 277 U.S. 438, 478 (1928) (Brandeis, J., dissenting) (emphasis added)). Kerr noted that the "popular" view that the "Fourth Amendment should be interpreted broadly in response to technological change has been embraced by leading theorists of law and technology such as Lawrence Lessig, leading constitutional law figures such as Laurence Tribe, and nearly everyone else who has written on the intersection of technology and criminal procedure." *Id*. (footnotes omitted) (citations omitted).

288. Raymond Shih Ray Ku, *The Founders' Privacy: The Fourth Amendment and the Power of Technological Surveillance*, 86 MINN. L. REV. 1325, 1325 (2001) ("With respect to the Fourth Amendment since the invention of the telephone, judges and scholars have debated over how to translate a document originally adopted with the investigative tools of the eighteenth century in mind to the current state of the art."); *see also* Kerr, *supra* note 80, at 888 ("New technologies may reveal the limits of the modern enterprise of constitutional criminal procedure," including the Fourth Amendment.).

testing, biometric scanning, and physical implants that can continuously monitor persons and objects."[289] In spite of this reality, it is nonetheless the "traditional responsibility" of courts to vigilantly hold the government accountable for abuses regardless of the technology used.[290]

In tackling this problem, the Court has come to acknowledge that "digital is different"[291]—that "new technologies will not be controlled by analog legal precedents."[292] But that does not mean that the Fourth Amendment's problem of circularity has vanished, nor does it mean that property law is irrelevant as a potential solution. As the following cases demonstrate, emerging technologies will continue to engender Fourth Amendment questions in which property law may successfully allow the Court to avoid circularity. In *Kyllo v. United States*,[293] the Court confronted police use of a thermal imager. The device detected infrared radiation, which, by sensing a particular type of heat emanating from Kyllo's home, allowed the police to conclude that Kyllo was growing marijuana.[294]

Writing for the Court, Justice Scalia concluded that because the police explored "details of the home that would previously have been unknowable without *physical intrusion*," i.e., trespass in violation of the owner's right to exclude, "the surveillance [was] a 'search' and [was] presumptively

289. Thomas K. Clancy, *The Fourth Amendment as a Collective Right*, 43 TEX. TECH L. REV. 255, 274 (2010).

290. Terry v. Ohio, 392 U.S. 1, 15 (1968) ("Under our decision, courts still retain their traditional responsibility to guard against police conduct which is overbearing or harassing, or which trenches upon personal security without the objective evidentiary justification which the Constitution requires. When such conduct is identified, it must be condemned by the judiciary and its fruits must be excluded from evidence in criminal trials."); *see also* Boyd v. United States, 116 U.S. 616, 635 (1886) ("It is the duty of courts to be watchful for the constitutional rights of the citizen, and against any stealthy encroachments thereon.").

291. Andrew Guthrie Ferguson, *Future-Proofing the Fourth Amendment*, HARV. L. REV. BLOG (Jun. 25, 2018), https://blog.harvardlawreview.org/future-proofing-the-fourth-amendment/; *see also* Andy Greenberg, *Why the Supreme Court May Finally Protect Your Privacy in the Cloud*, WIRED (June 26, 2014, 11:13 AM), https://www.wired.com/2014/06/why-the-supreme-court-may-finally-protect-your-privacy-in-the-cloud/.

292. Ferguson, *supra* note 291 ("[T]he *Carpenter* majority resisted a 'mechanical interpretation of the Fourth Amendment' insisting that the 'new,' 'novel,' 'unique,' 'seismic' change in technologies warrants a different outcome. This recognition of digital transformation signals a new openness to ensure that the Fourth Amendment protects the digital lives of citizens.").

293. 533 U.S. 27 (2001).

294. *Id.* at 29–30 (2001) ("[The] thermal imager[] detect[s] infrared radiation, which virtually all objects emit but which is not visible to the naked eye. The imager converts radiation into images based on relative warmth—black is cool, white is hot, shades of gray connote relative differences. . . . The scan of Kyllo's home took only a few minutes and was performed from the passenger seat of [the police's] vehicle across the street . . . . The scan showed that the roof over the garage . . . [was] relatively hot compared to the rest of the home and substantially warmer than neighboring homes . . . . [The police] concluded that petitioner was using halide lights to grow marijuana in his house, which indeed he was.").

unreasonable without a warrant."[295] In his typical style, Justice Scalia even noted that thermal imagers would reveal "at what hour each night the lady of the house takes her daily sauna and bath."[296] He acknowledged that in the past, "[v]isual surveillance was unquestionably lawful because 'the eye cannot by the laws of England be guilty of a trespass,'" but noted that Fourth Amendment jurisprudence has since significantly evolved, especially in light of emerging technologies.[297] Despite the complex technologies and evolving jurisprudence, the Court turned to the core interconnected doctrines of property law.

Similarly, in *Jones*, the Court confronted the police's "attachment of a Global–Positioning–System (GPS) tracking device to an individual's vehicle, and subsequent use of that device to monitor the vehicle's movements on public streets."[298] Here too, the issues raised by emerging technologies were solved by core property questions. As noted above, the Court found that the government "trespassorily inserted" the GPS tracking device into Jones's car while it was in his possession.[299] It was by "*physically occupy[ing] private property* for the purpose of obtaining information" that the police violated the Fourth Amendment.[300]

These cases demonstrate that although emerging technologies may continue to raise Fourth Amendment questions of first impression, property law will continue to play a role in the Court's analyses. Consequently, even in such cases, a coherent, non-circular approach to property law should be adopted.

It is noteworthy, however, that the increasingly ubiquitous "smartphones, fitness trackers, enchanted pill bottles, smart cars, and even smart refrigerators" currently in use already grant the government the ability to track "personal information, patterns, and activities" by merely accessing digital information online.[301] To determine our Fourth Amendment protections in the context of our growing data trails and in the context of the government's digital surveillance operations, then, the questions of relevance include:

> [I]s the data trail from an implanted "smart" heart monitor protected as part of the "person" as understood in the Fourth Amendment? Is the engine data emitting from a smart car

295. *Id.* at 40 (emphasis added).

296. *Id.* at 38.

297. *Id.* at 31–32 (quoting Boyd v. United States, 116 U.S. 616, 628 (1886)).

298. United States v. Jones, 565 U.S. 400, 402 (2012).

299. *Id.* at 410.

300. *Id.* at 404 (emphasis added); *see also* Ferguson, *supra* note 281, at 572 ("Justice Scalia reiterated the importance of the term 'effect' and its close association with the protection of private property" when deciding *Jones*).

301. Ferguson, *supra* note 281, at 548.

> analytically distinct from the "effect" that is the car? Is a digital business record any different from the physical document that might otherwise fall under the "papers" protection of the Fourth Amendment?[302]

Because data is not (yet) generally accepted as a form of property in the United States,[303] a static "blind application" of precedent will "not offer much Fourth Amendment protection."[304] In *Carpenter v. United States*,[305] the Court ran directly into this concern when the government accessed "historical cell phone records [i.e., data] that provide a comprehensive chronicle of the user's past movements."[306] Ferguson summarized the Court's property-law-less analysis:

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302. *Id.* at 550.

303. It is noteworthy that while a few courts have treated data and non-rival electronic documents as property for the purposes of conversion, there is significant disagreement among courts and commentators. *See, e.g.*, Thyroff v. Nationwide Mut. Ins. Co., 864 N.E.2d 1272, 1278 (N.Y. 2007) ("[E]lectronic documents . . . can also be converted by simply pressing the delete button."); Integrated Direct Mktg., LLC v. May, 495 S.W.3d 73, 76 (Ark. 2016). *But see* Epic Sys. Corp. v. Tata Consultancy Servs. Ltd., No. 14-cv-748-wmc, 2016 WL 4033276, at *27 (W.D. Wisc. July 27, 2016) ("[T]here is, at least so far, no support from Wisconsin courts for such an expansion of this state's common law [to recognize conversion claims of electronic data]."); Wells v. Chattanooga Bakery, Inc., 448 S.W.3d 381, 392 (Tenn. Ct. App. 2014). Some commentators believe that many more forms of data deserve property protections (as distinct from IP protections). *See, e.g.*, Lawrence Lessig, *The Architecture of Privacy*, 1 VAND. J. ENT. L. & PRAC. 56, 63 (1999) ("Information is an asset. . . . So the trick is to construct a regime where those who would use the data internalize this cost, by paying those whose data are used. The laws of property are one such regime."); *see also* Paul M. Schwartz, *Property, Privacy, and Personal Data*, 117 HARV. L. REV. 2056, 2125 (2004) (concluding that a "strong conception of personal data as a commodity is emerging in the United States"). But others fear the inherent dangers and conceptual hurdles of creating or finding property rights in data. *See* Pamela Samuelson, *Privacy as Intellectual Property?*, 52 STAN. L. REV. 1125, 1129, 1142 (2000) ("A property rights model for protecting personal data nevertheless presents many problems. . . . [Specifically, it presents problems] to those who consider information privacy to be a fundamental civil right."). Note, too, that certain scholarly attempts at granting property rights over non-rival digital assets do so by first converting them into rival assets. *See, e.g.*, Jeffrey Ritter & Anna Mayer, *Regulating Data as Property: A New Construct for Moving Forward*, 16 DUKE L. & TECH. REV. 220, 263 (2018) (suggesting that "[w]hile conventional discussions suggest data files can be duplicated, when properly enveloped or associated with related metadata and provenance, and bundled by suitable encryption or other controls, any data file can, in fact, be unique and incapable of perfect duplication"). The sheer number of competing viewpoints among courts and academics demonstrates that resource management of non-rival digital assets deserves significant attention. The question, though, is not whether such resources require an efficient management regime (they do); but rather, the question is whether data fits within the property law framework, including its doctrines, underlying policies, and emergent effects. Given the current scope of disagreement, it is unlikely that the Fourth Amendment will be applied to data through the lens of property law at any time in the foreseeable future.

304. Ferguson, *supra* note 281, at 574.

305. 138 S. Ct. 2206 (2018).

306. *Id.* at 2211 ("Each time the phone connects to a cell site, it generates a time-stamped record known as cell-site location information (CSLI).").

> Courts are to ask whether individuals have a reasonable expectation of privacy in personal data held by third parties. . . . [T]he *Carpenter* Court found a sufficient reasonable expectation of privacy in cell phone consumers' location data to warrant Fourth Amendment protection. . . . [A] digital-*Katz* test emphasizes the importance of examining the specific technology at issue. In the cell-phone case, the Court seemed persuaded that . . . on balance this particular . . . technology violated an expectation of privacy.[307]

Note that this digital-*Katz* test suffers from the same circularity concerns as the analog one. Its reliance on a reasonable expectation of privacy test raises the very same circular analyses. The Court, however, declined to address this known issue. Even Justice Scalia realized that for cases involving purely digital surveillance or "[s]ituations involving merely the transmission of electronic signals without trespass," the Court would have nothing but the "*Katz* analysis" to rely on.[308] In these cases, property law may not be able to help the Court avoid circularity in the same way, but that does not mean we should succumb to a "doctrinally circular, or tautological,"[309] and consequently "subjective and unpredictable" Fourth Amendment.[310] It does mean, however, that more work is necessary.[311]

Although a thorough analysis of digital criminal procedure is outside the scope of this Article, it is all but certain that criminal investigations will continue to rely on physical objects, at least insofar as the ones and zeros of digital information must still be stored and processed in a physical medium. Even without determining whether data is property, courts will undoubtably continue to apply property concepts in their analysis of whether hacking and other forms of digital surveillance violate property law and therefore trigger Fourth Amendment protections.[312] Thus, insofar as criminal investigations

307. Ferguson, *supra* note 291.

308. United States v. Jones, 565 U.S. 400, 411 (2012).

309. Kahn-Fogel, *supra* note 32, at 103 (footnote omitted).

310. Kyllo v. United States, 533 U.S. 27, 34 (2001).

311. Unfortunately, though, "[j]udicial decisions tend to incorporate outdated assumptions of technological practice, leading to rules that make little sense in the present or future." Kerr, *supra* note 80, at 807. Therefore, a comprehensive approach involving judges, policymakers, and academics may prove to be a better path than a passive reliance on case-by-case evolution for the Fourth Amendment in the context of digital surveillance. But this, certainly, is beyond the scope of this Article.

312. *See e.g.*, Microsoft Corp. v. Does 1–2, No.1:16-cv-993 (GBL/TCB), 2016 WL 9334654, at *1 (E.D. Va. Aug. 12, 2016) (order granting preliminary injunction) ("There is good cause to believe that Defendants [botnet hackers] have engaged in and are likely to engage in acts or practices that . . . constitute trespass to chattels, unjust enrichment and conversion . . . ."); Tom Burt, *New Action to Combat Ransomware Ahead of U.S. Elections*, MICROSOFT ON THE ISSUES (Oct. 12, 2020), https://blogs.microsoft.com/on-the-issues/2020/10/12/trickbot-ransomware-cyberthreat-us-elections/.

will continue to rely on physical objects, they will continue to raise questions of property law. When they do, the New Private Law property framework may offer a better guide to avoid circularity, decrease subjectivity, and increase predictability.

CONCLUSION

Property law is commonly promulgated as a solution to the Fourth Amendment's circularity problem. Concealed in this analytical move is an assumption that property law is not, itself, circular. The commonly cited bundle-of-rights conceptualization of property, however, *is* circular and smuggles with it the very same "problem"[313] that renders the Fourth Amendment "subjective and unpredictable."[314] In exploring this problem, this Article adopted the perspectives and concerns of Justices Scalia, Thomas, Kennedy, and Gorsuch, among others, to highlight the incompatibility of the Court's current approach toward property law in the Fourth Amendment. Thus, without determining whether *Katz* is indeed circular, whether circularity is itself a problem, or whether property norms should define privacy rights, this Article analyzed the coherence of property law's assumed role in the Fourth Amendment.

This Article concludes that in spite of the metaphor's near ubiquity, the bundle-of-rights conceptualization of property is neither a sufficiently robust theory nor is it faithfully applied by the courts. Ultimately, the bundle's reliance on an extensional descriptive theory of property renders it impotent against circularity and fails to provide determinate answers in the Fourth Amendment context. Instead, an intensional approach to the private law of property more closely aligns with the behavior of courts and provides a more coherent way to avoid circularity. By incorporating findings from cognitive science, sociology, and complex systems theory, the New Private Law research framework demonstrates how core interconnected doctrines of property law are emergent and largely insulated from judicial and legislative manipulation. The interconnected nature of property law means that small changes to its foundations could have cascading economic and social effects across the legal system. Thus, judges and legislators across the world avoid manipulating these foundational concepts of property law for fear of unintended consequences, as recent empirical evidence has shown.[315] In this way, property law's foundational doctrines are indeed insulated and *can* serve as a solution to circularity in the Fourth Amendment context. An unintended benefit of this approach is that it also generates a prescriptive

313. Carpenter v. United States, 138 S. Ct. 2206, 2245 (2018) (Thomas, J., dissenting).

314. *Kyllo*, 533 U.S. at 34.

315. *See generally* Chang & Smith, *supra* note 271.

definition of property rights, enabling property law to provide more determinate answers to both current and future Fourth Amendment questions. More broadly, this approach may also enable a coherent means to address the role of property law in other public constitutional law contexts.

Such solutions, however, require that judges and legislators acknowledge the deficiencies of the realist bundle-of-rights approach to property law. In so doing, they would pave the way for a more robust, nuanced, and intensional definition of property. It is only through this intensional approach that property law can avoid circularity, decrease subjectivity, and increase predictability in both private and public law.