

DIGITAL BAILMENTS

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ABSTRACT

We send e-mails using Google's Gmail, access the Internet through Verizon's towers, and host our private files on Dropbox's drives. Against this backdrop, the Fourth Amendment faces a digital paradox: because a user's "reasonable expectation of privacy" defines its protections, users have no privacy. Users cannot expect privacy when they voluntarily disclose documents to third parties. If we base our privacy from the Government on our privacy from tech companies, then we are left with none at all.

This Article advocates a different approach. For almost a decade, the Supreme Court has suggested that property rights provide an alternate path to Fourth Amendment protections. But neither jurists nor scholars have yet tried to apply this doctrine to digital papers. This Article suggests three guiding principles. First, constitutional property protections depend on underlying state property rights. Though the constitutional protections remain the same, the underlying ownership rights shift as we adopt and discard new property law. Second, and surprisingly, the Court has never defined when a property right proves sufficiently house-, paper-, or effect-like to create a constitutional interest. But common law materials, caselaw, and scholarship all indicate that the right to exclude others makes something your property. Third, modern laws like the Stored Communications Act grant information sources the right to prevent recipients from propagating that information. This exclusion right triggers constitutional property protections.

With this new foundation for a property-focused digital Fourth Amendment, hopefully we can reclaim in some small measure what Samuel Warren and Louis Brandeis called "the right to be let alone."¹

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¹ Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 193 (1890).

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INTRODUCTION

Recently in the *Harvard Law Review*, Professor Susan Freiwald and retired Magistrate Judge Stephen William Smith criticized the Supreme Court for its slow reaction to developing technology.² As the authors point out, in just one year, police sought cellular tracking information more than 120,000 times.³ Given that law enforcement often requests information for multiple phones, they estimate that the government may have illegally obtained *four million* reports since 2001. This staggering intrusion on citizens' private lives would horrify the Founders.

While many Americans have accepted living their lives on Facebook, Twitter, Instagram, and whatever new social media platform finds purchase, it seems unlikely that Americans have fully absorbed the implications. Pervasive digital surveillance means the Government knows when we visit a therapist and when we visit a drug store. It means the Government knows what books we download to our Kindles and what movies we watch on Netflix.

The Constitution poses no obstacle to Government's all-seeing eye. Under current Fourth Amendment doctrine, defined by Justice Harlan in *Katz v. United States*, we retain constitutional rights only for those things that we can reasonably expect will remain private.⁴ And we cannot reasonably expect that our data will remain private when held by third parties.⁵ In a world where Verizon compiles our cell phone records, Google scans our e-mail, and Amazon maintains our reading lists, what data is *not* held by third parties?

The Court has recently tried to build substantive limits into the third-party doctrine,⁶ but the extent and effectiveness of those limits will remain

² See Susan Freiwald & Stephen Wm. Smith, *The Carpenter Chronicle: A Near-Perfect Surveillance*, 132 HARV. L. REV. 205, 231–35 (2018).

³ See *id.*, at 232 (citing Brief of Amici Curiae Electronic Frontier Foundation et al. in Support of Petitioner at 13–14, *Carpenter v. United States*, 138 S. Ct. 2206 (2018) (No. 16-402)).

⁴ See *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring) (“My understanding of the rule that has emerged from prior decisions is that there is a twofold requirement, first that a person have exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as ‘reasonable.’”).

⁵ See *Smith v. Maryland*, 442 U.S. 735, 743–44 (1979) (“This Court consistently has held that a person has no legitimate expectation of privacy in information he voluntarily turns over to third parties.”).

⁶ See *Carpenter v. United States*, 138 S. Ct. 2206, 2217 (2018) (“[W]hen *Smith* was decided in 1979, few could have imagined a society in which a phone goes wherever its owner goes, conveying to the wireless carrier not just dialed digits, but a detailed and comprehensive record of the person's movements. We decline to extend *Smith* and *Miller* to cover these novel circumstances.”).

unclear for many years. Often by the time the Court addresses an issue, the world has moved on. Before cell phones, pagers were used by tens of millions of Americans.⁷ Perhaps due to their frequent use by drug dealers,⁸ the lower courts often resolved disputes over pager searches.⁹ Yet the Supreme Court first addressed pager searches in 2010,¹⁰ nearly a decade after the *New York Times* noted declining usage numbers¹¹ and more than three years after Steve Jobs took the stage to announce the iPhone.¹²

But we cannot fault the Court, at least not the current Court. Rather, *Katz* itself creates the problem. Under *Katz*, constitutional standards depend on “reasonable expectations of privacy.” But how can the Court determine those expectations before technology matures and society’s relationship with it stabilizes?¹³ Even more disturbing: What if law enforcement never permits a privacy culture to develop around a new technology? With interminable intrusions and relentless records requests, can law enforcement prevent a stable societal expectation that online lives will remain private?¹⁴ Privacy law necessarily entails uncertainty.

By contrast, property law provides certainty by design. Law students struggling with the fee tail, the remainderman, and the contingent

⁷ See Jeffrey Selinger, *The Bell Is Tolling for the Beeper*, N.Y. TIMES (Apr. 11, 2002), <https://www.nytimes.com/2002/04/11/technology/the-bell-is-tolling-for-the-beeper.html> (discussing the rise and fall of the beeper).

⁸ See Jonathan M. Moses, *Message Is Out on Beepers*, WASH. POST (July 11, 1988), <https://www.washingtonpost.com/archive/politics/1988/07/11/message-is-out-on-beepers/58840caa-523e-413b-9224-60ad94d7803f/> (“[F]ederal narcotics agents estimate that at least 90 percent of drug dealers use [pagers].”).

⁹ See, e.g., *United States v. Romero-Garcia*, 991 F. Supp. 1223 (D. Or. 1997), *aff’d on other grounds*, 168 F.3d 502 (9th Cir. 1999) (analyzing the reasonableness of beeper searches); *United States v. Reyes*, 922 F. Supp. 818 (S.D.N.Y. 1996) (conducting a similar analysis); *United States v. Blas*, No. 90-CR-162, 1990 WL 265179 (E.D. Wis. Dec. 4, 1990) (conducting a similar analysis).

¹⁰ See *City of Ontario v. Quon*, 560 U.S. 746 (2010) (deciding on the reasonableness of pager searches).

¹¹ See Selinger, *supra* note 7 (noting that the number of pager users declined by eight million between 1998 and 2000).

¹² See John Markoff, *Apple Introduces Innovative Cellphone*, N.Y. TIMES (Jan. 10, 2007), <https://www.nytimes.com/2007/01/10/technology/10apple.html> (discussing Apple’s introduction of the new cellphone).

¹³ See *United States v. Jones*, 565 U.S. 400, 427 (2012) (Alito, J., concurring) (“[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. Dramatic technological change may lead to periods in which popular expectations are in flux . . .”).

¹⁴ Cf. *Zadeh v. Robinson*, 902 F.3d 483, 499 (5th Cir. 2018) (Willett, J., concurring) (“[C]onstitutional litigation increasingly involves cutting-edge technologies. If courts leapfrog the underlying constitutional merits in cases raising novel issues like digital privacy, then constitutional clarity . . . remains exasperatingly elusive. Result: blurred constitutional contours as technological innovation outpaces legal adaptation.”). But see Jed Rubenfeld, *The End of Privacy*, 61 STAN. L. REV. 101, 107 (2008) (suggesting that the Court understands the “logical trap” of considering police officer conduct and avoided it by rooting their analysis in broader societal expectations).

beneficiary can be forgiven their skepticism. But if we see a house, we need not ask whether someone has an expectation of privacy in it, or whether society would call that expectation reasonable. “If the property exists, then property rights exist”¹⁵ Because the house is property, *someone* owns it. It might belong to an individual or family, possibly a bank, or maybe the state. But someone. As Professor James Stern puts it: “For each thing in existence, the law of property tells us who is in charge and to what extent as well as who has authority to decide how the thing will be used when disputes over use arise.”¹⁶ By shifting the focus from privacy to property, the contours of the right should stabilize earlier and more firmly than under *Katz*.

Nor should we worry that building up property law will tear down privacy law. Property law enhances privacy.¹⁷ When I shut the door to my house, I expect that criminal trespass law (and a stout deadbolt) will repel intruders. Property law (and the intruder’s concern that I might have a shotgun) thereby enhances my privacy. Revitalizing Fourth Amendment property precedent can only serve our “right to be let alone.”¹⁸

But property law’s application to the Fourth Amendment and particularly to digital technology requires defining digital property rights. In Part I, this Article looks to how we determine property rights generally. Specifically, what law applies? Common law as it existed at the Founding, positive law that has developed since that time, or some combination? In Part II, this Article considers which property rights engage the Fourth Amendment’s protections. In Part III, it examines modern statutory schemes and considers whether they trigger the property rights described in Part II. In Part IV, it considers whether digital documents are Fourth Amendment papers. In Part V, it considers the specific data types commonly created by modern technology, like cloud files, e-mails, other messaging files, and metadata.

I. EVER ANCIENT OR EVER NEW?

After decades with *Katz*’s “reasonable expectation of privacy” as the principal test for the Fourth Amendment, the Supreme Court has revitalized

¹⁵ James Y. Stern, *Property’s Constitution*, 101 CAL. L. REV. 277, 317 (2013).

¹⁶ *Id.* at 294.

¹⁷ See, e.g., Orin S. Kerr, *The Curious History of Fourth Amendment Searches*, 2012 SUP. CT. REV. 67, 94–95 (2012) (explaining the positive law model for the Fourth Amendment, where “the government violates a reasonable expectation of privacy when it violates the suspect’s rights under some source of nonconstitutional law such as property law”).

¹⁸ Warren & Brandeis, *supra* note 1.

property rights as another protection for private interests.¹⁹ In *United States v. Jones*, the Supreme Court emphasized that this approach remained viable and indeed never lapsed, but rather fell into disuse after *Katz*.²⁰

The Supreme Court may have taken a twisty path to its current respect for property rights. But those rights always had a deep relationship with the Fourth Amendment. Indeed, countless Founding-era sources extol property rights and decry their invasion.²¹ In *Entick v. Carrington*, one case that

¹⁹ The property-rights candle was never fully extinguished, even at *Katz*'s zenith. See, e.g., *Soldal v. Cook County*, 506 U.S. 56, 63 (1992) ("Respondents rely principally on precedents such as *Katz v. United States*, 389 U.S. 347 . . . (1967), *Warden, Maryland Penitentiary v. Hayden*, 387 U.S. 294 . . . (1967), and *Cardwell v. Lewis*, 417 U.S. 583 . . . (1974), to demonstrate that the Fourth Amendment is only marginally concerned with property rights. But the message of those cases is that property rights are not the sole measure of Fourth Amendment violations."); *United States v. Karo*, 468 U.S. 705, 729 (1984) (Stevens, J., concurring in part and dissenting in part) ("The owner of property, of course, has a right to exclude from it all the world, including the Government, and a concomitant right to use it exclusively for his own purposes. When the Government attaches an electronic monitoring device to that property, it infringes that exclusionary right; in a fundamental sense it has converted the property to its own use."); see also *United States v. James Daniel Good Real Prop.*, 510 U.S. 43, 61 (1993) ("Individual freedom finds tangible expression in property rights.").

²⁰ See *United States v. Jones*, 565 U.S. 400, 406–07 (2012) ("[F]or most of our history the Fourth Amendment was understood to embody a particular concern for government trespass upon the areas ('persons, houses, papers, and effects') it enumerates. *Katz* did not repudiate that understanding."); see also *Florida v. Jardines*, 569 U.S. 1, 5 (2013) ("By reason of our decision in *Katz v. United States*, property rights 'are not the sole measure of Fourth Amendment violations'—but though *Katz* may add to the baseline, it does not subtract anything from the Amendment's protections 'when the Government *does* engage in [a] physical intrusion of a constitutionally protected area[.]'" (citations omitted)). Pre-*Jones* precedent provides some reason to doubt this narrative, given that the Court repeatedly criticized crusty old property and tort law. See *Silverman v. United States*, 365 U.S. 505, 511 (1961) ("Inherent Fourth Amendment rights are not inevitably measurable in terms of ancient niceties of tort or real property law."); *Jones v. United States*, 362 U.S. 257, 266 (1960) ("Distinctions such as those between 'lessee,' 'licensee,' 'invitee' and 'guest,' often only of gossamer strength, ought not to be determinative in fashioning procedures ultimately referable to constitutional safeguards."); *On Lee v. United States*, 343 U.S. 747, 752 (1952) ("[I]t is doubtful that the niceties of tort law initiated almost two and a half centuries ago by the case of the *Six Carpenters*, 8 Coke 146 (a), cited by petitioner, are of much aid in determining rights under the Fourth Amendment.").

²¹ See, e.g., *Entick v. Carrington*, 19 How. St. Tr. 1029, 1066 (1765) ("The great end, for which men entered into society, was to secure their property [E]very invasion of property, be it ever so minute, is a trespass."); THE FATHER OF CANDOR, A LETTER CONCERNING LIBELS, WARRANTS, THE SEIZURE OF PAPERS, AND SECURITY FOR THE PEACE OR BEHAVIOR; WITH A VIEW TO SOME LATE PROCEEDINGS, AND THE DEFENCE OF THEM BY THE MAJORITY 58 (3d ed. 1765) ("Without these limitations [abrogating general warrants], there is no liberty or free enjoyment of person or property, but every part of a man's most valuable possessions and privacies, is liable to the ravage, inroad, and inspection of suspicious ministers"); see also William Baude & James Y. Stern, *The Positive Law Model of the Fourth Amendment*, 129 HARV. L. REV. 1821, 1838 (2016) ("When we look at the nature of the harm or intrusion [in *Entick* and *Wilkes*], the first-step question, each event stresses property."); see generally Laura K. Donohue, *The Original Fourth Amendment*, 83 U. CHI. L. REV. 1181 (2016) (discussing Founding-era sources throughout).

motivated the Fourth Amendment, Lord Camden called property a principal purpose for human civilization: “The great end, for which men entered into society, was to secure their property.”²² William Penn considered ownership and undisturbed possession essential English rights, saying “that which they have is rightly theirs, and nobody’s else.”²³ Colonial Diplomat and Virginia delegate to the Continental Congress Arthur Lee called property rights “the guardian of every other right,” saying that “to deprive a people of this, is in fact to deprive them of their liberty.”²⁴

In protecting “persons, houses, papers, and effects,” the Framers were protecting property.²⁵ Indeed, it appears that the Framers eschewed the word “property” precisely because it was too *narrow*, connoting only *personal* property, while the Framers wanted to include *both* personal and commercial property.²⁶

But while respect for property rights runs deep in Western history, the theory establishing the moral and philosophical underpinning for those rights stands famously divided.²⁷ John Locke would say that property arises when labor improves something provided by God, as when felling trees to make a

²² Entick v. Carrington, 19 How. St. Tr. at 1066.

²³ JACK N. RAKOVE, ORIGINAL MEANINGS: POLITICS AND IDEAS IN THE MAKING OF THE CONSTITUTION 294 (1996).

²⁴ JAMES W. ELY, JR., THE GUARDIAN OF EVERY OTHER RIGHT: A CONSTITUTIONAL HISTORY OF PROPERTY RIGHTS 32 (3d ed. 2008) (“The framers of the Pennsylvania constitution attached a high priority to property rights, viewing private property as fully consistent with the type of democratic society they wished to foster”).

²⁵ See, e.g., *Jones*, 565 U.S. at 405 (“The text of the Fourth Amendment reflects its close connection to property”); *Entick*, 19 How. St. Tr. at 1066 (“Papers are the owner’s goods and chattels: they are his dearest property; and are so far from enduring a seizure, that they will hardly bear an inspection”); Michael C. Pollack, *Taking Data*, 86 U. CHI. L. REV. 77, 113 (2019) (“[T]he text of the Fourth Amendment refers to types of property—‘houses, papers, and effects’—and thus reflects the Amendment’s historically ‘close connection to property.’ The British common law at the time the Fourth Amendment was adopted likewise expressed the concept of a search as one in which an unconsented entry onto property occurred.”).

²⁶ See Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 MICH. L. REV. 547, 708 (1999) (“The term ‘effects’ may have carried a broader connotation insofar as it was commonly used to denote commercial goods.”); Donohue, *supra* note 21, at 1301 (“The Committee changed Madison’s language that protected ‘persons, houses, papers, and *other property*, to ‘persons, houses, papers, and *effects*.’ In making this alteration, the Committee extended the meaning beyond personal property or possessions (as implied in ‘other property’) to include commercial items and goods.”). Perhaps inadvertently, the Framers’ choice may have likewise narrowed the Amendment. In *Oliver v. United States*, 466 U.S. 170 (1984), the Supreme Court explains that the term “effects” was not understood to include real property, and thus does not include open fields. See *id.* at 176–77.

²⁷ See Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531, 531 (2005) (“Notwithstanding its importance, property law has eluded both a consistent definition and a unified conceptual framework. Indeed, modern property scholarship has utterly splintered the field.”).

house.²⁸ The Hegelian would say that property has acquired some uniquely personal value, like a home or wedding ring.²⁹ The utilitarian would say that property rights incentivize development and best allocate finite resources.³⁰ And these systems are not alone, nor are they mutually exclusive; for example, our intellectual property system builds on both Lockean respect for labor and utilitarian incentives.³¹

Thus arrives our first significant question: How do we determine which property rights to recognize? Do we acknowledge only those property rights recognized when the Constitution was ratified? Do we acknowledge only property rights recognized by state law now? Must we find some middle ground?

This question touches on a deep and unresolved question at property law's heart: Does property exist only because the legislature says it does, or does it come from somewhere else? As Professor Robert Brauneis explains, under the former positive law model, "property is defined in terms of the advantages—the rights, powers, and immunities—afforded owners under existing positive law."³² Property rights are a drifting target, forever blown this way and that by legislative whim. Meanwhile, under the latter natural

²⁸ See JOHN LOCKE, TWO TREATISES ON GOVERNMENT 209 (1821), <https://books.google.com/books?id=K5UIAAAQAAJ> ("Though the earth, and all inferior creatures, be common to all men, yet every man has a *property* in his own *person*: this no body has any right to but himself. The *labour* of his body, and the *work* of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his *labour* with, and joined to it something that is his own, and thereby makes it his *property*.").

²⁹ See Michael A. Carrier & Greg Lastowka, *Against Cyberproperty*, 22 BERKELEY TECH. L.J. 1485, 1494 (2007) (identifying homes and wedding rings as items so personal that they must be respected as property under the Hegelian-based personhood theory, which argues that "the strength of the entitlement increas[es] as the object becomes more central to one's personhood"); see also Robert Brauneis, "The Foundation of Our 'Regulatory Takings' Jurisprudence": The Myth and Meaning of Justice Holmes's *Opinion in Pennsylvania Coal Co. v. Mahon*, 106 YALE L.J. 613, 640 (1996) ("[T]he institution of property is due, at least in part, to a fundamental element of psychology—the desire to continue enjoying something that one has enjoyed for a long time and to which one has become firmly attached.").

³⁰ See RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 40 (9th ed 2014) (explaining that property rights incentivize investment); see also Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244–45 (1968) (concluding that overuse of common resources could be prevented by "sell[ing] them off as private property").

³¹ Pamela Samuelson, *Privacy as Intellectual Property?*, 52 STAN. L. REV. 1125, 1139–40 (2000) ("The economic rationale for intellectual property law arises from a public goods problem with information products that this law strives to overcome . . . [W]ithout a legal protection system, creators will find it difficult to exclude free-riders from appropriating the fruits of their labor and selling identical or very similar products in the marketplace at a cheaper price. The prospect of being unable to recoup research and development costs may deter such investments from being made in the first place.").

³² Brauneis, *supra* note 29, at 624.

rights model, a property right represents “an unchanging ideal boundary between a property owner and the surrounding community.”³³ To put this concretely, the positive law model would say that tenants have rights only because the legislature created landlord-tenant law, while the natural rights model would suggest that landlord-tenant relationships have always existed, and always imply basic rights and responsibilities.

This divide over property rights touches on a broader battle over natural rights vs. positive law generally. Jurists and scholars have waged this war on many fronts, with various rhetorical weapons. Some dismiss natural rights entirely.³⁴ Others suggest that natural rights influenced the Constitution’s writing³⁵ and may influence its interpretation.³⁶ Still others suggest that natural rights provide a broad basis for striking down contrary laws.³⁷

Natural rights deeply influenced the Framers, who lauded those rights in the Declaration³⁸ and incorporated some into the Constitution. But the bulk of evidence—from the Framers themselves, from early court opinions, and from scholarly examination—suggests that once written, the Constitution became the operative guarantor of natural rights. In 1798, Justice Iredell explained that natural rights were not judicially enforceable: “[S]ome speculative jurists have held, that a legislative act against natural justice must, in itself, be void; but I cannot think that, under such a government, any Court of Justice would possess a power to declare it so.”³⁹ In 1830, Chief Justice

³³ *Id.*

³⁴ *See, e.g., id.* at 637 (“A constitutional directive to judges to test legislative enactments by engaging in moral reasoning was for Holmes no better than a directive to follow the commands of ghosts—if you don’t believe in ghosts, it’s hard to comply with the directive.”).

³⁵ *See* Diarmuid F. O’Scannlain, *The Natural Law in the American Tradition*, 79 *FORDHAM L. REV.* 1513, 1517 (2011) (“When it came to writing a Constitution, the Framers aimed to create a positive law that would protect pre-existing natural rights.”).

³⁶ *See id.* at 1525 (“*Heller* tells us that natural law can factor into constitutional interpretation in subtle, but significant ways. It tells us that, where a constitutional provision codified a pre-existing, natural right, the historical understanding of that natural right can clarify ambiguities in the constitutional text and elucidate the rationale and scope of the constitutional right.”).

³⁷ *See* Thomas E. Towe, *Natural Law and the Ninth Amendment*, 2 *PEPP. L. REV.* 270, 305 (1975) (“To the founding fathers, the rights guaranteed in the Bill of Rights constituted a partial list of those ‘essential elements of the law of nature,’ which constituted an absolute limitation on the powers of government. These rights were considered the prime requisites of free government and were the rights reserved to the people when the political compact, that brought the people out of the state of nature, was entered into. Neither the legislature nor any other agency of government could modify or evade these rights.”).

³⁸ *See* O’Scannlain, *supra* note 35, at 1516 (“The *Declaration* is not saying, ‘we are starting this new government and we are going to give our citizens all sorts of new rights.’ It is saying that human beings have innate rights that everyone has a moral obligation to respect, whether or not there is a government to define and protect those rights.”).

³⁹ *Calder v. Bull*, 3 U.S. (3 Dall.) 386, 398 (1798) (Iredell, J.).

Marshall said the same, explaining that stretching the Constitution to remedy every ill would do violence to that document: “[T]he constitution of the United States was not intended to furnish the corrective for every abuse of power which may be committed by the state governments.”⁴⁰ Writing in the late 1870s, Thomas Cooley concluded that “except where the constitution has imposed limits upon the legislative power, it must be considered as practically absolute, whether it operate according to natural justice or not in any particular case.”⁴¹ As Hamilton explained in the *Federalist Papers*, when deciding cases, “nothing would be consulted but the constitution and the laws.”⁴² This judicial humility accords with assurances from jurists like Robert Bork and Diarmuid O’Scannlain that while they do not doubt that natural rights exist, they do question judges’ ability to discern those rights.⁴³

Does this leave other natural rights unprotected? No. To the Founding Generation, the Legislature and the Executive had an obligation to independently evaluate a law, both against the Constitution and natural rights. As Chief Justice Marshall explained: “The interest, wisdom, and justice of the representative body, and its relations with its constituents, furnish the only security, where there is no express contract, against unjust and excessive taxation; as well as against unwise legislation generally.”⁴⁴

Narrowing our discussion from the general to the specific, this legislative deference suggests that the Fourth Amendment should respect property rights as defined by legislatures. It seems unlikely that the Framers would freeze property law in place at the Revolution. At that very time, they were pushing to eliminate the entail, a traditional property right that consolidated wealth. Thomas Jefferson introduced a bill to abolish the entail in Virginia, describing it as a practice that perpetuated “a Patrician order.”⁴⁵ By ending it, he hoped to likewise end the “aristocracy of wealth” and “make an

⁴⁰ *Providence Bank v. Billings*, 29 U.S. (4 Pet.) 514, 563 (1830).

⁴¹ THOMAS M. COOLEY, *A TREATISE ON THE CONSTITUTIONAL LIMITATIONS WHICH REST UPON THE LEGISLATIVE POWER OF THE STATES OF THE AMERICAN UNION* 204 (4th ed. 1878).

⁴² THE FEDERALIST NO. 78 (Alexander Hamilton).

⁴³ See Robert H. Bork, *THE TEMPTING OF AMERICA: THE POLITICAL SEDUCTION OF THE LAW* 66 (1990) (“Judges, like the rest of us, are apt to confuse their strongly held beliefs with the order of nature.”); see also O’Scannlain, *supra* note 35, at 1521 (agreeing with Bork). But see Randy E. Barnett, *Getting Normative: The Role of Natural Rights in Constitutional Adjudication*, 12 CONST. COMMENT. 93, 111 (1995) (“[W]e should resolve our historical and textual doubts in favor of protecting unenumerated rights . . .”).

⁴⁴ *Providence Bank*, 29 U.S. (4 Pet.) at 563.

⁴⁵ THOMAS JEFFERSON, *Autobiography* (1821), in *THE LIFE AND LETTERS OF THOMAS JEFFERSON* 36 (1858). But see Claire Priest, *The End of Entail: Information, Institutions, and Slavery in the American Revolutionary Period*, 33 LAW & HIST. REV. 277, 280 (2015) (suggesting that this “dominant historical account” ignores how entailed property shielded small landowners from creditors).

opening for the aristocracy of virtue and talent.”⁴⁶ Multiple states abolished the entail during this period,⁴⁷ some by writing the prohibition into their constitution.⁴⁸ Thus, in the late 1700s, the Framers were intimately involved in modifying a traditional property right. And this proves just one among many examples. As Professor Thomas Merrill points out, equitable servitudes, community property, condominiums, and securitized debt were all later inventions.⁴⁹

Freezing property law at the Revolution would show profound and uncharacteristic shortsightedness. Instead, as Justice Chase explains in *Calder v. Bull*, while property rights may arise from natural principles, their precise boundaries must be “prescribed by positive law.”⁵⁰ John Hart Ely would call property one of “the Constitution’s various open-ended delegations to the future.”⁵¹

This might seem to run contrary to originalist positions, often framed on a fixed, unchanging Constitution. But here the Constitution does not change, even though the property it protects may shift. As Justice Scalia explained, though the objects change, the rights remain the same:

[A] latter-day alteration of property rights would also produce a latter-day alteration of the Fourth Amendment outcome—without altering the Fourth Amendment itself.

....

... [O]ur unchanging Constitution refers to other bodies of law that might themselves change. . . . This reference to changeable law presents no problems for the originalist. No one supposes that the *meaning* of the Constitution changes as States expand and contract property rights.”⁵²

If a legislature decides when property rights attach, can it also eliminate those rights? No. Once rights vest, the Government must respect them. The

⁴⁶ JEFFERSON, *supra* note 45, at 36.

⁴⁷ Priest, *supra* note 45, at 278 (“During the American Revolutionary Era, New York, Virginia, Georgia, North Carolina, Kentucky, and later Missouri and Mississippi abolished the fee tail.”).

⁴⁸ See, e.g., GA. CONST. art. LI (“Estates shall not be entailed . . .”).

⁴⁹ Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 945 (2000).

⁵⁰ *Calder v. Bull*, 3 U.S. (3 Dall.) 386, 394 (1798) (“[T]he right of property, in its origin, could only arise from compact, express, or implied, and I think it is the better opinion, that the right, as well as the mode, or manner, of acquiring property, and of alienating or transferring, inheriting, or transmitting it, is conferred by society; is regulated by civil institution, and is always subject to the rules prescribed by positive law.”).

⁵¹ JOHN HART ELY, *DEMOCRACY AND DISTRUST: A THEORY OF JUDICIAL REVIEW* 39 (1980) (“[The Framers] certainly didn’t have natural law in mind when the Constitution’s various open-ended delegations to the future were inserted and approved, which undoubtedly is one reason the Constitution at no point refers to natural law.”).

⁵² *Georgia v. Randolph*, 547 U.S. 103, 143–44 (2006) (Scalia, J., dissenting).

early Court established this point first in 1798,⁵³ reiterating it in 1810,⁵⁴ 1815,⁵⁵ 1829,⁵⁶ and 1874.⁵⁷ And this point finds echoes today in cases like *Lucas v. South Carolina Coastal Council*.⁵⁸ There the Supreme Court held that government can take property without compensation only if the owner asserts *unvested* rights, those to which he never had title in the first place.⁵⁹

This approach makes practical sense. It does leave open the question whether natural property rights may *augment* positive law. For instance, take the unlikely scenario where a legislature eliminates fee simple ownership entirely. We need not resolve this question. As this Article will address in Part III, each theory conferring property rights on digital documents derives from an existing positive law framework like the Stored Communications Act or state privacy laws.⁶⁰

53 See *Calder*, 3 U.S. (3 Dall.) at 388–89 (“The Legislature may enjoin, permit, forbid, and punish; they may declare *new* crimes; and establish rules of conduct for *all* its citizens in *future* cases; they may *command* what is right, and *prohibit* what is wrong; but they cannot change *innocence* into *guilt*; or punish *innocence* as a *crime*; or violate the right of an *antecedent lawful private contract*; or the *right of private property*. To maintain that our Federal, or State, Legislature possesses such *powers*, if they had not been *expressly* restrained; would, in my opinion, be a *political heresy*, altogether inadmissible in our *free republican governments*.”).

54 See *Fletcher v. Peck*, 10 U.S. 87, 135 (1810) (“[I]f an act be done under a law, a succeeding legislature cannot undo it. The past cannot be recalled by the most absolute power. Conveyances have been made, those conveyances have vested legal estates, and, if those estates may be seized by the sovereign authority, still, that they originally vested is a fact, and cannot cease to be a fact.”).

55 See *Terrett v. Taylor*, 13 U.S. 43, 50–51 (1815) (“If the legislature possessed the authority to make such a grant and confirmation [of property rights], it is very clear to our minds that it vested an indefeasible and irrevocable title. We have no knowledge of any authority or principle which could support the doctrine that a legislative grant is revocable in its own nature, and held only *durante bene placito*. Such a doctrine would uproot the very foundations of almost all the land titles in Virginia, and is utterly inconsistent with a great and fundamental principle of republican government, the right of the citizens to the free enjoyment of their property regally acquired.”).

56 See *Wilkinson v. Leland*, 27 U.S. 627, 657–58 (1829) (“[A] grant or title to lands once made by the legislature to any person or corporation is irrevocable, and cannot be re-assumed by any subsequent legislative act; . . . a different doctrine is utterly inconsistent with the great and fundamental principle of a republican government, and with the right of the citizens to the free enjoyment of their property lawfully acquired.”).

57 See *Loan Ass’n v. Topeka*, 87 U.S. 655, 662 (1874) (“It must be conceded that there are . . . rights in every free government beyond the control of the State. A government which recognized no such rights, which held the lives, the liberty, and the property of its citizens subject at all times to the absolute disposition and unlimited control of even the most democratic depository of power, is after all but a despotism.”).

58 505 U.S. 1003 (1992).

59 See *id.* at 1027 (“Where the State seeks to sustain regulation that deprives land of all economically beneficial use, we think it may resist compensation only if the logically antecedent inquiry into the nature of the owner’s estate shows that the proscribed use interests were not part of his title to begin with.”).

60 See *infra* Part III.

But while we need not answer the question now, it is worth noting that natural rights also suggest respecting digital property. From a Lockean perspective, e-mails, online posts, digital documents, and other data all derive from our labor creating them.⁶¹ From a Hegelian perspective, while we might not care deeply about our iPad and our Samsung Galaxy s10, we certainly care about their *data*.⁶² From a utilitarian perspective, respecting digital property rights encourages using online systems and creating new digital media.

But, in the end, this Article does not seek to define digital property. Other able authors have taken up that task repeatedly. Rather, this Article asks what digital property the Constitution must respect.

II. LEGISLATIVE WINE IN CONSTITUTIONAL WINESKINS

Though the Constitution looms large, it controls little. It never mentions trusts and estates. It passes upon bankruptcy⁶³ and contracts⁶⁴ in the briefest fashion. And it only hints at property law.⁶⁵ It explicitly references property rights⁶⁶ in only two sections: the Due Process Clauses⁶⁷ and the Takings Clause.⁶⁸ Courts and scholars have struggled to find a common definition of

⁶¹ See Donald Fishman, *Reading John Locke in Cyberspace: Natural Rights and “The Commons” in a Digital Age*, 41 FREE SPEECH Y.B. 34, 41 (2004) (“To use Locke’s terminology, cyberspace is a ‘vast wilderness’ in which individuals can employ their labor to create new products and services.”).

⁶² See *Riley v. California*, 573 U.S. 373, 395 (2014) (“[I]t is no exaggeration to say that many of the more than 90% of American adults who own a cell phone keep on their person a digital record of nearly every aspect of their lives—from the mundane to the intimate.”).

⁶³ See U.S. CONST. art. I, § 8, cl. 4 (“To establish an uniform Rule of Naturalization, and uniform Laws on the subject of Bankruptcies throughout the United States[.]”).

⁶⁴ See U.S. CONST. art. I, § 10, cl. 1 (“No State shall enter into any . . . Law impairing the Obligation of Contracts . . .”).

⁶⁵ See U.S. CONST. amend. IV (describing “the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures”); U.S. CONST. amend. V (stating that no person shall be deprived of “life, liberty, or property without due process of law” and that private property shall not “be taken for public use without just compensation”); U.S. CONST. amend. XIV, § 1 (stating that no State shall deprive a person of life, liberty, or property).

⁶⁶ Article IV references Congress’ authority to regulate territorial and other property, but that power bears no relation to this discussion. See U.S. CONST. art. IV, § 3 (“The Congress shall have Power to dispose of and make all needful Regulations respecting the Territory or other Property belonging to the United States[.]”).

⁶⁷ See U.S. CONST. amend. V (“No person . . . shall be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.”); U.S. CONST. amend. XIV (“No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.”).

⁶⁸ See U.S. CONST. amend. V (“[P]rivate property [shall not] be taken for public use, without just compensation.”).

“property” that gives force and effect to both clauses. Indeed, in the most influential article on the subject, Thomas Merrill conceded that the Supreme Court has assigned different definitions to “property” depending on the clause where it appears.⁶⁹

At first, this seems incongruent. But we should remember that just as the Constitution (mostly) does not regulate trusts, estates, bankruptcy, or contract, it neither recognizes nor regulates property itself.⁷⁰ It does not separate public land from private land, a house from an apartment, or my car from yours. Instead, as we discussed in the previous Part, positive law recognizes property rights.⁷¹ After those rights arise under positive law, the Constitution protects certain enumerated property rights, most notably persons, houses, papers, and effects.⁷²

But the Fourth Amendment’s protection neither recognizes nor requires magic labels.⁷³ If a misguided postal worker created an ad campaign encouraging citizens to “feel at home at the post office,” the post office does not transform into a Fourth Amendment house. By the same logic, if a town changed all its records to refer to residences as “public land,” they would not thereby lose the Constitution’s aegis. Instead, the Constitution’s explicit

⁶⁹ See Merrill, *supra* note 49, at 959 (“[I]t is desirable to have three separate patterning definitions of constitutional property, one each for procedural due process, takings law, and substantive due process. These definitions would act as allocational devices, steering different types of claims involving government interference with economic interests to different bodies of constitutional doctrine.”).

⁷⁰ See Stern, *supra* note 15, at 286 (“The Constitution directs its attention to certain actions that contravene rights established within the law of property, not to the underlying assets those rights concern.”).

⁷¹ See *Phillips v. Wash. Legal Found.*, 524 U.S. 156, 164 (1998) (“Because the Constitution protects rather than creates property interests, the existence of a property interest is determined by reference to ‘existing rules or understandings that stem from an independent source such as state law.’” (quoting *Bd. of Regents of State Colls. v. Roth*, 408 U.S. 564, 577 (1972))).

⁷² See *id.*; see also Merrill, *supra* note 49, at 927 (“Federal constitutional law prescribes the set of criteria an interest must have to qualify as property; whether the claimant has an interest that fits the pattern is then determined by examining independent sources such as state law.”); *cf.* *United States v. Craft*, 535 U.S. 274, 278–79 (2002) (internal citations omitted) (“A common idiom describes property as a ‘bundle of sticks’—a collection of individual rights which, in certain combinations, constitute property. State law determines only which sticks are in a person’s bundle. Whether those sticks qualify as ‘property’ for purposes of the federal tax lien statute is a question of federal law.”); *Drye v. United States*, 528 U.S. 49, 58 (1999) (“We look initially to state law to determine what rights the taxpayer has in the property the Government seeks to reach, then to federal law to determine whether the taxpayer’s state-delineated rights qualify as ‘property’ or ‘rights to property’ within the compass of the federal tax lien legislation.”).

⁷³ Stern, *supra* note 15, at 286–87 (“The existence of a property right does not depend simply on whether some other body of law uses the term ‘property’ or declares that a person has a ‘property right.’ As with a number of areas of federal law that attach consequences to ‘property’ but do not purport to create property themselves, the Constitution’s property clauses call for a means of classifying the legal relationships that other legal sources create.”).

reference to property in the Takings and Due Process Clauses and its implied reference to property in the Fourth Amendment “implies a set of criteria for drawing lines between different kinds of rights, benefits, or statuses” conferred by positive law.⁷⁴ If the law “create[s] a legal relationship satisfying those criteria, a person has a property right” that the Constitution protects.⁷⁵

According to Professor Thomas Merrill, the Court recognizes three such legal relationships. The narrowest criteria define property for the Takings Clause. Here Merrill would ask “whether nonconstitutional sources of law confer an irrevocable right on the claimant to exclude others from specific assets.”⁷⁶ The next narrowest criteria go to procedural due process, with its property differentiated by widening the definition from “assets” to “entitlements.” Its “hallmark . . . is an individual entitlement grounded in state law, which cannot be removed except ‘for cause.’”⁷⁷ Finally, the widest (and squishiest) criteria go to property for substantive due process, the definition for which removes the “discrete assets” requirement entirely.⁷⁸ Merrill’s definitions have exerted enormous influence on jurists and scholars. In *Town of Castle Rock v. Gonzales*, both Justice Scalia’s majority opinion and Justice Stevens’ dissent cited Merrill with approval.⁷⁹ Scholars have similarly found inspiration from Merrill’s work.⁸⁰

In the previous Part, this Article concluded that property rights arise from positive law at the time the rights vest. We next seek to answer which

⁷⁴ *Id.* at 287; *see also* *Town of Castle Rock v. Gonzales*, 545 U.S. 748, 756–57 (2005) (“We will not, of course, defer to the Tenth Circuit on the ultimate issue: whether what Colorado law has given respondent constitutes a property interest for purposes of the Fourteenth Amendment. That determination, despite its state-law underpinnings, is ultimately one of federal constitutional law.”); *Memphis Light, Gas & Water Div. v. Craft*, 436 U.S. 1, 9 (1978) (“Although the underlying substantive interest is created by ‘an independent source such as state law,’ federal constitutional law determines whether that interest rises to the level of a ‘legitimate claim of entitlement’ protected by the Due Process Clause.” (quoting *Bd. of Regents of State Colls. v. Roth*, 408 U.S. 564, 577 (1972))).

⁷⁵ Stern, *supra* note 15, at 287.

⁷⁶ Merrill, *supra* note 49, at 969.

⁷⁷ *Logan v. Zimmerman Brush Co.*, 455 U.S. 422, 430 (1982) (quoting *Memphis Light, Gas & Water Div. v. Craft*, 436 U.S. 1, 11–12 (1978)); *see also* Merrill, *supra* note 49, at 960–61 (identifying and making non-substantive changes to this test).

⁷⁸ Merrill, *supra* note 49, at 983.

⁷⁹ *See, e.g., Town of Castle Rock*, 545 U.S. at 766 (citing Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 945 (2000)); *see also id.* at 791 n.19 (Stevens, J., dissenting) (citing Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 964 n.289 (2000)).

⁸⁰ *See, e.g., Bell & Parchomovsky*, *supra* note 27, at 583 n.273 (citing Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 922 (2000)); *see also* M. Elizabeth Magill, *Agency Choice of Policymaking Form*, 71 U. CHI. L. REV. 1383, 1423 n.133 (2004) (citing Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 892 (2000)); Ann Woolhandler & Caleb Nelson, *Does History Defeat Standing Doctrine*, 102 MICH. L. REV. 689, 694 n.17 (2004) (citing Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 VA. L. REV. 885, 963–64, 987–88 (2000)).

property rights receive the Constitution's protection. We might feel tempted to repeat the Fourth Amendment refrain: persons, houses, papers, and effects. After all, everyone understands those terms. But do we really? Are shed skin cells part of my person?⁸¹ Does tenancy make it my house?⁸² Are e-mails my papers?⁸³ The courts have tried to answer these questions, but they have done so through *Katz's* reasonable-expectation-of-privacy lens. Property provides a more stable foundation.

But to use property's protections, we need to define constitutional property. When I send an e-mail, does it belong to me, the recipient, my e-mail provider, or every server operator in between? E-mails are modern-day "papers," but how do I know they are *my* papers?

A. *The Right to Exclude*

The right to exclude provides a good place to start. It is Merrill's narrowest definition, so it is unlikely to over capture. And as the Takings Clause definition, it relates directly to physical, tangible things, much like the Fourth Amendment's persons, houses, papers, and effects.

For the Framing Generation, the right to exclude was the quintessential property right. As William Pitt proclaimed, even the humblest house owner could defy the King himself: "The poorest man may in his cottage bid defiance to all the force of the crown. It may be frail; its roof may shake; the wind may blow through it; the storms may enter, the rain may enter—but the King of England cannot enter!"⁸⁴

Again and again, courts have identified the right to exclude as the central concept that underpins most property. In *College Savings Bank*, the Supreme Court called it "[t]he hallmark of a protected property interest[.]"⁸⁵ In *Kaiser Aetna v. United States*, it called the right to exclude "one of the most essential sticks in the bundle of rights that are commonly characterized as property."⁸⁶

⁸¹ See *Williamson v. State*, 993 A.2d 626 (Md. 2010) (answering the question in the negative under the Fourth Amendment); see also *State v. Athan*, 158 P.3d 27 (Wash. 2007) (en banc) (finding the same).

⁸² See *Georgia v. Randolph*, 547 U.S. 103 (2006) (answering the question in the affirmative under the Fourth Amendment).

⁸³ See *United States v. Warshak*, 631 F.3d 266 (6th Cir. 2010) (answering the question in the affirmative under the Fourth Amendment).

⁸⁴ EDWARD LATHAM, *FAMOUS SAYINGS AND THEIR AUTHORS* 64 (2d ed. 1906).

⁸⁵ *Coll. Sav. Bk. v. Fla. Prepaid Postsecondary Educ. Expense Bd.*, 527 U.S. 666, 673 (1999).

⁸⁶ *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979); see also *Dolan v. City of Tigard*, 512 U.S. 374, 384 (1994) (quoting *Kaiser Aetna*, 444 U.S. at 176); *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825, 831 (1987) (quoting *Kaiser Aetna*, 444 U.S. at 176); *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 433 (1982) (quoting *Kaiser Aetna*, 444 U.S. at 176); see also *United States v. Craft*, 535 U.S. 274, 283–84 (2002) (calling the right to exclude an "essential property right[]").

It has even emphasized this point to identify intangible property rights like patents and trademarks.⁸⁷

The Court and its members have also cited the right to exclude as relevant to the Fourth Amendment. In *Rakas v. Illinois*, the Court incorporated the right to exclude in its privacy analysis, noting that the expectation of privacy found in *Katz* and *Jones* derives partly from the ability to exclude others.⁸⁸ In his *Olmsted* dissent, Justice Butler likewise suggested that wiretap evidence should have been barred because “the exclusive use of the wire belongs to the persons served by it.”⁸⁹ Thus, those users had at least some property right in it, insufficient to make them owners, but sufficient to exclude other callers or the police. And Justice Stevens has explained that a property owner “has a right to exclude from it all the world,” and that government monitoring “infringes that exclusionary right.”⁹⁰

Scholars have reached the same conclusion as the courts.⁹¹ As Merrill recognized, though they may use different terminology, property theorists repeatedly centralize the right to exclude:

⁸⁷ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006) (“[T]he Patent Act also declares that ‘patents shall have the attributes of personal property,’ § 261, including ‘the right to exclude others from making, using, offering for sale, or selling the invention,’ § 154(a)(1).” (quoting 35 U.S.C. §§ 154, 261)); see also *Coll. Sav. Bk.*, 527 U.S. at 673 (“The Lanham Act may well contain provisions that protect constitutionally cognizable property interests—notably, its provisions dealing with infringement of trademarks, which are the ‘property’ of the owner because he can exclude others from using them.”).

⁸⁸ See *Rakas v. Illinois*, 439 U.S. 128, 149 (1978) (“Except with respect to his friend, Jones had complete dominion and control over the apartment and could exclude others from it. Likewise in *Katz*, the defendant occupied the telephone booth, shut the door behind him to exclude all others and paid the toll . . .”).

⁸⁹ *Olmstead v. United States*, 277 U.S. 438, 487 (1928) (Butler, J., dissenting).

⁹⁰ *United States v. Karo*, 468 U.S. 705, 729 (1984) (Stevens, J., concurring in part and dissenting in part) (“The owner of property, of course, has a right to exclude from it all the world, including the Government, and a concomitant right to use it exclusively for his own purposes. When the Government attaches an electronic monitoring device to that property, it infringes that exclusionary right; in a fundamental sense it has converted the property to its own use.”); see also *Soldal v. Cook County*, 506 U.S. 56, 61 (1992) (“A ‘seizure’ of property, we have explained, occurs when ‘there is some meaningful interference with an individual’s possessory interests in that property.’” (quoting *United States v. Jacobsen*, 466 U.S. 109, 113 (1984))).

⁹¹ See, e.g., Felix S. Cohen, *Dialogue on Private Property*, 9 RUTGERS L. REV. 357, 371 (1954) (“Private property may or may not involve a right to use something oneself. It may or may not involve a right to sell, but whatever else it involves, it must at least involve a right to exclude others from doing something.”); see also Pollack, *supra* note 25, at 107 (“[P]roperty rights are meant to protect . . . the right to exclude others and to control access.”); see also Stern, *supra* note 15, at 277 (“[P]roperty is best understood as the right to have some measure of legal control over the way a particular item is used, control that comes at the expense of all other people.”); see also Gideon Parchomovsky & Alex Stein, *Reconceptualizing Trespass*, 103 NW. U.L. REV. 1823, 1828 (2009) (“The right to exclude others is the most fundamental component of ownership.”).

Whether one calls this the right to “determine how the object shall be used and by whom,” or a “right to exclude others from things which is grounded by the interest we have in the use of things,” or the right of “direct trespassory protection,” or the “gatekeeper” right, this conclusion has been independently reached over and over again.⁹²

B. From Specific Objects

In addition to the specific right at issue—the right to exclude—we must consider to which objects this right attaches. Property requires *in rem* rights, not merely *in personam* rights.⁹³ Though the merits of this distinction have been debated, *some* dividing line is universally acknowledged.⁹⁴ *In rem* rights have two distinct features: (1) they pertain to a *res*, a particular thing;⁹⁵ (2) they avail against the world entire.⁹⁶ The type of property does not matter. The Constitution extends to both real and personal property.⁹⁷ It protects both tangible and intangible property.⁹⁸

⁹² Merrill, *supra* note 49, at 971.

⁹³ Stern, *supra* note 15, at 296 (“[R]ights in rem are property rights, while rights in personam are rights that are not property rights.”).

⁹⁴ See, e.g., Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 780 (2001) (“Both civil law and common law jurisdictions have long recognized that certain legal rights are good ‘against the world’ while others apply only against named persons or entities. This distinction, which has long endured across different legal systems, cannot be dismissed as arid conceptualism or as a matter of attaching arbitrary labels to underlying phenomena that are really the same.”); see also Paul M. Schwartz, *Property, Privacy, and Personal Data*, 117 HARV. L. REV. 2056, 2058 (2004) (“[P]roperty rights run with the object, and can be contrasted with contract rights, which bind only parties in privity.”).

⁹⁵ See Stern, *supra* note 15, at 297 (“A property right, a right in rem, is centrally concerned with some particular, singular, discrete thing—a *res*.”).

⁹⁶ See *Tenn. Student Assistance Corp. v. Hood*, 541 U.S. 440, 448 (2004) (“A bankruptcy court’s *in rem* jurisdiction permits it to ‘determin[e] all claims that anyone, whether named in the action or not, has to the property or thing in question. The proceeding is ‘one against the world.’” (citations omitted)); see also *Becher v. Contoure Labs., Inc.*, 279 U.S. 388, 391 (1929) (“A judgment *in rem* binds all the world . . .”); *Bell & Parchomovsky*, *supra* note 27, at 533 (“[I]n contrast to contractual rights that avail only against other parties to an agreement, property rights avail against the rest of the world, irrespective of consent.”); Merrill & Smith, *supra* note 94, at 777 (“Property rights . . . are in rem—they bind ‘the rest of the world.’”); Schwartz, *supra* note 94 at 2058 (“[T]his Article defines property as any interest in an object, whether tangible or intangible, that is enforceable against the world.”); Stern, *supra* note 15, at 292 (“[P]roperty rights assume a distinctive form: they pertain to specific things and they are ‘good against the world.’”).

⁹⁷ See *Horne v. Dep’t of Agric.*, 135 S. Ct. 2419, 2426 (2015) (“Nothing in the text or history of the Takings Clause, or our precedents, suggests that the rule is any different [from real property] when it comes to the appropriation of personal property. The Government has a categorical duty to pay just compensation when it takes your car, just as when it takes your home.”).

⁹⁸ See *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1003–04 (1984) (protecting trade secrets with the Takings Clause); Merrill & Smith, *supra* note 94, at 782 (“[I]n rem rights are not necessarily related to a thing, in the sense of a tangible object. Such rights can also exist in intangibles, such as intellectual property.”).

This requirement for property and rights availing “against the world” makes particular sense in the Fourth Amendment context. Obviously, no one contracts in advance with the Government, demanding it keep out from our houses. Nor would anyone expect us to exclude the Government from places open to the general public. But where the world must respect our rights, the Government must do the same.

In Parts III and IV, this Article will further consider whether the rights granted by statute for specific digital objects fall *in personam* or *in rem*.

C. Existing Property Precedent

Existing precedent generally accords with the idea that an exclusion right triggers Fourth Amendment property protection. Jones had the right to keep trackers off his Jeep.⁹⁹ Jardines could bar unwelcome visitors from his yard.¹⁰⁰ Silverman could shoo snoops away from his heating ducts.¹⁰¹

This approach does create notable problems in one precedential area: open fields. Well before *Katz*, *Hester v. United States* permitted Prohibition officers to trespass “fifty to one hundred yards away” from the house.¹⁰² It held that the Fourth Amendment did not extend to open fields.¹⁰³ After deciding *Katz*, the Supreme Court again considered the issue, this time refusing to exclude marihuana found growing on defendant’s land, “over a mile from [his] home.”¹⁰⁴ The Court grounded its analysis principally in the lack of a reasonable expectation of privacy.¹⁰⁵ But the Court seemed to go out of its way to denigrate the property approach, calling property rights “but one element in determining whether expectations of privacy are legitimate.”¹⁰⁶ Obviously this abandonment of the property approach has

⁹⁹ See *United States v. Jones*, 565 U.S. 400 (2012) (holding that the attachment of a GPS device to a vehicle without a warrant was a violation of the Fourth Amendment).

¹⁰⁰ See *Florida v. Jardines*, 569 U.S. 1 (2013) (holding that the use of drug-sniffing dog by law enforcement on a front porch was a search for Fourth Amendment purposes).

¹⁰¹ See *Silverman v. United States*, 365 U.S. 505 (1961) (holding that attaching a microphone to a house’s heating duct was unlawful under the Fourth Amendment).

¹⁰² *Hester v. United States*, 265 U.S. 57, 58–59 (1924).

¹⁰³ See *id.* at 59 (holding that the Fourth Amendment does not protect open fields).

¹⁰⁴ *Oliver v. United States*, 466 U.S. 170 (1984).

¹⁰⁵ See *id.* at 180 (“[N]o expectation of privacy legitimately attaches to open fields.”).

¹⁰⁶ *Id.* at 183.

been itself abandoned or at least reinterpreted by *Jones*¹⁰⁷ and *Jardines*.¹⁰⁸ Nonetheless, in deciding *Oliver*, the Court holds clearly that open fields are neither “houses”¹⁰⁹ nor “effects” as the Framers would have understood them.¹¹⁰

This creates tension with our proposed rule, which suggests a Fourth Amendment property right whenever an owner may exclude others. The obvious answer restates our rule to incorporate the Fourth Amendment’s textual limitations: *A Fourth Amendment property right arises when an owner may generally exclude others from a person, house, paper, or effect.*

This reconciles our rule with precedent, but seems unsatisfying. On the one hand, grounding our analysis in the Constitution’s text always provides a useful focus. In writing, ratifying, and following that governing document for more than two centuries, we have made a social compact, reaffirmed each time we hew to its text. And a textual approach checks the understandable though misguided urge for judicial opinion or scholarly theory to create rights untethered from that compact. Yet when advancing a Fourth Amendment theory based on property rights, this leaves a gaping hole in that theory.

Open fields precedent undermines not merely property rights, but equality before the law.¹¹¹ A trespassing citizen merits arrest. When the Government trespasses without consequence, as it did in *Oliver*, Government officers set themselves above the law.¹¹² This Article does not offer a

¹⁰⁷ See *United States v. Jones*, 565 U.S. 400, 406–07 (2012) (“Jones’s Fourth Amendment rights do not rise or fall with the *Katz* formulation. . . . As explained, for most of our history the Fourth Amendment was understood to embody a particular concern for government trespass upon the areas (‘persons, houses, papers, and effects’) it enumerates. *Katz* did not repudiate that understanding.”).

¹⁰⁸ See *Florida v. Jardines*, 569 U.S. 1, 11 (2013) (“The *Katz* reasonable-expectations test ‘has been added to, not substituted for,’ the traditional property-based understanding of the Fourth Amendment, and so is unnecessary to consider when the government gains evidence by physically intruding on constitutionally protected areas.” (quoting *Jones*, 565 U.S. at 409)).

¹⁰⁹ See *Oliver*, 466 U.S. at 176 (“The distinction between [open fields] and the house is as old as the common law.” (quoting *Hester v. United States*, 265 U.S. 57, 59 (1924))).

¹¹⁰ See *id.* at 177 (explaining that Madison replaced “other property” with “effects” during drafting, which “broadened the scope of the Amendment in some respects,” but “cannot be said to encompass open fields”).

¹¹¹ See Baude & Stern, *supra* note 21, at 1847 (“[T]he very term ‘rule of law’ was coined by A.V. Dicey to capture the idea of a political system in which ‘no man is above the law,’ meaning in particular that it ‘excludes the idea of any exemption of officials or others from the duty of obedience to the law which governs other citizens.’ To place officials above the law would be to subvert this fundamental principle of political liberty.”).

¹¹² See *Oliver*, 466 U.S. at 194–95 (Marshall, J., dissenting) (“[A] deliberate entry by a private citizen onto private property marked with ‘No Trespassing’ signs will expose him to criminal liability. I

satisfying conclusion to this conundrum. Perhaps the proper route uses Article V to expand the property definition. Other authors suggest that any breach of positive law—trespassing, for example—should trigger the Fourth Amendment.¹¹³

Fourth Amendment property may sweep more broadly than the right to exclude suggested under the Takings Clause. But these definitions nest, so any property protected by the Takings Clause *will* receive Fourth Amendment protection. Because this Article argues that traditional property definitions grant Fourth Amendment protections to digital data *right now*, the remainder will assume *arguendo* that we must satisfy the narrower, more well-established Takings property definition. But should that proposition find acceptance, the outer boundaries of Fourth Amendment property merit further investigation.

III. THEORIES OF EXCLUSION: COPYRIGHT, THE CFAA, THE SCA, AND PRIVACY LAWS

When positive law recognizes a right to exclude, the Constitution treats it as a property right. We must next ask which positive law might grant a right to exclude others from our digital data, even when held by third parties. At least four statutory schemes come to mind: copyright law, state privacy laws, the federal Computer Fraud and Abuse Act, and the federal Stored Communications Act. Each recognizes at least some right to control digital data even when held by others.

A. Copyright

The Copyright Act protects “original works of authorship fixed in any tangible medium of expression.”¹¹⁴ Every document, e-mail, photo, and

see no reason why a government official should not be obliged to respect such unequivocal and universally understood manifestations of a landowner’s desire for privacy.”).

¹¹³ See generally, Baude & Stern, *supra* note 21 (suggesting that the Fourth Amendment should use positive law as its baseline).

¹¹⁴ 17 U.S.C. § 102(a) (2018).

other original work gets copyright protection¹¹⁵ simply by its creation.¹¹⁶ And with that copyright come six exclusive rights automatically assigned to the creator: (1) reproducing the copyrighted work, (2) preparing derivative works, (3) distributing copies, (4) performing the copyrighted work, (5) displaying the copyrighted work, and (6) transmitting the copyrighted work.¹¹⁷

Copyrights seem to grant the right to exclude what we are seeking. They apply to digital “papers,” they refer to a specific thing, they provide “the right to exclude others[.]”¹¹⁸ and they avail against the entire world entire.¹¹⁹ But there is a problem. Several, actually. And they all stem from the same root: copyright does not principally protect individual rights.¹²⁰ Rather, as the Constitution makes plain, it “promote[s] the Progress of Science and useful Arts.”¹²¹ We should not confuse the path with the destination.¹²² Copyright law “secur[es] for limited Times to Authors and Inventors the exclusive Right

¹¹⁵ The work must satisfy the originality, authorship, and fixation requirements. But the law draws these concepts broadly. Originality “means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.” *Feist Publ’ns., Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991). Authorship requires only that the work involve human creativity, any method “by which the ideas in the mind of the author are given visible expression.” *Burrow-Giles Lithographic Co. v. Saroni*, 111 U.S. 53, 58 (1884). Fixation includes even representations in temporary memory like RAM. *See MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 (9th Cir. 1993).

¹¹⁶ *See* 17 U.S.C. § 302(a) (2018) (“Copyright in a work created on or after January 1, 1978, subsists from its creation . . .”).

¹¹⁷ *See* 17 U.S.C. § 106 (2018). Performance, distribution, and transmission apply only to certain types of works. For example, transmission applies “in the case of sound recordings” and grants the right to “perform the copyrighted work publicly by means of a digital audio transmission.” *Id.* § 106.

¹¹⁸ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006) (“Like a patent owner, a copyright holder possesses ‘the right to exclude others from using his property.’” (quoting *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932))).

¹¹⁹ *See ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1454 (7th Cir. 1996) (“A copyright is a right against the world.”); *see also* *Forest Park Pictures v. Universal Television Network, Inc.*, 683 F.3d 424, 431 (2d Cir. 2012) (emphasizing the same principle); *Bowers v. Baystate Techs., Inc.*, 302 F.3d 1334, 1342 (Fed. Cir. 2002) (following the reasoning of *ProCD*); Samuelson, *supra* note 31, at 1155 (“A true intellectual property right provides the owner with rights to exclude that are good against the world at large as to innovations that are generally widely distributed to the public.”).

¹²⁰ *See Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (“The monopoly privileges that Congress may authorize are neither unlimited nor primarily designed to provide a special private benefit.”).

¹²¹ U.S. CONST. art. I, § 8, cl. 8.

¹²² *See Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 526 (1994) (“We have often recognized the monopoly privileges Congress has authorized, while ‘intended to motivate the creative activity of authors and inventors by the provision of a special reward,’ are limited in nature and must ultimately serve the public good.” (quoting *Sony Corp.*, 464 U.S. at 429)); *see also* *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975) (“The immediate effect of our copyright law is to secure a fair return for an ‘author’s’ creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good.”).

to their respective Writings and Discoveries.”¹²³ But it does so as a mechanism for advancing a deeper commitment, “enriching the general public through access to creative works.”¹²⁴

To that end, Congress limited copyright in two substantial ways: First, it required that copyright registrants deposit their works with the Copyright Office, facilitating public access upon copyright expiration.¹²⁵ Second, Congress built statutory safe harbors from infringement claims, like fair use.¹²⁶ Both provisions are inconsistent with a right to exclude that we should deem a Fourth Amendment property right.

Though copyright attaches upon creation, the ability to *enforce* that copyright comes only with registration.¹²⁷ And registration requires depositing the work with the Copyright Office.¹²⁸ This deposit requirement has existed in one form or another since 1790.¹²⁹ Through the deposit requirement, the Library of Congress receives and can make available any

¹²³ U.S. CONST. art. I, § 8, cl. 8.

¹²⁴ *Fogerty*, 510 U.S. at 527.

¹²⁵ See *Sony Corp.*, 464 U.S. at 429 (“[Copyright] is intended . . . to allow the public access to the products of their genius after the limited period of exclusive control has expired.”).

¹²⁶ See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 575 (1994) (“From the infancy of copyright protection, some opportunity for fair use of copyrighted materials has been thought necessary to fulfill copyright’s very purpose, ‘[t]o promote the Progress of Science and useful Arts’”) (quoting U.S. CONST. art. I, § 8, cl. 8).

¹²⁷ See 17 U.S.C. § 411(a) (2018) (“Except for an action brought for a violation of the rights of the author under section 106A(a), and subject to the provisions of subsection (b), no civil action for infringement of the copyright in any United States work shall be instituted until preregistration or registration of the copyright claim has been made in accordance with this title.”); see also *Reed Elsevier, Inc. v. Muchnick*, 559 U.S. 154, 157 (2010) (“Subject to certain exceptions, the Copyright Act (Act) requires copyright holders to register their works before suing for copyright infringement.”).

¹²⁸ See 17 U.S.C. § 408(b) (2018) (mandating deposit for registration).

¹²⁹ See Act of Mar. 4, 1909, ch. 320, § 12, 35 Stat. 1075, 1078 (“No action or proceeding shall be maintained for infringement of copyright in any work until the provisions of this Act with respect to the deposit of copies and registration of such work shall have been complied with.”); see also Act of July 8, 1870, ch. 230, § 90, 16 Stat. 198, 213 (“[N]o person shall be entitled to a copyright unless he shall . . . deposit in the mail a printed copy of the title of the book or other article”); see also Act of May 31, 1790, ch. 15, § 3, 1 Stat. 124, 125 (“[N]o person shall be entitled to the benefit of this act . . . unless he shall first deposit . . . a printed copy of the title of such map, chart, book or books”); see also John B. Koegel, *Bamboozlement: The Repeal of Copyright Registration Incentives*, 13 CARDOZO ARTS & ENT. L.J. 529, 529–31 (1995) (discussing history of the Hughes Repeal Bill, which repealed registration incentives); see also Arthur J. Levine & Jeffrey L. Squires, *Notice, Deposit and Registration: The Importance of Being Formal*, 24 UCLA L. REV. 1232, 1253 (1977) (“The requirement that an author must, as a precondition to the full benefits of copyright, register his claim and deposit his work with a designated public official antedates American copyright law and has been a part of every copyright law enacted in this country.”).

work seeking copyright.¹³⁰ Former Librarian of Congress James H. Billington testified that these deposits have served to build “the world’s most comprehensive collections in all formats, used by scholars every day and available to all comers.”¹³¹ Mandatory deposit accomplishes copyright’s goal to serve the public good by making government and public access a requirement for copyright’s exclusionary power. In a similar way, fair use serves the public good by permitting laudable uses for the copyrighted work even over the copyright holder’s objection.

Now codified by statute, fair use permits third parties to override a copyright holder’s exclusive rights “for purposes such as criticism, comment, news reporting, teaching . . . , scholarship, [and] research.”¹³² So long as their use is reasonable—as determined by a multi-factor test including elements like commercial or non-profit use—then it is “not an infringement of copyright.”¹³³ Fair use actually encourages new authorship by permitting prior protected works to form the inspiration and foundation for new works.¹³⁴ For that reason, “[f]rom the infancy of copyright protection,” fair use was “thought necessary to fulfill copyright’s very purpose, ‘[t]o promote the Progress of Science and useful Arts.’”¹³⁵

Both these limits—fair use and mandatory deposit—demonstrate that while the copyright law provides a right to exclude, it is not the *type* of right to exclude necessary to support Fourth Amendment protections. Requiring that the accused turn over property to the government seems inconsistent with giving the accused the right not to turn over property to the government. And giving third-party document holders the right to copy the documents

¹³⁰ See Koegel, *supra* note 129, at 533–34 (“[S]ection 411(a) is said to produce three benefits: it provides an incentive (1) to register and (2) to deposit works that are passed along to the Library of Congress, and (3) it establishes prima facie evidence of the validity of the copyright.”).

¹³¹ *Copyright Reform Act of 1993: Hearings on H.R. 897 Before the Subcomm. on Intellectual Prop. and Judicial Admin. of the House Comm. on the Judiciary*, 103d Cong., 1st Sess. (1993), 182 (statement of James H. Billington, Librarian of Congress); see also Levine & Squires, *supra* note 129, at 1254 (“By requiring deposit in the Library of Congress of a copy or copies of any work in which statutory copyright is claimed, the copyright law has fostered the development and growth of a national collection of this country’s creative product and culture.”).

¹³² 17 U.S.C. § 107 (2018).

¹³³ *Id.* § 107.

¹³⁴ See *Emerson v. Davies*, 8 F. Cas. 615, 619 (C.C.D. Mass. 1845) (No. 4436) (“In truth, in literature, in science and in art, there are, and can be, few, if any, things, which, in an abstract sense, are strictly new and original throughout. Every book in literature, science and art, borrows, and must necessarily borrow [sic], and use much which was well known and used before.”).

¹³⁵ *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 575 (1994) (quoting U.S. CONST. art. I, § 8, cl. 8).

when such copying serves the public interest—such as by sending them to law enforcement—likewise fails to “secure . . . houses, papers, and effects.”¹³⁶

B. *Privacy Laws*

State privacy laws seem more likely to create property rights in digital data. Professor William Prosser’s traditional privacy torts bar intrusion upon seclusion, public disclosure of embarrassing private facts, false light, and appropriation of name or likeness.¹³⁷ The first three create no property rights. Intrusion upon seclusion punishes the intrusion,¹³⁸ but does not create a right that travels with the information obtained.¹³⁹ Neither public disclosure¹⁴⁰ nor false light¹⁴¹ offer any durable right to exclude. They prevent only *public* disclosure, not possession or private disclosure.¹⁴² Only appropriation¹⁴³ might be considered a property right.¹⁴⁴ But a right carefully circumscribed to name and likeness provides no real benefit in the Fourth Amendment context.

Data breach laws more broadly cover all personal information. Pennsylvania uses a typical definition:

¹³⁶ U.S. CONST. amend. IV.

¹³⁷ See William L. Prosser, *Privacy*, 48 CAL. L. REV. 383, 389 (1960) (listing torts pertaining to privacy).

¹³⁸ See RESTATEMENT (SECOND) OF TORTS § 652B (AM. LAW INST. 1977) (“One who intentionally intrudes, physically or otherwise, upon the solitude or seclusion of another or his private affairs or concerns, is subject to liability to the other for invasion of his privacy, if the intrusion would be highly offensive to a reasonable person.”).

¹³⁹ See *Pearson v. Dodd*, 410 F.2d 701, 703 (D.C. Cir. 1969) (refusing to extend intrusion upon seclusion to news professionals who merely received and publicized information that was wrongfully obtained).

¹⁴⁰ See RESTATEMENT (SECOND) OF TORTS § 652D (AM. LAW INST. 1977) (“One who gives publicity concerning the private life of another is subject to liability to the other for invasion of his privacy, if the matter publicized is of a kind that (a) would be highly offensive to a reasonable person, and (b) is not of legitimate concern to the public.”).

¹⁴¹ See *id.* § 652E (“One who gives publicity to a matter concerning another that places the other before the public in a false light is subject to liability to the other for invasion of his privacy, if (a) the false light in which the other was placed would be highly offensive to a reasonable person, and (b) the actor had knowledge of or acted in reckless disregard as to the falsity of the publicized matter and the false light in which the other would be placed.”).

¹⁴² There is also some question about these torts pointing to a specific thing. While I do not think a *res* needs a specific document—intellectual property has never required this—I do think it needs specifically quantifiable data. Names, addresses, phone numbers, social security numbers, etc. are all specifically quantifiable. But a jury must assess private facts and false light on a case-by-case basis.

¹⁴³ See RESTATEMENT (SECOND) OF TORTS § 652C (AM. LAW INST. 1977) (“One who appropriates to his own use or benefit the name or likeness of another is subject to liability to the other for invasion of his privacy.”).

¹⁴⁴ DANIEL J. SOLOVE & PAUL M. SCHWARTZ, *INFORMATION PRIVACY LAW* 33 (6th ed. 2018) (“The appropriation tort is akin to a property right . . .”).

An individual's first name or first initial and last name in combination with and linked to any one or more of the following data elements when the data elements are not encrypted or redacted:

- (i) Social Security number.
- (ii) Driver's license number or a State identification card number issued in lieu of a driver's license.
- (iii) Financial account number, credit or debit card number, in combination with any required security code, access code or password that would permit access to an individual's financial account.¹⁴⁵

But Pennsylvania—like other states—provides no private right of action to enforce its statute.¹⁴⁶ More importantly, it provides no right to exclude. It neither prohibits companies from possessing data nor from sharing it with others. It doesn't even punish breaches (or failure to provide adequate security to prevent them). It only punishes a failure to notify when a breach occurs.¹⁴⁷

This *laissez faire* attitude is common in the United States. Indeed, it traditionally differentiates European law from U.S. law. European law focuses on a right to respect and personal dignity that includes controlling one's own information, even when it leaves a person's hands.¹⁴⁸ The European General Data Protection Regulation ("the GDPR") embodies this approach. The GDPR imposes obligations on anyone controlling¹⁴⁹ or

¹⁴⁵ 73 PA. STAT. AND CONS. STAT. ANN. § 2302 (West 2006).

¹⁴⁶ *See id.* § 2308 ("The Office of Attorney General shall have exclusive authority to bring an action under the Unfair Trade Practices and Consumer Protection Law for a violation of this act."); *see also* N.Y. GEN. BUS. LAW § 899-aa(6)(a) (McKinney 2019) ("[W]henever the attorney general shall believe . . . that there is a violation of this article he or she may bring an action in the name and on behalf of the people of the state of New York . . ."). *But see, e.g.,* ALASKA STAT. § 45.48.010 (2019) (permitting private actions).

¹⁴⁷ *See* 73 PA. STAT. AND CONS. STAT. ANN. § 2303 (West 2006) ("An entity that maintains, stores or manages computerized data that includes personal information shall provide notice of any breach of the security of the system following discovery of the breach of the security of the system to any resident of this Commonwealth whose unencrypted and unredacted personal information was or is reasonably believed to have been accessed and acquired by an unauthorized person.").

¹⁴⁸ *See, e.g.,* James Q. Whitman, *The Two Western Cultures of Privacy: Dignity Versus Liberty*, 113 YALE L.J. 1151, 1161 (2004) ("Continental privacy protections are, at their core, a form of protection of a right to *respect* and *personal dignity*. The core continental privacy rights are *rights to one's image, name, and reputation*, and what Germans call the *right to informational self-determination*—the right to control the sorts of information disclosed about oneself.").

¹⁴⁹ *See* Regulation 2016/679, of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), art. 4(7), 2016 O.J. (L 119) 1, 33 (EU) ("[C]ontroller" means the natural or legal person, public authority, agency or other body which . . . determines the purposes and means of the processing of personal data . . .").

processing personal data.¹⁵⁰ These obligations include the subject's right to access,¹⁵¹ correct,¹⁵² and delete¹⁵³ his or her data. Importantly, any entity that controls or processes data becomes subject to the GDPR.¹⁵⁴ The right follows the data.

In the United States, we have traditionally focused on freedom from State intrusion.¹⁵⁵ Even as corporations like Google and others vacuum up vast personal information, we remain curiously unengaged. In fairness, this seeming negligence likely has at least some roots in our enduring respect for contract rights. After all, unwise as it might be, users click and consent to contracts granting companies broad powers over our data. Whatever the motivation, our myopic focus on State power has ironically left us more vulnerable to the State. As information becomes available to these companies, the third-party rule makes it available to the State. More and more we live less and less of our lives free from the Government's view.

But the U.S. emphasis on contractual rights over inherent privacy protections may be shifting. In 2018, the California Consumer Privacy Act ("the CCPA") became law.¹⁵⁶ It took effect in 2020.¹⁵⁷ It is by far the most comprehensive data privacy law in the United States, though less far-reaching than the GDPR.¹⁵⁸ Among its limitations, the CCPA confines itself to personal data from California residents.¹⁵⁹ It also limits the consumer to "request[ing] that a business delete any personal information about the consumer *which the business has collected from the consumer.*"¹⁶⁰ The right appears far from absolute, and essentially *in personam*, directed at the relationship between business and customer, not the data itself.

But at least some rights appear to travel with the data. For example, the CCPA grants the consumer an absolute right to bar a data collector from

¹⁵⁰ See *id.* art. 4(8) ("'[P]rocessor' means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller[.]").

¹⁵¹ See *id.* art. 15 (protecting the right to access to one's personal data).

¹⁵² See *id.* art. 16 (protecting the right to correct one's personal data).

¹⁵³ See *id.* art. 17 (protecting the right to delete one's personal data).

¹⁵⁴ See *id.* arts. 4(7)–4(8) (defining "controller" and "processor," respectively).

¹⁵⁵ See Whitman, *supra* note 148, at 1161 ("At its conceptual core, the American right to privacy still takes much the form that it took in the eighteenth century: It is the right to freedom from intrusions by the state, especially in one's own home.").

¹⁵⁶ See Carol A.F. Umhoefer & Tracy Shapiro, *CCPA vs. GDPR: The Same, Only Different*, DLA PIPER (Apr. 11, 2019), <https://www.dlapiper.com/en/us/insights/publications/2019/04/ipt-news-q1-2019/ccpa-vs-gdpr/> (comparing California's Consumer Privacy Act with the GDPR).

¹⁵⁷ See *id.*

¹⁵⁸ See *id.* ("In some respects, however, the CCPA does not go as far as GDPR.").

¹⁵⁹ See CAL. CIV. CODE § 1798.140(g) (West 2020) ("Consumer" means a natural person who is a California resident . . .").

¹⁶⁰ See *id.* § 1798.105(a) (emphasis added).

selling the consumer's data.¹⁶¹ Third parties that obtain or currently hold a consumer's data must ensure they have consent before they can sell it.¹⁶² But it appears consumers cannot sue when businesses violate this section.¹⁶³ The statute only provides a private right of action for failing to reasonably prevent data breaches.¹⁶⁴ That action does appear to travel with the data.¹⁶⁵ It does not limit itself to businesses receiving their data from the consumer.¹⁶⁶

Are these property rights? It seems unlikely. They include only a carefully constrained right to reasonable security against data breaches. The more elaborate rights are not privately enforceable. For the time being, privacy law fails to offer the right to exclude necessary to create a true property right. But if privacy laws continue in this direction, it seems only a matter of time.

C. *The Computer Fraud and Abuse Act*

For over 30 years, the federal government has used the Computer Fraud and Abuse Act ("the CFAA") as its primary statutory tool for combating cybercrime. Enacted in 1984, the CFAA was originally a narrow statute designed to criminalize access to computers in which the federal government had a substantial interest.¹⁶⁷ But with successive changes over time, a statute that originally barred hacking into sensitive government computers or

¹⁶¹ See *id.* § 1798.120(a) ("A consumer shall have the right, at any time, to direct a business that sells personal information about the consumer to third parties not to sell the consumer's personal information. This may be referred to as the right to opt-out.").

¹⁶² See *id.* § 1798.115(d) ("A third party shall not sell personal information about a consumer that has been sold to the third party by a business unless the consumer has received explicit notice and is provided an opportunity to exercise the right to opt-out pursuant to Section 1798.120.").

¹⁶³ See David Stauss, *CCPA: Bill to Expand Private Right of Action Fails*, JD SUPRA (May 17, 2019), <https://www.jdsupra.com/legalnews/ccpa-bill-to-expand-private-right-of-65974/> ("The current version of the CCPA only allows individual consumers to sue for certain types of data breaches and leaves enforcement of the CCPA's privacy-related rights to the California Attorney General's Office.").

¹⁶⁴ See *id.* ("[T]he CCPA allows consumers to seek statutory damages . . . for data breaches due to a business's failure to implement and maintain reasonable security procedures and practices."); see generally CIV. CODE § 1798.150 (authorizing data breach actions).

¹⁶⁵ See CIV. CODE § 1798.150(a)(1) ("Any consumer whose nonencrypted and nonredacted personal information . . . is subject to an unauthorized access and exfiltration, theft, or disclosure as a result of the business's violation of the duty to implement and maintain reasonable security procedures and practices . . . may institute a civil action . . .").

¹⁶⁶ See generally *id.*

¹⁶⁷ See Counterfeit Access Device and Computer Fraud and Abuse Act of 1984, Pub. L. No. 98-473, § 2102(a), 98 Stat. 2190, 2190–92 (making punishable unauthorized access to information on computers "determined by the United States Government . . . to require protection against unauthorized disclosure").

centralized financial databases now federally criminalizes all hacking.¹⁶⁸ This includes hacking where the target computer resides on the same street, on the same floor, or even in the same room as the hacker, so long as the target is connected to the Internet.¹⁶⁹ The statute also gives private parties the ability to enforce its terms through civil suits.¹⁷⁰

The CFAA punishes whoever “intentionally accesses a computer without authorization or exceeds authorized access.”¹⁷¹ In its wisdom, Congress never defined “authorization.”¹⁷² But though courts and scholars have propounded four or more theories for authorization,¹⁷³ this split need not trouble us. The theories disagree on presumption (access or denial), method (implicit or explicit), and clarity (code-based, contract-based, or other).¹⁷⁴ But all the theories agree that the system owner must *somehow* authorize the access.¹⁷⁵ And thus all the theories provide a right to exclude.

As we have conceived property rights, the CFAA thus seems plainly to grant a property right. And that accords well with courts and scholars, which have treated the CFAA as enforcing a property-centered anti-trespass

¹⁶⁸ See Orin S. Kerr, *Vagueness Challenges to the Computer Fraud and Abuse Act*, 94 MINN. L. REV. 1561, 1561 (2010) (“The statute, originally designed to criminalize only important federal interest computer crimes, potentially regulates every use of every computer in the United States and even many millions of computers abroad.”).

¹⁶⁹ Subsequent amendment expanded the “protected computer” definition yet again, now reaching any computer even “affecting” interstate commerce. See *id.* at 1569–71 (quoting 18 U.S.C. § 1030 (2010)). Under current Commerce Clause jurisprudence, this would likely reach every computer, even those lacking any Internet connection. See *id.* (stating that the amendments make it likely that the statute “does not merely cover computers connected to the Internet that are actually ‘used’ in interstate commerce. Instead, it applies to all computers, period, so long as the federal government has the power to regulate them.”). But given the Internet’s modern ubiquity, this may mean a legal distinction without practical difference.

¹⁷⁰ See 18 U.S.C. § 1030(g) (2018).

¹⁷¹ 18 U.S.C. § 1030(a)(2). Similar language appears throughout the statute, but (a)(2) is the broadest and most frequently charged provision. See Tim Wu, *Fixing the Worst Law in Technology*, NEW YORKER (Mar. 18, 2013), <https://www.newyorker.com/news/news-desk/fixing-the-worst-law-in-technology> (referring to 18 U.S.C. § 1030(a)(2)(c) as “the broadest provision”).

¹⁷² See *EF Cultural Travel BV v. Explorica, Inc.*, 274 F.3d 577, 582 n.10 (1st Cir. 2001) (“Congress did not define the phrase ‘without authorization,’ perhaps assuming that the words speak for themselves. The meaning, however, has proven to be elusive.”).

¹⁷³ See Patricia L. Bellia, *A Code-Based Approach to Unauthorized Access Under the Computer Fraud and Abuse Act*, 84 GEO. WASH. L. REV. 1442, 1445 (2016) (“[T]he caselaw reflects at least five different interpretive paradigms.”); see also Kelsey T. Patterson, *Narrowing It Down to One Narrow View: Clarifying and Limiting the Computer Fraud and Abuse Act*, 7 CHARLESTON L. REV. 489, 492 (2013) (giving the four differing approaches circuit courts have used: “agency-based, broad contract-based, code-based, and narrow contract-based”).

¹⁷⁴ See Michael J. O’Connor, *The Common Law of Cyber-Trespass*, 85 BROOK. L. REV. 421, 427–447 (2020) (organizing and categorizing approaches).

¹⁷⁵ See *id.* (discussing this requirement in each theory).

right.¹⁷⁶ But two objections suggest themselves: the problem with third-party enforcement and the statute's law enforcement exception.

1. *Third-Party CFAA Enforcement*

As a computer hacking statute, one might assume that the CFAA protects computers, not computer documents. By that logic, its right to exclude extends to the computer owner, not the document owner. In other words, Google can enforce it, not the Gmail user. But all the caselaw thus far disagrees.

In *Theofel v. Farey-Jones*, a civil litigant “used a ‘patently unlawful’ subpoena to gain access to e-mail stored by [the opposing parties’] Internet service provider.”¹⁷⁷ When the opposing parties learned that the ISP had turned over their e-mails without notice from either the litigant or the ISP, they sued under the Wiretap Act, the Stored Communications Act, and the Computer Fraud and Abuse Act.¹⁷⁸ The district court dismissed the CFAA claim “on the theory that the Act does not apply to unauthorized access of a third party’s computer.”¹⁷⁹ But the Ninth Circuit held this was error and that the CFAA extends to third-party computers:

The district court erred by reading an ownership or control requirement into the Act. The civil remedy extends to “[a]ny person who suffers damage or loss by reason of a violation of this section.” 18 U.S.C. § 1030(g) (emphasis added). . . . Individuals other than the computer’s owner may be proximately harmed by unauthorized access, particularly if they have rights to data stored on it.¹⁸⁰

District courts across three other circuits have also addressed the point, and unanimously agree with *Theofel* that third-party computer ownership poses

¹⁷⁶ See, e.g., *Facebook, Inc. v. Power Ventures, Inc.*, 844 F.3d 1058, 1065 (9th Cir. 2016) (“The CFAA prohibits acts of computer trespass by those who are not authorized users or who exceed authorized use.”); *United States v. Valle*, 807 F.3d 508, 525 (2d Cir. 2015) (“Congress enacted the CFAA in 1984 to address ‘computer crime,’ which was then principally understood as ‘hacking’ or trespassing into computer systems or data.”); Josh Goldfoot & Aditya Bamzai, *A Trespass Framework for the Crime of Hacking*, 84 GEO. WASH. L. REV. 1477, 1478 (2016) (“The text, structure, and history of the CFAA all indicate that its ‘without authorization’ term incorporates preexisting physical trespass rules.”); Orin S. Kerr, *Norms of Computer Trespass*, 116 COLUM. L. REV. 1143, 1146 (2016) (“[C]oncepts of authorization rest on trespass norms.”); O’Connor, *supra* note 174 at 422–23 (agreeing that trespass norms can be used to resolve CFAA authorization).

¹⁷⁷ *Theofel v. Farey-Jones*, 359 F.3d 1066, 1071 (9th Cir. 2004).

¹⁷⁸ See *id.* at 1071–72 (giving background on cause of action).

¹⁷⁹ *Id.* at 1078.

¹⁸⁰ *Id.*

no obstacle to a CFAA claim.¹⁸¹ Thus, it appears that document owners can exercise the CFAA's right to exclude even when hosting documents on servers owned by others.

2. *The Law Enforcement Exemption and Unconstitutional Conditions*

One might also object to inferring a broad right to exclude from the CFAA because the statute exempts law enforcement.¹⁸² (Privacy laws contain similar exceptions, and similar objections arise there.) But when the Government grants a property right, exempting itself from that property right seems unconstitutional.

Imagine a similar scenario in the physical world. The Government wants to sell public land for private homes, as it has done many times in the past.¹⁸³ But the land runs adjacent to a sensitive wildlife area. The sale thus engenders massive opposition from environmental groups. To assuage their concerns, the Government inserts a condition into the deeds for the sale: buyers waive the warrant requirement and consent to any "environmental inspection" of their land, including their house and curtilage. This scenario would horrify the Framers, living in a time when the country retained vast public land, ready for taming by citizens.

The Framers' discontent finds jurisprudential purchase in the unconstitutional conditions doctrine. Speaking for the Court, Justice Stewart explained the doctrine thus:

[E]ven though a person has no "right" to a valuable governmental benefit and even though the government may deny him the benefit for any number of reasons, there are some reasons upon which the government may not rely.

¹⁸¹ See, e.g., *Phillips Med. Sys. P.R., Inc. v. GIS Partners Corp.*, 203 F. Supp. 3d 221, 230 (D.P.R. 2016) ("Moreover, '[i]ndividuals other than the computer's owner' may bring an action under the CFAA because they 'may be proximately harmed by unauthorized access, particularly if they have rights to data stored on [the computer],'" (quoting *Theofel v. Farey-Jones*, 359 F.3d 1066, 1078 (9th Cir. 2004) (emphasis added))); *Oce N. Am., Inc. v. MCS Services, Inc.*, 748 F. Supp. 2d 481, 487 (D. Md. 2010) ("Plaintiff correctly cites to *Theofel v. Farey-Jones* for the proposition that it does not need to own the 'protected computer' in order to claim damages for a violation of the CFAA . . ."); *Nexans Wires S.A. v. Sark-USA, Inc.*, 319 F. Supp. 2d 468, 472–78 (S.D.N.Y. 2004) (holding that confidential document owner could enforce CFAA when stolen documents were stored on business partner's server, but finding loss insufficient to trigger CFAA private-action threshold), *aff'd*, 166 F. App'x 559 (2d Cir. 2006).

¹⁸² See 18 U.S.C. § 1030(f) (2018) ("This section does not prohibit any lawfully authorized investigative, protective, or intelligence activity of a law enforcement agency of the United States, a State, or a political subdivision of a State, or of an intelligence agency of the United States.").

¹⁸³ See, e.g., Homestead Act of 1862, Pub. L. No. 37-64, 12 Stat. 392 (providing a method for citizens to buy public lands).

It may not deny a benefit to a person on a basis that infringes his constitutionally protected interests¹⁸⁴

Some question whether a unified unconstitutional conditions doctrine exists. Professor Cass Sunstein views the prohibition on such conditions as a subsidiary element to the specific right at issue.¹⁸⁵ Rather than trying to create a unified theory around unconstitutional conditions, he would direct attention to the constitutional right that the condition seeks to abridge.¹⁸⁶ He would determine whether the condition “makes the particular burden a constitutionally troublesome one, and, if so, whether the government has available to it—because of the setting—distinctive justifications that make its action permissible.”¹⁸⁷

Applying Sunstein’s standard, the government’s CFAA exemption plainly crosses the line. From the country’s inception, the government has routinely recognized new property rights. Patents and copyrights were sought and issued, currency and bonds printed and distributed, and public land carved up and sold into private hands. In each case, the government recognized the constitutional limitations granted alongside that property right. Patents and copyrights cannot be revoked without due process,¹⁸⁸ federal bonds cannot be taxed by the states,¹⁸⁹ and private property cannot be searched without a warrant.¹⁹⁰

¹⁸⁴ *Perry v. Sindermann*, 408 U.S. 593, 597 (1972); *see also* *Frost & Frost Trucking Co. v. R.R. Comm’n*, 271 U.S. 583, 593–94 (1926) (“[A]s a general rule, the state, having power to deny a privilege altogether, may grant it upon such conditions as it sees fit to impose. But the power of the state in that respect is not unlimited; and one of the limitations is that it may not impose conditions which require the relinquishment of constitutional rights. If the state may compel the surrender of one constitutional right as a condition of its favor, it may, in like manner, compel a surrender of all. It is inconceivable that guaranties embedded in the Constitution of the United States may thus be manipulated out of existence.”).

¹⁸⁵ *See, e.g.*, Cass R. Sunstein, *Is There an Unconstitutional Conditions Doctrine?*, 26 SAN DIEGO L. REV. 337, 338 (1989) (“Whether a condition is permissible is a function of the particular constitutional provision at issue; on that score, anything so general as an unconstitutional conditions doctrine is likely to be quite unhelpful.”).

¹⁸⁶ *See id.* at 344 (“[U]nconstitutional conditions problems require a quite particular analysis of the nature of the relevant right.”).

¹⁸⁷ *Id.* at 345.

¹⁸⁸ *See* *Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bk.*, 527 U.S. 627, 642 (1999) (“Patents . . . have long been considered a species of property. . . . As such, they are surely included within the ‘property’ of which no person may be deprived by a State without due process of law.”).

¹⁸⁹ *See* *Weston v. City Council of Charleston*, 27 U.S. (2 Pet.) 449, 469 (1829) (“The tax on government stock is thought by this Court to be a tax on the contract, a tax on the power to borrow money on the credit of the United States, and consequently to be repugnant to the [C]onstitution.”).

¹⁹⁰ *See* U.S. CONST. amend. IV.

But perhaps some unifying principle exists around unconstitutional conditions, as scholars like Professor Richard Epstein have suggested.¹⁹¹ As an initial gating mechanism, the doctrine only applies when the Government attempts to bypass constitutional prohibitions “by obtaining bargained-for consent of the party whose conduct is to be restricted.”¹⁹² Without that consent, we need not even consider unconstitutional conditions. Here the Government did not obtain individualized consent from computer owners to bypass the CFAA’s authorization requirement. Thus we return to regular constitutional order, where the Government cannot merely use its “monopoly of force” to overcome objections.¹⁹³ The Fourth Amendment’s bargain remains intact, and access requires a warrant.

But let us assume that we can imply some consent. The Government need not have extended this property right under the CFAA in the first place. By seeking to enforce this property right against the Government that wants to access our files without a warrant, we could be seen to consent to the government’s law enforcement carveout. At this point, we turn to the unconstitutional conditions doctrine proper. Professor Epstein views the doctrine as an outgrowth of common-law guarantees like duress and misrepresentation, which ensure full, free, and fair consent before holding contractual promises binding.¹⁹⁴

Protecting consent normally protects liberty.¹⁹⁵ But Professor Epstein posits that sometimes consent’s one-to-one bargaining process breaks down society’s bargaining ability. He uses voting rights as a noteworthy example: “Voting rights, for example, may be of little value to any given individual, who would surrender them gladly for a right to do business on public highways. If many individuals did so, the combined effect would be to ensure a structural tyranny and the loss of many other liberties.”¹⁹⁶ He identifies three areas where the interaction between individual choice and government

¹⁹¹ See generally, Richard A. Epstein, *Foreword: Unconstitutional Conditions, State Power, and the Limits of Consent*, 102 HARV. L. REV. 4 (1988) (providing a framework to understand unconstitutional conditions and showing its operation in a variety of contexts).

¹⁹² *Id.* at 7.

¹⁹³ See *id.* at 102 (“When the government uses only its monopoly of force to achieve its ends, classic constitutional questions arise under particular constitutional provisions.”).

¹⁹⁴ See *id.* at 8 (“Duress, force, misrepresentation, undue influence, and incompetence may be used to set aside contracts that otherwise meet the normal requirements of offer, acceptance, consideration, and consent.”).

¹⁹⁵ Cf. LOCKE, *supra* note 28, at 269 (“Men being, as has been said, by nature, all free, equal, and independent, no one can be put out of this estate, and subjected to the political power of another, without his own consent.”).

¹⁹⁶ Epstein, *supra* note 191, at 54.

pressure creates problems: monopoly, collective action dilemmas, and externalities.¹⁹⁷ Of these, monopoly seems most relevant to our discussion.

Monopoly arises where “the market has a single seller who can set terms for sale that maximize his own profits.”¹⁹⁸ The Supreme Court confronted the monopoly strain of the unconstitutional conditions doctrine in cases where states discriminated against out-of-state companies by leveraging the state’s exclusive power to license corporations. The Court held that the State could not burden out-of-state companies with a tax it declined to impose on in-state companies.¹⁹⁹ As with recognizing corporations, the Government likewise has a monopoly in recognizing private property rights. Whether justified by natural or positive law, without government recognition, private property rights have no force behind them.²⁰⁰ Government would likely prefer to recognize constitutional protections for persons and houses—if only to avoid the same Revolutionary misfortune that befell our previous government—but withhold such protections for other property rights. But the unconstitutional conditions doctrine puts the Government to the difficult choice: recognize all or recognize none. Since we plainly recognize constitutional protections for other property rights, the Government must recognize them here.²⁰¹

The CFAA grants a right to exclude, both to system owners and to system users with confidential documents. Because the Government cannot legitimately carve itself an exemption from the Fourth Amendment protections applicable to all property, the CFAA should effectively extend Fourth Amendment protections to digital documents even when hosted on third-party systems.

¹⁹⁷ See *id.* at 102 (“[T]he traditional norms prohibiting coercion and duress are insufficient to police the legal monopoly that government exercises over certain critical domains. As a matter of general theory, the emphasis must shift from transactional to *institutional* justice, at which point three problems become paramount: monopoly, collective action dilemmas, and externalities.”).

¹⁹⁸ *Id.* at 16.

¹⁹⁹ See *S. Ry. Co. v. Greene*, 216 U.S. 400, 418 (1910) (“We hold, therefore, that to tax the foreign corporation for carrying on business under the circumstances shown, by a different and much more onerous rule than is used in taxing domestic corporations for the same privilege, is a denial of the equal protection of the laws . . .”).

²⁰⁰ See THOMAS HOBBS, *LEVIATHAN, OR THE MATTER, FORME, & POWER OF A COMMON-WEALTH ECCLESIASTICALL AND CIVILL* 105 (1651) (“If a Covenant be made, wherein neither of the parties performe presently, but trust one another; in the condition of meer Nature, (which is a condition of Warre of every man against every man,) upon any reasonable suspition, it is Voyd: But if there be a common Power set over them both, with right and force sufficient to compell performance; it is not Voyd.”).

²⁰¹ See Epstein, *supra* note 191, at 38 (“If forced to choose between exclusion and admission on equal terms, the states do the latter . . .”).

D. *The Stored Communications Act*

The Stored Communications Act ("the SCA") prevents companies that publicly offer communication or computing services from sharing the data provided by their users.²⁰² This prohibition comes riven with exceptions. Among others, it only restricts providers offering services to the public.²⁰³ And even public providers can share data for multiple reasons.²⁰⁴ But where the right applies, subscribers may individually enforce it by civil action.²⁰⁵

As with privacy laws and the CFAA, law enforcement exceptions exist. Strangely, though, the Stored Communications Act sometimes turns these exceptions on their head. Often, the SCA restricts a provider *more* when it comes to disclosing data to the Government. For example, providers can disclose metadata "to any person other than a governmental entity."²⁰⁶ But the Stored Communications Act includes no exclusionary rule.²⁰⁷ If the provider can share the data with a third party but *not* the Government, does the Constitution forbid the Government from using the information?

This question lacks an easy answer. On one hand, as the Restatement of Torts explains, a person licensed to enter property cannot circumvent prohibitions levied against others:

A grants permission to B, his neighbor, to enter A's land and draw water from A's spring for B's own use. A has specifically refused permission to C to enter A's land and draw water from the spring. At C's instigation, B enters A's land and obtains for C water from the spring. B's entry is a trespass.²⁰⁸

²⁰² See 18 U.S.C. § 2702(a) (2018) ("Except as provided in subsection (b) or (c)—(1) a person or entity providing an electronic communication service to the public shall not knowingly divulge to any person or entity the contents of a communication while in electronic storage by that service; and (2) a person or entity providing remote computing service to the public shall not knowingly divulge to any person or entity the contents of any communication which is carried or maintained by that service[.]").

²⁰³ See ORIN S. KERR, *COMPUTER CRIME LAW* 680 (4th ed. 2018) ("Importantly, § 2702 imposes restrictions only on providers of ECS and RCS that provide services 'to the public.' Nonpublic providers can voluntarily disclose information freely without violating the SCA.")

²⁰⁴ See 18 U.S.C. § 2702(b) & (c) (providing exceptions for disclosure of communications and customer records).

²⁰⁵ See 18 U.S.C. § 2707 (providing for civil actions).

²⁰⁶ 18 U.S.C. § 2702(c)(6); see also Orin S. Kerr, *A User's Guide to the Stored Communications Act, and a Legislator's Guide to Amending It*, 72 GEO. WASH. L. REV. 1208, 1222 (2004) ("[N]oncontent records can be disclosed to nongovernment entities without restriction." (citing 18 U.S.C. § 2702(c)(6)).

²⁰⁷ See *United States v. Guerrero*, 768 F.3d 351, 358 (5th Cir. 2014) ("[S]uppression is not a remedy for a violation of the Stored Communications Act. The Act has a narrow list of remedies, and—unlike the Wiretap Act, see 18 U.S.C. § 2515—suppression is not among them.")

²⁰⁸ Restatement (First) of Torts § 168 cmt. d, illus. 3 (AM. LAW INST. 1934); see also Restatement (First) of Torts § 168 ("A conditional or restricted consent to enter land creates a privilege to do so only in so far as the condition or restriction is complied with."); see 9 MATTHEW BACON, *A NEW*

On the other hand, the Supreme Court has repeatedly held that while property rights rest at the core of the Fourth Amendment, its prohibitions and permissions do not precisely conform to property law.²⁰⁹ On balance, when the Government grants a right against itself but not the public at large, we should respect the limitations on that right. Thus, when the SCA permits data sharing with the public, prohibits data sharing with the Government, but declines to apply the exclusionary rule, the Fourth Amendment should not force the exclusionary rule's application.

Nonetheless, the Stored Communications Act *does* broadly prohibit some content sharing by public providers. Where the exceptions prohibit sharing data with private parties but permit warrantless sharing with the Government, these would seem to fall within our unconstitutional conditions analysis in the previous part.²¹⁰ Because they grant a broad right to exclude, the courts should treat that right as a Fourth Amendment property right.

E. Bailment Law

Despite this Article's title, we have spent surprisingly little time looking for insight from bailment law. Principally this is because the most important question to answer was how to identify Fourth Amendment property. But even after concluding that the Framers would credit modern substantive law and look for an exclusion right, we detoured leisurely through the exclusion rights granted by copyright, privacy law, and cybersecurity law before

ABRIDGMENT OF THE LAW 492 (1846) ("If A command or request B to take the goods of C, and B do it, this action lies as well against A as against B."); 75 AM. JUR. 2D *Trespass* § 51 (1991) ("A trespass may occur if the party, entering pursuant to a limited consent, i.e., limited as to purpose or place, proceeds to exceed those limits by divergent conduct on the land of another, as a conditional or restricted consent to enter land creates a privilege to do so only in so far as the condition or restriction is complied with."); Lothar Determann, *Internet Freedom and Computer Abuse*, 35 HASTINGS COMM. & ENT. L.J. 429, 443–44 (2013) ("[P]roperty owners were always able to some degree to define limitations on authorizations in a number of different ways, including the following: They can grant authorization subject to conditions precedent. . . . They can also grant authorization subject to continued conditions. . . . The property owner can also grant authorization subject to limitations . . .").

²⁰⁹ See, e.g., *Georgia v. Randolph*, 547 U.S. 103, 120–21 (2006) ("[T]he 'right' to admit the police to which *Matlock* refers is not an enduring and enforceable ownership right as understood by the private law of property, but is instead the authority recognized by customary social usage as having a substantial bearing on Fourth Amendment reasonableness in specific circumstances. Thus, to ask whether the consenting tenant has the right to admit the police when a physically present fellow tenant objects is not to question whether some property right may be divested by the mere objection of another. It is, rather, the question whether customary social standing accords the consenting tenant authority powerful enough to prevail over the co-tenant's objection."); *United States v. Matlock*, 415 U.S. 164, 171 n.7 (1974) ("The authority which justifies the third-party consent does not rest upon the law of property, with its attendant historical and legal refinements . . .").

²¹⁰ See *supra* Part III.C.

arriving at this Article's namesake. Admittedly, bailment law is a difficult, complicated subject. Due to its tendency to incorporate broad principles from both tort and contract, one scholar has compared bailments to "the duck-billed, beaver-tailed platypus[, which] incongruously incorporates into a single species anatomical elements of apparently disparate provenance."²¹¹ Whether due to this difficulty or the sense that bailments treats a fairly isolated legal area, the subject is famously understudied. In 1992, Professor R.H. Helmholz noted that the field had garnered no systematic treatise in sixty years and very few law review articles.²¹² But though we may merit the sobriquet for those that rush in, we will at least briefly explore where angels fear to tread.

Bailment law addresses the obligations owed when a person's property is held by another.²¹³ Though we rarely think about it, bailment law touches our lives on an almost daily basis.²¹⁴ When I lend my drill to a neighbor, park my car in a commercial garage, or check my bag on an airline, bailment law governs the relationship. One early 19th century author called these day-to-day legal relationships "the principal springs and wheels of civil society[.]" suggesting that without their constant presence, "the whole machine [of society] would instantly be disordered or broken to pieces"; should they be destroyed, "the whole [human] species must infallibly be miserable."²¹⁵

While the precise standards vary from state to state, bailment law often imposes three basic duties of care, depending on the bailment relationship. For bailees that act gratuitously, like the party host that finds a guest's lost watch, the law imposes only a duty of slight care.²¹⁶ For bailment

²¹¹ Eric Alden, *Rethinking Promissory Estoppel*, 16 NEV. L.J. 659, 689 (2016).

²¹² See R.H. Helmholz, *Bailment Theories and the Liability of Bailees: The Elusive Uniform Standard of Reasonable Care*, 41 KAN. L. REV. 97, 100 (1992) ("There has been no systematic treatise devoted to the American law of bailments in more than sixty years. Law review articles devoted to the subject can be counted on the fingers of two hands. The subject is distinctly out of fashion.").

²¹³ See *id.* at 97 ("[B]ailments are best defined simply as the rightful possession of a chattel by one who is not also the owner."); see also JOSEPH STORY, COMMENTARIES ON THE LAW OF BAILMENTS 2 (1832) ("[A] bailment is a delivery of a thing in trust for some special object or purpose, and upon a contract, express or implied, to conform to the object or purpose of the trust.").

²¹⁴ See WILLIAM JONES, AN ESSAY ON THE LAW OF BAILMENTS 1–2 (1818) ("[T]here is hardly a man of any age or station, who does not every week and almost every day contract the obligations or acquire the rights of a *hirer* or a *letter to hire*, of a *borrower* or a *lender*, of a *depository* or a person *depositing*, of a *commissioner* or an *employer*, of a *receiver* or a *giver*, in *pledge* . . .").

²¹⁵ *Id.* at 2.

²¹⁶ See *Morris v. Hamilton*, 302 S.E.2d 51, 53 (Va. 1983) ("A bailee who acts gratuitously is not held to the same standard of care as one who enters upon the same undertaking for pay. The latter owes a duty of reasonable or ordinary care, while a gratuitous bailee owes only a duty of slight care. Thus, in order for a bailor to recover from a gratuitous bailee, he must prove the bailee was guilty of gross negligence.").

relationships where each party benefits, like the commercial garage where I pay to park, the law imposes a duty of ordinary care.²¹⁷ Or, as traditionally expressed, a person should care for another's goods as he would his own.²¹⁸ For bailees that benefit alone, like my neighbor borrowing the drill, the law imposes a duty of extraordinary care.²¹⁹ Explicit contracts often supplant these default duties.²²⁰ But states may also forbid such contracts where the relationship overly advantages the bailee; for example, states may forbid the commercial garage or coat check counter from absolving themselves with tiny type on the back of a pre-printed card.²²¹

Certain specific actions are always held to violate these duties. For example, misdelivery—handing property over to someone other than the owner-directed recipient—is always a breach.²²² And the owner's rights avail against the world entire. The owner can rightly demand that the third-party recipient return the property.²²³ This would seem to hold even against the Government.²²⁴

²¹⁷ *See id.*

²¹⁸ *See R.R. Co. v. Lockwood*, 84 U.S. (17 Wall.) 357, 383 (1873) (“[I]f ordinary care is due, such as a prudent man would exercise in his own affairs, failure to bestow that amount of care is called ordinary negligence.”); JONES, *supra* note 214, at 6 (“[R]ational men use nearly the same degree of diligence in the conduct of *their own* affairs; and this care, therefore, which *every person of common prudence and capable of governing a family* takes of *his own* concerns, is a proper measure of that which would uniformly be required in performing every contract, if there were not strong reasons for *exact*ing in some of them a *greater*, and *per*mitting in others a *less*, degree of attention.”).

²¹⁹ *See, e.g., Ferrick Excavating & Grading Co. v. Senger Trucking Co.*, 484 A.2d 744, 748 (Pa. 1984) (“When the bailment is for the sole benefit of the bailee, the law requires *great* diligence on the part of the bailee, and makes him responsible for *slight* neglect.”).

²²⁰ *See* STORY, *supra* note 213, at 20 (“[P]rinciples [of liability regarding bailments], both in the civil and in the common law, are to be understood with this limitation, that there is no subsisting contract between the parties, which varies the general obligation resulting from them; for, if there be such a contract, that governs the case, unless it be against public policy, or positive law.”).

²²¹ *See* Merrill & Smith, *supra* note 94, at 814–15 (“Bailees who deal in large numbers of standardized transactions, such as parking lots and coat check rooms, frequently issue receipts or tickets that seek to define the terms of the bailment agreement. . . . [W]e find evidence of fairly widespread legislative intervention to regulate limitations on liability on the part of bailees in these situations, and some evidence of judicial policing through doctrines such as unconscionability.”).

²²² *See* WILLIAM L. PROSSER, HANDBOOK OF THE LAW OF TORTS 104 (1941) (“A carrier or other bailee who misdelivers the goods, by an innocent mistake, is a converter. This liability has been extended even to a so-called ‘involuntary bailee,’ who comes into possession of the chattel by accident or mistake, and misdelivers it.”).

²²³ *See* Merrill & Smith, *supra* note 94, at 815 (“The bailor’s relationship with the third party will be governed by the bailor’s general in rem rights against ‘all the world.’ Pursuant to these rights, the bailor is of course entitled to demand that the third party return the goods or make good for their loss.”).

²²⁴ *Cf.* PHILIP T. VAN ZILE, ELEMENTS OF THE LAW OF BAILMENTS AND CARRIERS 49–50 (2d ed. 1908) (noting that even though the bailee may be excused if “*he ha[s] been deprived of the property by due process of law* and therefore cannot redeliver the property to the bailor,” the bailee’s duty “to protect the interests of his bailor” remains in cases “where the bailor was not made a party.”).

The Supreme Court has regularly considered bailments as property under the Takings and Due Process clauses, though without referencing that body of law specifically. For example, in *Phillips v. Washington Legal Foundation*, the Court held that interest income in IOLTA accounts belonged to the owner of the principal (though it expressed no opinion on whether the interest had been “taken” or whether “just compensation” was due).²²⁵ And in *Webb’s Fabulous Pharmacies, Inc. v. Beckwith*, the Court held that when a county clerk managed funds pending a dispute’s judicial resolution, both the principal and accumulated interest belonged to the creditors; by retaining the interest, the clerk was taking property without just compensation.²²⁶

One enormous wrinkle affects whether bailment law governs digital assets. Bailment law presupposes that the owner in fact owns the property and that it will be returned to the owner or handled according to the owner’s wishes.²²⁷ While this might apply to some digital data, like files stored with a cloud provider, vast amounts of collected data are either not the originator’s property or they have no expectation the data will be returned.

IV. PAPERS UNDER ANOTHER GUISE?

Before addressing the individual places where digital documents can reside—like cloud hosting, e-mail services, other messaging providers, and metadata—we should first address one definitional piece that applies broadly across all these categories: Are these digital documents the “papers” envisioned by the Fourth Amendment? On this point, Founding sentiment, courts, and scholars all agree: Yes, digital documents are indeed the same papers, even if they use new and unfamiliar ink.

Obviously, the Founding generation did not anticipate our connected world, with messages converted to digital signals and pulsed across the globe in fractions of a second. But then as now, messages mirror the mind. And the Framers held the same unequivocal sentiment: The mind must remain sacrosanct.

England’s experience in cases like *Wilkes* and *Entick* forged the Framers’ antipathy toward general warrants as a rule, and document searches

²²⁵ See *Phillips v. Wash. Legal Found.*, 524 U.S. 156, 172 (1998) (holding “that the interest income generated by funds held in IOLTA accounts is the ‘private property’ of the owner of the principal”).

²²⁶ *Webb’s Fabulous Pharms., Inc. v. Beckwith*, 449 U.S. 155, 164–65 (1980).

²²⁷ See, e.g., *Lynch Props., Inc. v. Potomac Ins. Co.*, 140 F.3d 622, 627 (5th Cir. 1998) (“Under Texas law, the elements of a bailment are: (1) delivery of personal property by one person to another to be used for a specific purpose; (2) acceptance of such delivery; and (3) an express or implied contract that the purpose will be carried out and the property will then be returned or dealt with as otherwise directed.”).

particularly. In *Wilkes v. Wood*, Chief Justice Pratt held that seizing Wilkes' papers was an unforgivable offense: "[O]f all offences . . . a seizure of papers was the least capable of reparation; . . . for other offences, an acknowledgment might make amends, but . . . for the promulgation of our most private concerns, affairs of the most secret personal nature, no reparation whatsoever could be made."²²⁸ Entick's counsel went further, calling document searches a torture of the mind, every bit as condemnable as torture of the body: "[R]ansacking a man's secret drawers and boxes, to come at evidence against him, is like racking his body to come at his secret thoughts."²²⁹ In holding for Entick, Chief Justice Camden did not stretch quite that far, but nonetheless showed profound offense at "rifl[ing]" a man's house and removing "his most valuable secrets."²³⁰ The Court held that the Crown's claimed power to search was "not supported by one single citation from any law book extant."²³¹ Similarly, the House of Commons recognized the particular sensitivity of documents: "[P]apers, though often dearer to a man than his heart's blood, and equally close, have neither eyes nor ears to perceive the injury done to them, nor tongue to complain of it, and of course, may be treated to a degree highly injurious to the owners"²³²

This antipathy toward document searches translated easily across the Atlantic. As Revolutionary author The Father of Candor wrote, papers that the Government seizes "are immediately to be thrown into the hands of some clerks, of much curiosity . . . who will . . . naturally amuse themselves with the perusal of all private letters, memorandums, secrets and intrigues, of the gentleman himself, and of all his friends and acquaintances of both sexes."²³³ Even specific warrants proved problematic, because "in that case, all a man's papers must be indiscriminately examined, and such examination may bring things to light which it may not concern the public to know, and which yet it may prove highly detrimental to the owner to have made public."²³⁴

This idea that documents extend the inviolable mind into the physical world traditionally reached beyond the Fourth Amendment, linking it with

²²⁸ *Wilkes v. Wood*, (1763) 98 Eng. Rep. 489 (K.B.) 490.

²²⁹ *Entick v. Carrington*, 19 How. St. Tr. 1029, 1038 (1765).

²³⁰ *Id.* at 1064.

²³¹ *Id.*

²³² 16 THE PARLIAMENTARY HISTORY OF ENGLAND FROM THE EARLIEST PERIOD TO THE YEAR 1803, at 10 (1813).

²³³ THE FATHER OF CANDOR, *supra* note 21, at 54–55.

²³⁴ Herbert Broom & George L. Denman, *Constitutional Law Viewed in Relation to Common Law* 608 (1885).

Fifth Amendment concerns.²³⁵ In resisting a subpoena to produce files about its Vice Chancellor, Oxford University argued that forcing the university to turn over incriminating documents would “tempt a man to make shipwreck of his conscience, in order to disculpate himself.”²³⁶ Chief Justice Lee agreed, concluding that the Crown could not compel self-incrimination.²³⁷

As Professor Laura Donohue points out, this profound respect for private thoughts prevented document searches for nearly two hundred years.²³⁸ Thus we drew a substantial buffer around freedom of thought, which Justice Cardozo called “the matrix, the indispensable condition, of nearly every other form of freedom.”²³⁹

If the Fourth Amendment protects written thoughts, then their precise form proves immaterial. Whether papyrus, vellum, or magnetic platters, all are protected papers.²⁴⁰

²³⁵ See Christopher Slobogin, *Subpoenas and Privacy*, 54 DEPAUL L. REV. 805, 808 (2005) (“Throughout the nineteenth century, courts looked to the Fifth Amendment, not the Fourth Amendment, in analyzing the validity of subpoenas, and most believed that the Fifth Amendment’s injunction against compelling a person to testify against himself *prohibited* the government from demanding incriminating documents from a suspect. Late in the nineteenth century the Supreme Court expanded on this notion, by holding that such compulsion violated the Fifth Amendment *and* the Fourth Amendment’s restriction on unreasonable searches and seizures.”).

²³⁶ Donohue, *supra* note 21, at 1309 (quoting *The King v. Dr. Purnell*, 96 Eng. Rep. 20 (KB 1748)).

²³⁷ See *id.* Modern Court precedent has decoupled the Fourth and Fifth Amendments. See Slobogin, *supra* note 235 (“At the turn of the twentieth century, however, the Court reversed itself, removing virtually all Fourth Amendment strictures on document subpoenas and, when the documents were corporate in nature, eliminating Fifth Amendment limitations as well.”). This seems neither wise nor historically accurate.

²³⁸ Laura K. Donohue, *The Fourth Amendment in a Digital World*, 71 N.Y.U. ANN. SURV. AM. L. 553, 568 (2017) (“For nearly two hundred years, the government could *not* obtain private papers—even with a warrant—when they were to be used as evidence of criminal activity.”).

²³⁹ *Palko v. Connecticut*, 302 U.S. 319, 327 (1937), *overruled by* *Benton v. Maryland*, 395 U.S. 784 (1969).

²⁴⁰ Admittedly, this conclusion glibly oversimplifies the matter. In this author’s view, all are protected papers, but defining “search” has proven difficult, given the differences between physical and electronic papers. For example, if a police officer copied paper files by hand, obviously the officer searched them. But to maintain the computer’s evidentiary integrity, police commonly make a perfect digital copy for any seized drives. Normally no person views the data when the copy gets made. Has a search occurred? Multiple authors have weighed in on difficult questions like these. See, e.g., Richard A. Epstein, *Entick v Carrington and Boyd v United States: Keeping the Fourth and Fifth Amendments on Track*, 82 U. CHI. L. REV. 27, 48–49 (2015) (using an approach based on acquiring “new information”); see also Orin S. Kerr, *Searches and Seizures in a Digital World*, 119 HARV. L. REV. 531, 547–48 (2005) (advocating an approach that finds a search where data “is exposed to human observation”). This article focuses solely on defining Fourth Amendment digital property, without drawing boundary lines for searches.

V. FOURTH AMENDMENT PROPERTY RIGHTS IN DIGITAL DOCUMENTS

A. *Cloud Files*

More and more people utilize cloud services like Dropbox, Google Docs, and Microsoft OneDrive to store their files.²⁴¹ The benefits are obvious: ubiquitous access to your data from every device you own.²⁴² You can even control whether folders hold local copies or need to reach out to the cloud every time you access them.²⁴³ If you keep local copies, your data updates when you connect and remains ready on your device when you disconnect.²⁴⁴

For Fourth Amendment purposes, are these cloud files our property? Do we have the right to exclude others from them? Indeed. The Computer Fraud and Abuse Act bars unauthorized individuals from accessing our files and sharing them with others.²⁴⁵ The Stored Communications Act generally prevents even our storage provider from doing the same.²⁴⁶ And bailment law should treat digital storage providers no different than physical storage providers. Without a warrant, the Fourth Amendment should bar Government from delving through them.

B. *E-Mails*

E-mail was arguably the Internet's entire purpose. When the network started as ARPANET, linking government facilities and major research

²⁴¹ See, e.g., Kevin Curran, *Can Dropbox Keep Its Paid User Growth Momentum Going?*, REAL MONEY (Aug. 10, 2018, 4:37 PM), <https://realmoney.thestreet.com/articles/08/10/2018/can-dropbox-keep-its-paid-user-growth-momentum-going> (“Dropbox Inc.’s (DBX) paid users grew to 11.9 million in the second quarter, up 400,000 from the prior quarter and 1 million from the prior year quarter.”).

²⁴² See, e.g., *Easy File Syncing*, DROPBOX, <https://www.dropbox.com/features/sync> (“Save a file to the Dropbox folder on your computer, and it will sync automatically to your mobile device.”).

²⁴³ See *Smart Sync*, DROPBOX, <https://help.dropbox.com/installs-integrations/sync-uploads/smart-sync> (“Smart Sync is a Dropbox feature that helps you save space on your hard drive. . . . With Smart Sync, content on your computer is available as either online-only, local, or in mixed state folders.”).

²⁴⁴ See *Easy File Syncing*, *supra* note 242 (“With the desktop app, locally synchronized folders and files are available even when you’re away from an internet connection. Once you get back online, Dropbox will automatically synchronize your folders and files with all the latest changes. You can also select files to access offline on your Android or iPhone smartphone, and even your iPad.”).

²⁴⁵ See *supra* Part III.C (discussing the use of The Computer Fraud and Abuse Act as a tool for combating cybercrime).

²⁴⁶ See *supra* Part III.D (summarizing The Stored Communications Act’s general prohibitions).

institutions, it sought constant, unbreakable communication.²⁴⁷ And simple electronic messaging—e-mail—leveraged that connectivity.

Surprisingly, the way e-mail works remains mostly unchanged. Then and now, e-mail works with two servers, the sender and the receiver. Users access a server, write their e-mail, and then instruct the server to send it to USERNAME@DOMAIN. Their server looks up the domain and hands the e-mail to the server in charge of that domain. Then the sending server keeps a copy in that user’s outbox. The receiving server looks up the recipient in its user database and puts the e-mail in that user’s inbox. When the user opens the e-mail, the server marks it as having been read.

Certain details around this core design have changed as we change the way we use the technology. For example, as more people acquired home PCs, they no longer logged directly into servers to send and receive e-mail. Instead, they composed e-mails on their home computer, often without connecting to the Internet.²⁴⁸ When they were ready to send a batch of e-mails, their computer could dial their Internet provider.²⁴⁹ Their mail client would hand whole e-mail batches to the sending server.²⁵⁰ The e-mails would go from sending server to receiving server, then get sorted into the recipient’s inbox.²⁵¹ But just like on the sending end, few recipients are logging directly on to their server. Instead, their e-mail program would

²⁴⁷ Every major source agrees on this. But the sources *disagree* on exactly what they feared would break the system. Government sources suggest that ARPANET was insurance against nuclear war. *See, e.g.,* Stephen J. Lukasik, *Why the Arpanet Was Built*, 33 *IEEE ANNALS OF THE HISTORY OF COMPUTING* 4, 4 (2011) (“Writing from the viewpoint of the person who signed most of the checks for Arpanet’s development, . . . [t]he goal was to exploit new computer technologies to meet the needs of military command and control against nuclear threats, achieve survivable control of US nuclear forces, and improve military tactical and management decision making.”). Other sources suggest that they wanted persistent access to research computers across the country despite network changes or outages. *See, e.g.,* Mary Bellis, *ARPAnet – The First Internet*, *ABOUT: INVENTORS OF THE MODERN COMPUTER*, <http://theinventors.org/library/weekly/aa091598.htm> (“[Former ARPA director Charles Herzfeld] claimed that ARPANet was not created as a result of a military need, stating ‘it came out of our frustration that there were only a limited number of large, powerful research computers in the country and that many research investigators who should have access were geographically separated from them.’”).

²⁴⁸ *See, e.g.,* *Juno Online Services*, WIKIPEDIA (May 17, 2020, 7:34 PM), https://en.wikipedia.org/w/index.php?title=Juno_Online_Services&oldid=957234167 (“The user could write emails with the Juno client and would periodically sign in by dial-up. Upon doing so, the Juno client would upload any emails the user had written . . .”).

²⁴⁹ *See id.*

²⁵⁰ *See, e.g.,* *Simple Mail Transfer Protocol*, WIKIPEDIA (May 11, 2020, 11:44 AM), https://en.wikipedia.org/w/index.php?title=Simple_Mail_Transfer_Protocol&oldid=956078379 (“Email is submitted by a mail client (mail user agent, MUA) to a mail server (mail submission agent, MSA) using SMTP on TCP port 587.”).

²⁵¹ *See id.* (“Once the final hop accepts the incoming message, it hands it to a mail delivery agent (MDA) for local delivery. An MDA saves messages in the relevant mailbox format.”).

periodically dial in, check for new mail, and download the mail to their local PC.²⁵² The program would then either delete all the mail on the server or mark it as read.²⁵³

But this client-server model has declined with webmail like Hotmail and Gmail, where we are effectively logging on to the servers themselves again.²⁵⁴ With the substantial free storage space offered by these providers,²⁵⁵ they often become vast e-mail archives spanning years and even decades. And with virtually every online system from hotels to retailers to transportation sending e-receipts, e-mail becomes an enormous information trove, even without accounting for all the poorly considered private messages sent and received.

E-mails are among the few third-party digital documents that the courts have held protected under *Katz*. In its pathbreaking decision *United States v. Warshak*, the Sixth Circuit explained that the defendant “plainly manifested a [subjective] expectation that his e-mails would be shielded from outside scrutiny . . . [g]iven the often sensitive and sometimes damning substance of his e-mails.”²⁵⁶ On the objective side, *Warshak* concluded that society considered e-mails at least as private as letters and phone calls, both protected under prior Fourth Amendment precedent.²⁵⁷ Confronting the

²⁵² See *id.* (“Mail is retrieved by end-user applications, called email clients, using Internet Message Access Protocol (IMAP), a protocol that both facilitates access to mail and manages stored mail, or the Post Office Protocol (POP) . . .”); *Post Office Protocol*, WIKIPEDIA (MAY 9, 2020, 11:24 PM), https://en.wikipedia.org/w/index.php?title=Post_Office_Protocol&oldid=95581360 (“Th[e] design of POP and its procedures was driven by the need of users having only temporary Internet connections, such as dial-up access, allowing these users to retrieve e-mail when connected, and subsequently to view and manipulate the retrieved messages when offline.”).

²⁵³ See *Email Client*, WIKIPEDIA (May 24, 2020, 5:24 PM), https://en.wikipedia.org/w/index.php?title=Email_client&oldid=958593657 (“The Post Office Protocol (POP) allows the user to download messages one at a time and only deletes them from the server after they have been successfully saved on local storage. . . . However, there is no provision for flagging a specific message as seen, answered, or forwarded, thus POP is not convenient for users who access the same mail from different machines. Alternatively, the Internet Message Access Protocol (IMAP) allows users to keep messages on the server, flagging them as appropriate.”).

²⁵⁴ This comes with the substantial caveat that mobile devices—designed to operate with many different servers—still send and retrieve e-mail with SMTP and IMAP/POP. See, e.g., *Setting Up POP/IMAP Email on an Android (Jellybean)*, NO-IP: KNOWLEDGE BASE, <https://www.noip.com/support/knowledgebase/setting-up-popimap-email-on-an-android-jellybean/> (providing readers with set-up instructions).

²⁵⁵ See, e.g., Chris Hoffman, *How to Free Up Storage Space on Your Google Account: The Ultimate Guide*, HOW-TO GEEK (July 12, 2017, 1:24 PM), <https://www.howtogeek.com/171788/how-to-free-up-storage-space-on-your-google-account-the-ultimate-guide/> (“Every [Google] account gets 15GB of free space . . .”).

²⁵⁶ *United States v. Warshak*, 631 F.3d 266, 284 (6th Cir. 2010).

²⁵⁷ See *id.* at 284–86 (discussing protections for phone calls and letters and concluding that “[g]iven the fundamental similarities between email and traditional forms of communication, it would defy common sense to afford emails lesser Fourth Amendment protection”).

third-party issue, *Warshak* held that while *some* agreements between e-mail providers and subscribers might extinguish a reasonable expectation of privacy, only clear contractual language would suffice.²⁵⁸ After all, routine incursions by maids and handymen do not render hotel rooms and apartments unprotected.²⁵⁹ *Warshak* recognized that its holding created tension with *Miller*. But it concluded that *Miller* could be limited to the business records at issue, which were both simpler and necessary for bank business.²⁶⁰ Though the Supreme Court has never taken up the issue, when *Carpenter* refused to extend the third-party doctrine to cell-site location data, the Court suggested that “the third-party doctrine does not apply to the ‘modern-day equivalents of an individual’s own ‘papers’ or ‘effects,’” and they should receive “full Fourth Amendment protection.”²⁶¹

For Fourth Amendment purposes, are these e-mails our property? Do we have the right to exclude others from them? Absolutely. The Computer Fraud and Abuse Act bars unauthorized individuals from accessing our e-mail and sharing it with others.²⁶² The Stored Communications Act generally prevents even our e-mail service provider from doing the same.²⁶³ And bailment law expects that vendors holding our property temporarily will exclude others from it. E-mail should remain as protected under a property theory as *Warshak* has protected it under a privacy theory.

C. Other Messaging Services—*Snapchat, Telegram, Etc.*

E-mail remains one of the few messaging services that operates across servers owned by unrelated entities. As discussed above, e-mail protocols like

²⁵⁸ See *id.* at 287 (“[W]e are unwilling to hold that a subscriber agreement will *never* be broad enough to snuff out a reasonable expectation of privacy.”).

²⁵⁹ See *id.* (internal citations omitted) (“Hotel guests . . . have a reasonable expectation of privacy in their rooms . . . even though maids routinely enter hotel rooms Similarly, tenants have a legitimate expectation of privacy in their apartments . . . regardless of the incursions of handymen”).

²⁶⁰ See *id.* at 288 (limiting certain cases to business records at issue rather than an unlimited amount of confidential communications).

²⁶¹ *Carpenter v. United States*, 138 S. Ct. 2206, 2222 (2018) (quoting *Carpenter*, 138 S. Ct. at 2230 (Kennedy, J., dissenting)). The Court is speaking hypothetically here—“[i]f the third-party doctrine does not apply to the ‘modern-day equivalents of an individual’s own ‘papers’ or ‘effects,’” then the clear implication is that the documents should receive full Fourth Amendment protection”—because the majority is fencing with Justices Kennedy’s and Alito’s dissents. *Id.* But the majority next suggests that modern-day “papers” like e-mails and cell-site location information should both receive protection: “We simply think that such protection should extend as well to a detailed log of a person’s movements over several years.” *Id.*

²⁶² See *supra* Part III.C (discussing the Computer Fraud and Abuse Act being used as a statutory tool for combating cybercrime).

²⁶³ See *supra* Part III.D (detailing The Stored Communications Act’s general prohibitions).

SMTP, POP, and IMAP are all open standards, which let e-mail traverse networks and servers owned by many different companies and individuals. By contrast, systems like Snapchat, Telegram, Slack, and Facebook Messenger are closed protocols. When you send a message on these services, it never leaves Snapchat, Telegram, Slack, or Facebook.

But the same legal principles apply. The messages are still messages. The Computer Fraud and Abuse Act bars unauthorized individuals from accessing our messages and sharing them with others.²⁶⁴ The Stored Communications Act generally prevents even the service provider from doing the same.²⁶⁵ And bailment law expects that property will get delivered to the correct recipient. These messages should remain similarly protected.

D. Metadata

Metadata is “data about data.”²⁶⁶ In the Fourth Amendment context, it refers to the non-content information that surrounds our online activities and communications.²⁶⁷ The precise line between content and non-content information remains fuzzy and shifts with the context.²⁶⁸ Modern online life generates endless metadata. And it can be shockingly intrusive. Indeed, the cell-site location information at issue in *Carpenter* was almost certainly metadata, rather than content information. As the Court pointed out, this data could provide enormous insight into a subject’s private life: “[A] cell phone—almost ‘a feature of human anatomy,’—tracks nearly exactly the

²⁶⁴ See *supra* Part III.C (discussing the Computer Fraud and Abuse Act being used as a statutory tool for combating cybercrime).

²⁶⁵ See *supra* Part III.D (explaining the Stored Communications Act’s general preventions of service provider actions).

²⁶⁶ Piotr Kononow, *What Is Metadata (With Examples)*, DATAEDO (Sept. 16, 2018), <https://dataedo.com/kb/data-glossary/what-is-metadata>.

²⁶⁷ See, e.g., *ACLU v. Clapper*, 785 F.3d 787, 793 (2d Cir. 2015) (“Unlike what is gleaned from the more traditional investigative practice of wiretapping, telephone metadata do not include the voice content of telephone conversations. Rather, they include details about telephone calls, including, for example, the length of a call, the phone number from which the call was made, and the phone number called.”); see also *KERR*, *supra* note 203, at 624 (“Contents of communications are the substance of the message communicated from sender to receiver, while non-content information refers to the information used to deliver the communications from senders to receivers and other network-generated information about the communication. In the case of a telephone call, for example, a basic difference exists between the contents of the call (the communication) and mere information about the call (such as the phone numbers of the two parties and the duration of the call.”).

²⁶⁸ See *In re Google Inc. Cookie Placement Consumer Privacy Litig.*, 806 F.3d 125, 137 (3d Cir. 2015) (“[T]here is no general answer to the question of whether locational information is content. Rather, a ‘content’ inquiry is a case-specific one turning on the role the location identifier played in the ‘intercepted’ communication.”).

movements of its owner. . . . A cell phone faithfully follows its owner beyond public thoroughfares and into private residences, doctor's offices, political headquarters, and other potentially revealing locales."²⁶⁹ Metadata can prove every bit as intrusive as content information; indeed, sometimes it proves more so.

But the statutory schemes we use to find property rights for content information find little purchase here. The CFAA remains applicable, but it is not clear whether we have sufficient ownership to claim the data. And the CFAA does not prohibit sharing by the service provider in any event. The Stored Communications Act broadly permits providing non-content information "to any person other than a governmental entity."²⁷⁰ As discussed in this Article's section on the SCA, an argument certainly exists for triggering constitutional protections based on the SCA's prohibition on government data sharing.²⁷¹ But that conclusion seems by no means certain. Like the CFAA, bailment law bears only questionable relevance, with metadata's ownership in question. And even if the originator owned the metadata, they had no expectation it would be returned or delivered according to their instructions.

CONCLUSION

Professor Jed Rubenfeld rightly summarized the problems with a privacy-focused Fourth Amendment:

[A] Fourth Amendment dedicated to privacy must . . . ultimately reduce itself to duplicating private-sphere privacy expectations.

There is nothing wrong with a Fourth Amendment so conceived, except that it will have no understanding of what it really stands for. It will see its role inevitably shrinking as information technology expands. So long as Fourth Amendment privacy is parasitical on private-sphere privacy, the former must die as its host dies, and this host is undoubtedly faltering today in the networked, monitored and digitized world we are learning to call our own.²⁷²

Narrowly focused and unable to keep pace with technology's breakneck development, the *Katz* standard cannot protect us in a digital world. Property offers more certainty. And with that certainty comes—hopefully—quicker and more definitive judicial responses to the Government's overreach.

²⁶⁹ *Carpenter v. United States*, 138 S. Ct. 2206, 2218 (2018) (citations omitted).

²⁷⁰ 18 U.S.C. § 2702(c)(6) (2012).

²⁷¹ See *supra* Part III.D (discussing the Stored Communication Act's prohibition of some content).

²⁷² Rubenfeld, *supra* note 14, at 118.

