

Washington Law Review

Volume 97 | Number 1

3-1-2022

The New Bailments

Danielle D'Onfro

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Recommended Citation

Danielle D'Onfro, *The New Bailments*, 97 Wash. L. Rev. 97 (2022).
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Cover Page Footnote

Associate Professor of Law, Washington University in St. Louis. I am grateful for feedback from Molly Brady, Ryan Calo, Nestor Davidson, Dan Epps, Ron Levin, Ronald Mann, Christopher Newman, Chris Odinet, Neil Richards, the participants in the 2021 Private Law and Emerging Technologies Workshop, the 2021 AALS Property New Voices Program, the 2021 AALS Consumer/Commercial Works in Progress Program, the 2020 Washington University School of Law Winter Sprint Workshop, and the Junior Faculty Spring Writing Retreat. Many thanks to Hyla Bondareff, Phil Eckert, Calann Edwards, Nathan Hall, Kathie Molyneaux, and Melissa Sapp for their research assistance. I am especially grateful to the editors of Washington Law Review for their diligent work on this Article. I am especially indebted to Lindsey Diel and SweetArt St. Louis for their support while writing.

THE NEW BAILMENTS

Danielle D’Onfro*

Abstract: The rise of cloud computing has dramatically changed how consumers and firms store their belongings. Property that owners once managed directly now exists primarily on infrastructure maintained by intermediaries. Consumers entrust their photos to Apple instead of scrapbooks; businesses put their documents on Amazon’s servers instead of in file cabinets; seemingly everything runs in the cloud. Were these belongings tangible, the relationship between owner and intermediary would be governed by the common-law doctrine of bailment. Bailments are mandatory relationships formed when one party entrusts their property to another. Within this relationship, the bailees owe the bailors a duty of care and may be liable if they fail to return the property. The parties can use contracts to customize the relationship but not to disclaim the duty of care entirely.

Tracing the law of bailment relationships from its ancient roots to the present, this Article argues that cloud storage should be understood as potentially creating a bailment relationship. Though the kind of stored property has changed over time, the parties’ expectations and incentives have not: people entrusting their property to others expect that it will be kept reasonably safe. Although cloud storage is not new, courts have had scant opportunity to analyze the obligations of cloud storage providers. The best explanation for this lack of case law is the decline of litigation, the rise of arbitration, federal diversity jurisdiction, and the ever-growing dominance of contracts, not that bailment has no role in cloud storage.

Recognizing cloud storage as a potential bailment would have significant implications. Most immediately, it would suggest that some provisions in many cloud storage services’ contracts are unenforceable or enforceable only after fact-intensive judicial review. A hand-collected dataset of fifty-eight cloud storage contracts reveals that most have included general disclaimers for any liability for lost data that are inconsistent with the duty of care that is the foundation of the law of bailment. In addition, understanding cloud storage as a bailment would have important implications for both the law of consumer protection and Fourth Amendment protections.

* Associate Professor of Law, Washington University in St. Louis. I am grateful for feedback from Molly Brady, Ryan Calo, Nestor Davidson, Dan Epps, Ron Levin, Ronald Mann, Christopher Newman, Chris Odinet, Neil Richards, the participants in the 2021 Private Law and Emerging Technologies Workshop, the 2021 AALS Property New Voices Program, the 2021 AALS Consumer/Commercial Works in Progress Program, the 2020 Washington University School of Law Winter Sprint Workshop, and the Junior Faculty Spring Writing Retreat. Many thanks to Hyla Bondareff, Phil Eckert, Calann Edwards, Nathan Hall, Kathie Molyneaux, and Melissa Sapp for their research assistance. I am especially grateful to the editors of *Washington Law Review* for their diligent work on this Article. I am especially indebted to Lindsey Diel and SweetArt St. Louis for their support while writing.

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INTRODUCTION

To have property is to need storage. Few of us always keep all our property in our literal possession. Storage solves this logistics nightmare. It allows owners to accumulate resources for future use and to preserve the past, and thereby reap the benefits of private property.

Storing property in the care of others complicates the situation. At common law, the doctrine of bailment covered transactions in which people delivered property to others on the understanding that the recipients would later return the property.¹ The recipient of property becomes a bailee and the deliverer the bailor. The law of bailment determines who bears the risk of loss if the bailee cannot return the property in the condition received and supplies the procedural rules of

1. JOHN H. BAKER, AN INTRODUCTION TO ENGLISH LEGAL HISTORY 389 (4th ed. 2007); JOSEPH STORY, COMMENTARIES ON THE LAW OF BAILMENTS: WITH ILLUSTRATIONS FROM THE CIVIL AND FOREIGN LAW 1–2 (1832). There are competing theories about whether contract or tort provides the best theoretical basis for bailment doctrine.

who has the burden of explaining what happened to the property.² And finally, the law of bailment may help determine when third parties like creditors and law enforcement can access the property.³

The modern doctrine of bailment has its roots in the Middle Ages, although the concept is much older than that.⁴ Bailment has evolved to accommodate new technologies, understandings of ownership, and legal procedures.⁵ The question animating this Article is whether the law of bailment can and should accommodate the latest of these shifts: the rise of digital assets and cloud storage. Although cloud storage was already growing rapidly before 2020, it exploded after the pandemic shifted many companies to remote work.⁶ Digital assets are poised to play an ever-increasing role both in firm value and in individual's daily lives. Moreover, Justice Gorsuch has recently suggested that the answer to this question may determine whether the Fourth Amendment protects files stored on popular services⁷ like Gmail and Dropbox.

From ocean liners to FedEx distribution centers, safe deposit boxes to dry cleaners, parking lots to lending between friends, bailments and their kin are everywhere. As a relationship—and bailments are fundamentally relationships—bailment is so common, and its basic rules so intuitive, that there is no need to think about the contours of the relationship in most

2. See Edward Brodkey, *Practical Aspects of Bailment Proof*, 45 MARQ. L. REV. 531 (1962) (surveying the procedural rules of bailment).

3. See *infra* Part V.

4. See *infra* section I.A.

5. See *infra* section I.C.

6. Aaron Tilley, *A Cloud Surge Lifts Amazon, Microsoft and Google's Results*, WALL ST. J. (July 31, 2020, 8:01 AM), <https://www.wsj.com/articles/big-businesses-multiyear-bets-fuel-cloud-growth-11596196893> [<https://perma.cc/4HZ5-YNLB>]; Angus Loten, *Cloud Spending Hits Record Amid Economic Fallout from Covid-19*, WALL ST. J. (Aug. 3, 2020, 6:49 PM), <https://www.wsj.com/articles/cloud-spending-hits-record-amid-economic-fallout-from-covid-19-11596494981> [<https://perma.cc/TG89-WR33>].

7. *Carpenter v. United States*, 585 U.S. ___, 138 S. Ct. 2206, 2268–69 (2018) (Gorsuch, J., dissenting).

cases.⁸ Trust lies at the core of the bailment relationship.⁹ If you lend your bicycle to your roommates, you trust that they will take care of it while they have it and return it to you when you ask for it. Without that trust, you would, hopefully, not lend the bicycle. Bailment puts the force of law behind that trust, elevating it into a duty of care that the bailee owes the bailor. By giving trust the force of law, bailment is a protective doctrine that transcends the traditional boundaries of contract, property, and tort.

Traditionally, the law of bailment has only applied to tangible goods in large part because it developed in a world with few intangibles and nothing approximating digital data.¹⁰ However, as people substitute digital goods for tangible goods, this limitation no longer makes sense. There is no agreed-upon term for these digital substitutes.¹¹ For the sake of convenience, this Article uses the term “digital property assets” to refer to electronically stored *files*. These files may be property, even if their content is not.¹² Indeed, digital property need not be “Property,” in the strongest sense of the word. This Article will show that these files bear

8. Thirty years ago, Richard Helms noted that bailments had received little scholarly attention since the 1930s. R.H. Helms, *Bailment Theories and the Liability of Bailees: The Elusive Uniform Standard of Reasonable Care*, 41 U. KAN. L. REV. 97, 100 (1992). Despite remaining a common source of litigation in courts, the common law of bailment has not received much scholarly attention since Helms’s observation. The notable exceptions are Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 811–20 (2001), and Christopher M. Newman, *Bailment and the Property/Contract Interface* (George Mason Univ., Working Paper No. LS 15-12, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2654988 [<https://perma.cc/V9SW-QV7Y>]. Earlier treatments of the doctrine are primarily historical. See Samuel Stoljar, *The Early History of Bailment*, 1 AM. J. LEGAL HIST. 5, 5 (1957); Joseph H. Beale, Jr., *The Carrier’s Liability: Its History*, 11 HARV. L. REV. 158 (1897). Statutory interventions in the law have also received little attention. For example, there is a whole article of the Uniform Commercial Code, article 7, on Documents of Title, which covers commercial bailment relationships under documents of title. U.C.C. § 7 (AM. L. INST. & UNIF. L. COMM’N 2003). Its revision in 2003 and prompt adoption in all fifty states plus the District of Columbia received virtually no attention in law reviews. See *UCC Article 7, Documents of Title*, UNIF. L. COMM’N, <https://www.uniformlaws.org/committees/community-home?CommunityKey=9893636e-0046-498a-8ed9-3d57c192489a> (last visited Feb. 1, 2022).

9. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 108; 2 Ld. Raym. 909, 911 (KB).

10. PRINCIPLES FOR A DATA ECONOMY: DATA TRANSACTIONS AND DATA RIGHTS 6 (NEIL COHEN & CHRISTIANE WENDEHORST, AM. L. INST. & EUR. L. INST. 2020) (“With the emergence of the data economy, however, tradeable items often cannot readily be classified as such goods or rights, and they are arguably not services. They are often simply ‘data.’”).

11. Some commentators refer to these files as “digital assets.” See Natalie M. Banta, *Property Interests in Digital Assets: The Rise of Digital Feudalism*, 38 CARDOZO L. REV. 1099, 1105–08 (2017) (arguing that digital asset contracts reveal an assumption that users of email, social media, and other services have some form of property that the contract modifies); David Horton, *The Stored Communications Act and Digital Assets*, 67 VAND. L. REV. 1729 (2014).

12. See Joshua A.T. Fairfield, *Appetite for Destruction: Symbolic and Structural Facets of the Right to Destroy Digital Property*, 74 WASH. & LEE L. REV. 539, 547 (2017) (“Even if data itself is not property, the digital boxes that contain it might be.”).

sufficient similarity to traditional chattel property such that the common-law doctrine of bailment should apply.¹³

To see a snapshot of how cloud storage companies understand their service in relation to the doctrine of bailment at this moment in time, this Article relies on a hand-collected dataset of fifty-eight contracts from fifty-four cloud storage providers. Contracts in this dataset are coded for language relating to the risk of data loss. Only one contract in the data set explicitly contemplates bailment.¹⁴ Although most of these contracts do not discuss bailment by name, they have terms that implicate the doctrine. In the dataset, fifty-two contracts had one or more provisions attempting to disclaim liability for lost data. Several contracts went further, commanding the client to maintain back-up copies of the data. A few even reserved the option to delete customer data at their discretion. Caps on liability for lost data are common.

The exculpatory clauses in this data set are typical of those found across consumer contracts more generally.¹⁵ These clauses attempt to pare back, and even eliminate, the many private law doctrines that constrain contracts in the name of consumer protection.¹⁶ When applied to bailments, exculpatory clauses vitiate the duty of care that would apply if the facts of the relationship animating the contract created a bailment.¹⁷ If the stored assets were tangible, a company contracting with the public would likely not be able to make such an end-run around bailment law.¹⁸

Digital assets should be no different. This Article builds on the growing literature arguing that “computer code that is designed to act like real world property” should “be regulated and protected like real world

13. As drafted, some statutory formulations of bailment may be limited to tangible property. This constraint is not inherent to the doctrine itself. *See infra* section I.B.

14. Efforts to find historical versions of the contracts in the dataset produced very limited results. Of the historical drafts available, only one referenced bailment directly. *See AWS Terms of Service, infra* note 300.

15. Ryan Martins, Shannon Price & John Fabian Witt, *Contract’s Revenge: The Waiver Society and the Death of Tort*, 41 CARDOZO L. REV. 1265, 1280–82 (2020); *see also* MICHAEL OVERLY & JAMES R. KALYVAS, *SOFTWARE AGREEMENTS LINE BY LINE* 69–83 (2d ed. 2016) (explaining that broad disclaimers of liability are common in software contracts).

16. *See generally* Martins et al., *supra* note 15 (explaining the rise of exculpatory clauses that limit tort liability).

17. *See* A. Darby Dickerson, Note, *Bailor Beware: Limitations and Exclusions of Liability in Commercial Bailments*, 41 VAND. L. REV. 129, 131 (1988).

18. *Griffin v. Nationwide Moving & Storage Co.*, 446 A.2d 799, 804 (Conn. 1982) (finding that parties cannot disclaim the bailment relationship by contract); *Am. Nursery Prods., Inc. v. Indian Wells Orchards*, 115 Wash. 2d 217, 230–31, 797 P.2d 477, 485 (1990) (same); *Ellerman v. Atlanta Am. Motor Hotel Corp.*, 191 S.E.2d 295, 296 (Ga. Ct. App. 1972) (same).

property.”¹⁹ In his critique of the tech industry, Adrian Daub argues that “[f]etishizing the novelty of the problem” that tech is attempting to solve, “deprives the public of the analytic tools that it has previously brought to bear on similar problems.”²⁰ He explains that “standard analytic tools largely apply just fine” despite the novelty of new technology.²¹ One such analytic tool is the private law, particularly as conceived in the law of bailment.

The law of bailment exists independent of the contracts between tech companies and their clients. As Natalie Banta has explained, “[t]he concept of property and ownership goes beyond the terms of a contract—contracts cannot rewrite an entire system of property for digital assets.”²² Cloud storage is the safe deposit box of the twenty-first century, and upon closer inspection, the law of safe deposit boxes maps nicely onto cloud storage.²³ This conclusion stakes out a role for property doctrine as mandatory law notwithstanding broad freedom to contract. Joshua A.T. Fairfield has argued that, “the law of contract and the law of property traditionally balance each other” with contract facilitating customization and property limiting the inefficiencies that customization can impose on assets.²⁴ He argued that the contracts governing virtual environments attempt to eliminate the checks and balances traditionally posed by property law.²⁵ Bailment is one such check—it secures digital assets against uncertainty and loss from firms with technological, informational, and bargaining advantages.²⁶

The common law of bailment is an essential framework for understanding cloud storage even if cloud storage manages to evade

19. Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047, 1048 (2005); see also Banta, *supra* note 11; Colin P. Marks, *Online Terms as in Terrorem Devices*, 78 MD. L. REV. 247 (2019).

20. ADRIAN DAUB, WHAT TECH CALLS THINKING: AN INQUIRY INTO THE INTELLECTUAL BEDROCK OF SILICON VALLEY 5 (2020).

21. *Id.*; see also Fairfield, *supra* note 19, at 1050 (“Even where there has been some recognition that virtual property is somehow ‘different,’ no clear articulation of that difference has been offered.”).

22. Banta, *supra* note 11, at 1107.

23. See Ronald J. Mann & Seth R. Belzley, *The Promise of Internet Intermediary Liability*, 47 WM. & MARY L. REV. 239, 244 (2005) (exploring how the internet has matured with a “set of legal rules . . . that have granted . . . actors broad freedom of action or exempted them from rules that govern analogous conduct outside cyberspace”).

24. Fairfield, *supra* note 19, at 1051–52; see also Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 26–27 (2000).

25. Fairfield, *supra* note 19, at 1083–84.

26. See Caitlin J. Akins, Note, *Conversion of Digital Property: Protecting Consumers in the Age of Technology*, 23 LOY. CONSUMER L. REV. 215, 218 (2010) (explaining that internet-based services create three imbalances in favor of the service provider: technological imbalance, information imbalance, and bargaining imbalance).

adjudication in common law courts. To date, the public has heard of few large-scale losses of cloud-based files. If and when that changes, the political economy may demand statutory ground rules for cloud storage as there are for self-storage and commercial warehousing. To integrate cleanly with other areas of law, notably contract, any statutory law of cloud storage should start with the principles of bailment.

This Article proceeds in five Parts. Part I explains the law of bailment. Next, Part II turns to cloud storage, explaining how it works, arguing that the stored files are analogous to chattel property, and finally exploring the risks that cloud storage presents. Part III then makes the case that the common law doctrine of bailment covers cloud storage. To see how cloud storage companies view their bailment liability, Part IV is an empirical look at cloud storage contracts as they exist in the middle of 2020. Finally, Part V explores the structural barriers to recognizing cloud storage as a bailment in the law and the implication of the uncertainty around cloud storage for other areas of the law including the Fourth Amendment and ownership more broadly.

I. THE LAW OF BAILMENT

A few themes animate the heart of bailment doctrine. The first is that trust is the lifeblood of the bailment relationship. The second is that bailment is a mandatory doctrine—courts will look through contracts to the facts to determine whether a bailment exists. And the third, is that the bailment doctrine puts liability on the least cost avoider, especially in cases where the bailee has a significant informational advantage over the bailor.

A. *A Brief History of Bailment*

For several millennia, bailment has been a body of law that governs the relationship between the owner of a property and the person storing that property. It appears in the Code of Hammurabi²⁷ and Roman law in forms not much different from the modern common law doctrine.²⁸ For example, section 125 of the Code of Hammurabi says:

If a man give anything of his on deposit, and at the place of deposit either by burglary or pillage he suffer loss in common

27. THE CODE OF HAMMURABI §§ 112, 120–125, *translated in* ROBERT FRANCIS HARPER, THE CODE OF HAMMURABI, KING OF BABYLON, ABOUT 2250 B.C., at 39, 41–43 (Robert Francis Harper trans., 2d ed. Univ. of Chi. Press 1904).

28. Charles Sumner Lobingier, *The Common Law's Indebtedness to Rome*, 11 A.B.A. J. 265, 266–67 (1925).

with the owner of the house, the owner of the house who has been negligent and has lost what was given to him on deposit shall make good (the loss) and restore (it) to the owner of the goods²⁹

Then, as now, the persistent question is who bears the risk of loss.

The facts that give rise to this question are diverse. In his commentary on English law, Henry de Bracton sorted these facts into six categories, each with its own nuance but retaining the core idea that someone holding another person's property owes that person a duty to return the property unharmed.³⁰ Writing in *Coggs v. Bernard*³¹ in 1703, Chief Justice Holt elaborated on Bracton's taxonomy.³² According to Holt and Bracton, the traditional categories of bailment are bare naked bailments or depositum; gratuitous loans to friends or commodatum; hired goods or location et conductio; pawn and pledge or vadium; common carriers including tradespeople; and volunteers or mandatum.³³ This taxonomy remains influential to both courts³⁴ and commentators³⁵ more than three centuries

29. THE CODE OF HAMMURABI § 125, *translated in* HARPER, *supra* note 27, at 43. Henry de Bracton, writing in the thirteenth century, and Chief Justice John Holt, writing in the eighteenth century, give a nearly identical formulation of the law. *See* 2 HENRY DE BRACTON, BRACTON DE LEGIBUS ET CONSUEUDINIBUS ANGLIAE 284 (Samuel E. Thorne trans., Harv. Univ. Press 1977); *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 110; 2 Ld. Raym. 909, 913–14 (KB).

30. BRACTON, *supra* note 29, at 284.

31. (1703) 92 Eng. Rep. 107; 2 Ld. Raym. 909 (KB) (also called *Coggs v. Barnard* in some manuscripts).

32. *Id.* at 109–14; 2 Ld. Raym at 912–19; Stoljar, *supra* note 8, at 22 n.69 (explaining that Holt borrowed his terms from Bracton).

33. *Coggs*, 92 Eng. Rep. at 109–14; 2 Ld. Raym at 912–19; BRACTON, *supra* note 29, at 284; *see also infra* section I.C.

34. *See, e.g.*, Ferrick Excavating & Grading Co. v. Senger Trucking Co., 484 A.2d 744, 747–48 (Pa. 1984) (relying on Holt's taxonomy on bailments in *Coggs*); Rodi Yachts, Inc. v. Nat'l Marine, Inc., 984 F.2d 880, 885 (7th Cir. 1993) (same); Llamera v. United States, 15 Cl. Ct. 593, 598 (1988) (citing *Coggs* for the proposition that reliance alone is sufficient to create a bailment); Com. Molasses Corp. v. N.Y. Tank Barge Corp., 314 U.S. 104, 110 (1941) ("Petitioner apparently does not challenge the distinction which for more than two centuries since *Coggs v. Bernard*, *supra*, has been taken between common carriers and those whom the law leaves free to regulate their mutual rights and obligations by private arrangement"). Louisiana civil law cases retain Bracton's nomenclature. *Standard Motor Car Co. v. State Farm Mut. Auto. Ins. Co.*, 97 So.2d 435, 437 (La. Ct. App. 1957) (explaining that bailment "is quite similar in many respects to a civil law 'deposit'").

35. *See, e.g.*, STORY, *supra* note 1, at 3–5 (incorporating Holt's categories into his own framework); Kurt Philip Autor, Note, *Bailment Liability: Toward a Standard of Reasonable Care*, 61 S. CAL. L. REV. 2117, 2127 (1988) (describing competing classification regimes). *But see* Stoljar, *supra* note 8, at 16 (criticizing Bracton's taxonomy, which was the foundation of Holt's, as neither "enlightening" nor "clear"); Dickerson, *supra* note 17, at 135 (describing Holt's framework as "obsolete").

later, although it is yielding to simpler frameworks.³⁶ Still, the breadth of these categories reveals the wide reach of bailment doctrine.

To the extent that bailment has a reputation for being abstruse,³⁷ its old procedure is partly to blame. At common law, bailees faced liability under four actions: detinue,³⁸ account, case, and later, conversion.³⁹ Detinue, in particular, invited shenanigans.⁴⁰ But the core principle of bailees owing bailors a duty of care has remained constant. Even where agreements are silent on any standard of care, the law has long imposed an obligation on bailees to perform their services with care.

At common law, if bailees could not return the property, bailors were entitled to a remedy unless the bailees could successfully plead an excuse. Acceptable excuses shifted over time. Bailees could claim an accidental loss defense in the fourteenth century,⁴¹ but appear to have been strictly liable for losses for all losses except those “caused by act of God or the king’s enemies” by the fifteenth century.⁴² But even then, this strict rule was merely the default. Bailees could and did accept bailments on less stringent terms, notably on a promise to treat the bailors’ goods with

36. This more modern framework simplifies Holt’s six categories into three: bailments for sole benefit of the bailor, bailments for the sole benefit of the bailee, and bailments for mutual benefit. 8A AM. JUR. 2D *Bailments* § 7 (2021). Some courts further simplify these categories into only two: bailments for hire and gratuitous bailments. *Id.*; *see also* Gulf Transit Co. v. United States, 43 Ct. Cl. 183, 196 (1908) (explaining that contracts between the government and “corporations or individuals engaged in the business of receiving and caring for the property of others either for the purpose of hire or for the performance of work thereon” are “in the class of mutual benefit bailments”); Gray v. Snow King Resort, Inc., 889 F. Supp. 1473, 1478 (D. Wyo. 1995) (incorporating the simpler bailment for mutual benefit/gratuitous bailment framework into Wyoming law).

37. *George v. Bekins Van & Storage Co.*, 205 P.2d 1037, 1041 (Cal. 1949) (describing case law as “conflicting and confusing”).

38. A writ of detinue would send the sheriff to order the bailee to return the bailed property. Holdsworth described detinue and debt as “twin actions,” analogizing the bailee’s obligation to return property to the borrower’s obligation to repay money. 3 WILLIAM SEARLE HOLDSWORTH, A HISTORY OF ENGLISH LAW 348 (1923).

39. Beale, *supra* note 8, at 159; *see also*, BAKER, *supra* note 1, at 396 (recounting a bailee being held liable in conversion when he opened sealed boxes of silver and spent the coin).

40. Bailees would mostly plead *non detinet* (he does not withhold) when they no longer had possession of the property. The plea of *non detinet* proved short-lived, perhaps because it all but invited opportunism. For example, a bailee holding wine might drink it and then truthfully be able to plead *non detinet*. It remains unclear how courts handled this situation. *See* YB 20 Hen. 6, fol. 16, Brown, pl. 2 (1442) (“If you bail me a tun of wine and I drink it with good company, you cannot detinue for it because the wine is no longer of this world.”).

41. BAKER, *supra* note 1, at 392.

42. *Id.* There is disagreement among scholars about whether bailee liability was arguably an earlier form of strict liability. *Id.* at 395; *see also* O.W. HOLMES, JR., THE COMMON LAW 167 (2d ed. 1909). *But see* Stoljar, *supra* note 8, at 14 (arguing that bailee’s liability is better conceived of as “qualified” rather than “strict” except in the case of common carriers); Beale, *supra* note 8, at 162 (questioning the evidence that bailees generally faced strict liability).

reasonable care or the same care that he treated his own.⁴³ Under these early exculpatory clauses, bailees were still liable if their negligence caused injury to the bailed property.⁴⁴ There is no evidence that a bailee could completely disclaim their duty of care.

Conversely, bailors have long been able to use contracts to secure greater protection from their bailees. At common law, such a bailor needed a “special undertaking” in which the bailee would promise to keep the goods “safely and securely.”⁴⁵ Writing in *Coggs*, Justice Gould explained that payment of a premium was evidence of this higher undertaking.⁴⁶

Over time, the default duty of care relaxed leading to uncertainty about whether the default duty of care is negligence or gross negligence.⁴⁷ This uncertainty persists in modern case law, but the majority rule is that ordinary negligence is the duty of care.⁴⁸ Either way, the duty of care remains a constant in the law.

Today, much of the common law of bailment has been codified. There is no comprehensive bailment statute, but rather industry-specific formulations scattered across the state and federal code. Most, but not all, of these statutes preserve the bailment relationship where it would apply at common law. As much as bailment is a set of rules facilitating efficient commercial transactions, it is also a consumer protection law that puts the threat of liability behind inducements of trust.

Depending on the value of the stored property, the business risk of bailment liability may be undesirable if not intolerable. It is unsurprising then that industries like self-storage have lobbied for statutes mitigating this risk or at least providing more certainty than the common law about what risk they bear.⁴⁹ Industry-driven interventions limiting bailees’ liability take a few common forms. The first, and most extreme, are

43. BAKER, *supra* note 1, at 392.

44. *Id.* at 395.

45. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 107–08; 2 Ld. Raym. 909, 909–10 (KB).

46. *Id.* at 107; 2 Ld. Raym. at 909.

47. By the eighteenth century, whether the default standard of liability was negligence or gross negligence remains unclear. Justice Gould explained:

So if goods are deposited with a friend, and are stolen from him, no action will lie. But there will be a difference in that case upon the evidence, how the matter appears; if they were stolen by reason of a gross neglect in the bailee, the trust will not save him from an action, otherwise if there be no gross neglect.

Id. Holt argued that the standard was gross neglect but conceded that there was a case against him. *Id.* at 110; 2 Ld. Raym. at 910.

48. See generally Helmholz, *supra* note 8 (tracing the uncertainty).

49. Jeffrey Douglas Jones, *Property Rights, Property Wrongs, and Chattel Dispossession Under Self-Storage Leases*, 78 TENN. L. REV. 1015, 1020 (2011).

statutes that prevent the creation of a bailment where the facts would create a bailment at common law. The moving and self-storage industry has succeeded in winning these statutes in a handful of states.⁵⁰

The second statutory intervention in bailments is caps on bailee liability for lost and damaged property. One form of this intervention shields bailees from accidentally providing more insurance than they were intended to provide. For example, California, Guam, Montana, Oklahoma, and South Dakota have statutes that cap bailees' liability at "the amount which [they are] informed by the depositor, or ha[ve] reason to suppose, the thing deposited to be worth."⁵¹ A more protective form of this intervention allows bailees to unilaterally cap their liability. Hotels in every state benefit from these statutes,⁵² although some states decline to extend the cap to losses attributable to the hotel's negligence.⁵³ These "innkeepers' statutes" undo the common law rules that included innkeepers among common carriers held strictly liable for losses of their client's property.⁵⁴

The third form of statutory intervention attempts, with mixed success, to resolve some of the uncertainty at common law over whether and how the parties can use contracts to specify the bailee's duty of care.⁵⁵ The most significant version of this intervention is in article 7 of the Uniform Commercial Code (U.C.C.), which governs documents of title, including warehouse receipts and bills of lading, for personal property. In governing warehouse receipts, U.C.C. article 7 covers much of the commercial activity that would otherwise fall under the law of bailments for hire.⁵⁶ U.C.C. section 7-204(a) sets a warehouse's baseline duty of care at "damages for loss of or injury to the goods caused by its failure to exercise care with regard to the goods that a reasonably careful person would

50. See *infra* section I.C. See generally Jones, *supra* note 49 (detailing the statutory interventions in the self-storage industry).

51. CAL. CIV. CODE § 1840 (West 2021); 18 GUAM CODE ANN. § 41108 (2020); MONT. CODE ANN. § 70-6-204 (2021); OKLA. STAT. ANN. tit. 15, § 460 (2021).

52. Dickerson, *supra* note 17, at 145 n.113 (cataloging innkeepers statutes in all fifty states).

53. Compare *Shamrock Hilton Hotel v. Caranas*, 488 S.W.2d 151, 153 (Tex. Civ. App. 1972) (innkeeper statute does not shield hotel for liability for negligence), with *Associated Mills, Inc. v. Drake Hotel, Inc.*, 334 N.E.2d 746, 750 (Ill. App. Ct. 1975) (liability cap applies notwithstanding the hotel's negligence).

54. See *supra* section I.C.

55. See Hugh Evander Willis, *The Right of Bailees to Contract Against Liability for Negligence*, 20 HARV. L. REV. 297, 299 (1907) ("Almost unanimously it is held that bailees may increase the duty which they would otherwise be under, but to what extent they may decrease that duty is not clear."); Note, *Validity of an Ordinary Bailment Contract Limiting Liability of Bailee for Negligence*, 86 U. PA. L. REV. 772, 773-76 (1938).

56. U.C.C. § 7 (AM. L. INST. & UNIF. L. COMM'N 2010).

exercise under similar circumstances.”⁵⁷ It then provides that “[u]nless otherwise agreed, the warehouse is not liable for damages that could not have been avoided by the exercise of that care,”⁵⁸ the implication being that the parties can contract for the bailee to bear a higher duty of care.⁵⁹

The U.C.C. also endorses liability caps providing, “[d]amages may be limited by a term in the warehouse receipt or storage agreement,” except when the warehouse converts the property for its own use.⁶⁰ Although courts do tend to enforce damages caps that comply with U.C.C. § 7-204(b) against “sophisticated” parties,⁶¹ they still occasionally hold that damages caps are unconscionable against consumers.⁶² Interpreting section 7-204 in *OFI International, Inc. v. Port Newark Refrigerated Warehouse*,⁶³ the United States District Court for the District of New Jersey explained that “[w]hile a common carrier and a bailee cannot ‘effectuate a complete exemption from liability for losses proximately resulting from the negligence of the carrier or bailee,’ nothing prevents them from placing limitations on that liability.”⁶⁴

B. *Modern Bailments at Common Law*

Bailment is the separation of actual possession from other property rights.⁶⁵ Bailors retain most of the rights in the delivered goods.⁶⁶ Notwithstanding the bailment, the bailors retain the right to control the property.⁶⁷ To create the archetypical bailment, Holt’s “bare naked

57. *Id.* § 7-204(a).

58. *Id.*

59. *See id.* § 7-204(b).

60. *Id.*

61. *Coutinho & Ferrostaal Inc. v. M/V Fed. Rhine*, 799 F. Supp. 2d 550, 554 (D. Md. 2011); *see also* Anthony B. Schutz, *Documents of Title*, 67 BUS. LAW. 1293, 1296 (2012).

62. *See, e.g., Jasphy v. Osinsky*, 834 A.2d 426, 432 (N.J. Super. Ct. App. Div. 2003) (holding a \$1 cap on damages in an adhesion contract between a furrier and a consumer to be unconscionable); *see also* Drew L. Kershen, *Article 7: Documents of Title—2003 Developments*, 59 BUS. LAW. 1629, 1633 (2004).

63. *OFI Int’l, Inc. v. Port Newark Refrigerated Warehouse*, No. 11-CV-06376, 2015 WL 140134, at *9 (D.N.J. Jan. 12, 2015).

64. *Id.* at *9 (quoting *Silvestri v. S. Orange Storage Corp.*, 81 A.2d 502, 504 (N.J. Super. Ct. App. Div. 1951)).

65. *See Silvers v. Silvers*, 999 P.2d 786, 793 (Alaska 2000) (“Where the plaintiff transfers only the possessory interest in her property to the defendant, a bailment is created.”); *see also*, BAKER, *supra* note 1, at 389. The separation of possession and property occurred gradually.

66. This interest may be ownership, but it may also be something less. Merrill & Smith, *supra* note 8, at 812 (explaining that bailment is a transfer of possession with the bailor retaining the other in rem property rights associated with ownership including the right to alienate or devise).

67. *See, e.g., U.C.C. § 2-705* (AM. L. INST. & UNIF. L. COMM’N 2010) (entitling sellers to stop

bailment” or “depositum,”⁶⁸ the owner of goods delivers it to another party, paying a fee for that party to store the good. Many jurisdictions would call this a bailment for hire or bailment for mutual benefit, even if the payment takes the form of goodwill or another benefit.⁶⁹

Some degree of bailor control does not relieve bailees of their duty of care. The question of how much control the alleged bailor can retain without breaking the bailment relationship will become important when we turn to cloud storage in Part IV.

As discussed above, the contours of the duty of care that bailees owe bailors vary somewhat among states.⁷⁰ Today, the majority rule is that bailees are liable when their negligence harms the property.⁷¹ Tom Merrill and Henry Smith argue that setting the default rule at reasonable care may be an example of the law “maximiz[ing] the joint value associated with the bailment”⁷² by adopting “the standard that the parties would most likely agree upon if they could costlessly negotiate over the issue.”⁷³ This standard sets the level of insurance that the bailee provides to the bailor.⁷⁴

Setting a default rule at negligence but allowing customization leads to efficient results where the bailment reflects a dickered agreement. The default rule falters in high-volume situations where the bailee offers its services only according to a standard form contract—for example, coat checks, dry cleaners, and parking lots.⁷⁵ Here, the presumption of efficiency is especially weak where the bailors have no choice among

delivery of goods by non-carrier bailees provided that they “so notify as to enable the bailee by reasonable diligence to prevent delivery of the goods” up until the point that the bailee notifies the buyer that the bailee holds the goods for the buyer).

68. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 109; 2 Ld. Raym. 909, 912–13 (KB).

69. *See Meriwether Cnty. v. Creamer*, 247 S.E.2d 178, 181 (Ga. Ct. App. 1978) (loaning a firetruck for demonstration was not a gratuitous bailment because “it was for the benefit of the county to develop civil defense units”).

70. *See Helmholz, supra* note 8, at 134 (arguing that the persistence of “contract and conversion theories in preventing implementation of a uniform standard of reasonable care as the invariable rule of bailment liability”).

71. 8A AM. JUR. 2D *Bailments* § 77 (2021).

72. Merrill & Smith, *supra* note 8, at 814.

73. *Id.* at 813–14 (citing Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 89–90 (1989)).

74. Some courts have denied that bailees are insurers, explaining that their liability stems from contract, negligence, or conversion and not from some kind of strict liability for loss of the bailed goods. *See Tremaroli v. Delta Airlines*, 458 N.Y.S.2d 159, 160 (Civ. Ct. 1983) (“It is well settled that a bailee is not an insurer.”); Helmholz, *supra* note 8, at 109.

75. Merrill & Smith, *supra* note 8, at 814.

bailees and where the cost of foregoing the bailment is high.⁷⁶ Indeed, if any bargaining could occur, it's not clear that it would be worth the time.⁷⁷

The law of bailment teeters between property, contract, and tort, creating three competing theories of bailees' duty of care: contracts, property, and conversion.⁷⁸ These competing theories muddle analysis of the extent to which a bailee can customize their duty of care with contract.⁷⁹ Where there is a contract, modern courts typically enforce it according to its terms,⁸⁰ with limits on modifications to the duty of care.⁸¹ Bailors who require greater protection when entrusting their goods to others can contract accordingly. Agreements that shift risk away from the bailee are more suspect, but often still enforceable.⁸²

The duty of care increases when the bailee redelivers the property to the bailor. Courts continue to hold bailees strictly liable for misdelivery of the bailed property.⁸³ This rule places liability on the least cost avoider

76. For example, we might assume that a party will accept unsatisfactory terms on the agreement to use a coat check at a theater if the alternative is to skip the performance thereby wasting the value of the tickets, and perhaps also transit, childcare, and time.

77. *See id.* at 817 (“[I]t is doubtful that very many bailors would have an incentive to inform themselves about benefits and costs of agreeing to a modification of the default standard of care . . .”).

78. *See* BAKER, *supra* note 1, at 407 (“[C]ontract’ and ‘tort’ still overlap in cases of bailees, surgeons, and others whose duties to be careful arise both by reason of their physical nexus with the plaintiff or his property and by reason of their dealings with him.”); Helmholz, *supra* note 8, at 134 (explaining the influence of property, contract, and tort on bailment doctrine); *see also* Merrill & Smith, *supra* note 8, at 811–12 (explaining the disagreement about where bailment fits into the private law); RAY A. BROWN, *THE LAW OF PERSONAL PROPERTY* § 10.1 (Walter B. Raushenbush ed., 3d ed. 1975) (“There has, however, been a vigorous dissent to this insistence on the contractual element in bailments.”). Occasionally, case outcomes turn on which theory courts apply. For example, in some jurisdictions actions in contract and actions in negligence carry different statutes of limitations. *See* Baratta v. Kozlowski, 464 N.Y.S.2d 803, 809 (App. Div. 1983); WILLIAM L. PROSSER, *SELECTED TOPICS ON THE LAW OF TORTS: FIVE LECTURES DELIVERED AT THE UNIVERSITY OF MICHIGAN FEBRUARY 2, 3, 4, 5, AND 6, 1953*, at 434 (1953); *see also* Wheeling Pittsburgh Steel Corp. v. Beelman River Terminals, Inc., 254 F.3d 706, 712 (8th Cir. 2001) (explaining that under Missouri law, suits for breach of bailment contract allocate the burden of proof differently from other suits for breach of contract). *But see* Knight v. H & H Chevrolet, 337 N.W.2d 742, 746 (Neb. 1983) (putting the burden on bailees to prove that they were not negligent in cases sounding in both contract and tort); Coons v. First Nat’l Bank of Philmont, 218 N.Y.S. 189 (App. Div. 1926) (holding that a bank is not liable to the daughter of a depositor for the loss of a safety deposit box on the grounds that there was no contract between the bank and the daughter); William King Laidlaw, *Principles of Bailment*, 16 CORNELL L.Q. 286, 289–91 (discussing *Coons*).

79. BROWN, *supra* note 78, § 11.5.

80. *Id.*

81. Even in 1955, the Supreme Court recognized that one justification for disfavoring exculpatory clauses was “to protect those in need of goods or services from being overreached by others who have power to drive hard bargains.” *Bisso v. Inland Waterways Corp.*, 349 U.S. 85, 91 (1955).

82. *See* Dickerson, *supra* note 17, at 138 (cataloging courts’ treatment of exculpatory clauses in bailment contracts).

83. Helmholz, *supra* note 8, at 124–29.

since only the bailee can confirm the identity of the person receiving the property upon the termination of the bailment.⁸⁴

Even where a bailee's duty of care is mere negligence, in many jurisdictions procedural rules offer bailors greater protection than plaintiffs in other negligence actions.⁸⁵ In many jurisdictions damage to property entrusted to a bailee creates a rebuttable presumption that the bailee was negligent.⁸⁶ The burden of proof then shifts to the bailee who must either refute the bailor's allegation or prove some justification or excuse for why the condition of the goods has changed.⁸⁷ If the bailee cannot adequately explain what happened, the bailor wins.⁸⁸ Indeed, some courts take bailees' uncertainty about what harm befell the goods in their care as evidence that they failed to satisfy their duty of care.⁸⁹ If the bailee can show what happened to the goods, the burden of proof shifts back to the bailor to show that the bailee's negligence is responsible for the harm⁹⁰ or that the bailee is guilty of conversion.⁹¹ Given that the bailor is almost by definition removed from the chattel during the bailment, this shift is significant.

C. *The Breadth of the Bailment Relationship*

Bailment extends far beyond the archetypical case discussed above. As Holt's six categories suggest, bailment doctrine covers any

84. Merrill & Smith, *supra* note 8, at 816–17.

85. Helmholz, *supra* note 8, at 109–09; *George v. Bekins Van & Storage Co.*, 205 P.2d 1037, 1041 (Cal. 1949).

86. *Bekins Van & Storage Co.*, 205 P.2d at 1041 (explaining the burden of proof); *Silvers v. Silvers*, 999 P.2d 786, 794 (Alaska 2000) (citing *Lembaga Enters., Inc. v. Cace Trucking & Warehouse, Inc.*, 727 A.2d 1026, 1029–30 (N.J. Super. Ct. App. Div. 1999)); *Sears, Roebuck & Co. v. Wilson*, 963 S.W.2d 166, 169 (Tex. App. 1998); *Temple v. McCaughen & Burr, Inc.*, 839 S.W.2d 322, 326 (Mo. Ct. App. 1992); *Sampson v. Birkeland*, 211 N.E.2d 139, 140–41 (Ill. App. Ct. 1965); *see also* Helmholz, *supra* note 8, at 103. *But see* *Low v. Park Price Co.*, 503 P.2d 291, 294 (Idaho 1972) (adopting the minority rule that places the burden of persuasion on the bailee).

87. *See Johnson v. Hardwick*, 441 S.E.2d 450, 451 (Ga. Ct. App. 1994); *see also* U.C.C. § 7-403(a) (AM. L. INST. & UNIF. L. COMM'N 2010) (“A bailee shall deliver the goods to a person entitled under a document of title . . . unless and to the extent that the bailee establishes” one of the enumerated excuses).

88. *See* Richard F. Broude, *The Emerging Pattern of Field Warehouse Litigation: Liability for Unexplained Losses and Nonexistent Goods*, 47 NEB. L. REV. 3, 22–23 (1968) (explaining the difficulty of allocating the burden of proof when neither party can explain what happened to the goods).

89. *Procter & Gamble Distrib. Co. v. Lawrence Am. Field Warehousing Corp.*, 255 N.Y.S.2d 788, 800 (App. Div. 1965), *rev'd on other grounds*, 213 N.E.2d 873 (N.Y. 1965) (“The total ignorance of the bailees instead of being an excuse is the measure of their fault as warehousemen.”).

90. Helmholz, *supra* note 8, at 105–07. Holt, again borrowing from Bracton, labels these bailments “commodatum.” *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 111; 2 Ld. Raym. 909, 915 (KB).

91. *LaPlace v. Briere*, 962 A.2d 1139, 1148 (N.J. Super. Ct. App. Div. 2009).

relationship in which someone entrusts their property to another. This part briefly traces the periphery of bailment doctrine to show the breadth of the relationships and diversity of technologies that it covers. That bailment doctrine has incorporated millennia of technological innovation suggests that it is ready to incorporate internet-based innovations, and, but for structural barriers to the modernization of the common law, may have done so sooner.⁹²

Gratuitous Loans to Friends. In this category, the bailor lends their property to someone for free on the understanding that the friend will return the good later.⁹³ The person accepting the good is a bailee, notwithstanding the lack of formal contract or payment between the parties.⁹⁴ Because only one party benefits in these transactions, some courts have adjusted the obligations that the bailor and bailee owe each other, holding that bailors have no duty to the bailees to inspect the goods loaned and need not warrant their safety.⁹⁵ Even here, however, the bailee owes the bailor a duty of care to return the borrowed property.⁹⁶

Hired Goods. The same duty of care applies to the commercial version of this relationship: hired goods.⁹⁷ In this category, the bailee receives use and enjoyment of the goods “without the burdens of becoming and remaining the owner” while the lessor receives rent.⁹⁸ The classic cases involves renting out a horse to someone who then fails to

92. See *infra* section V.A.

93. Jurisdictions that have consolidated down to three or even two categories of bailment tend to call these transactions gratuitous bailments. This category covers cases where there is no “compensation in the ordinary sense.” *Fili v. Matson Motors, Inc.*, 590 N.Y.S.2d 961, 963 (App. Div. 1992); see also *Bailey v. Innovative Mgmt. & Inv., Inc.*, 916 S.W.2d 805, 809–10 (Mo. Ct. App. 1995).

94. 8A AM. JUR. 2D *Bailments* § 8 (2021); *Fili*, 590 N.Y.S.2d at 963 (“The character or certainty of compensation is not the distinguishing feature; the critical factor is whether some profit or benefit was expected.”).

95. *Ruth v. Hutchinson Gas Co.*, 296 N.W. 136, 140 (Minn. 1941) (“The gratuitous bailor is under no duty to the bailee to communicate anything which he did not in fact know, whether he ought to have known it or not.”); *Bailey*, 916 S.W.2d at 809 (gratuitous bailor liable for actual knowledge, not constructive knowledge of defects in product).

96. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 111; 2 Ld. Raym. 909, 915 (KB) (“[T]he borrower is bound to the strictest care and diligence, to keep the goods, so as to restore them back again to the lender, because the bailee has a benefit by the use of them, so as if the bailee be guilty of the least neglect, he will be answerable . . .”).

97. Holt and Bracton call these bailments “*locatio et conductio*,” referring to the lender as the locator and the borrower as the conductor. *Coggs*, 92 Eng. Rep. at 109; 2 Ld. Raym. at 913; BRACTON, *supra* note 29, at 284; see also *Woodruff v. Painter*, 24 A. 621, 622 (Pa. 1892) (finding a bailment to be a bailment for hire “when no hire is paid in such cases only as it is a necessary incident of a business in which the bailee makes a profit”); *Inland Compress Co. v. Simmons*, 159 P. 262, 263 (Okla. 1916) (same); *Tierstein v. Licht*, 345 P.2d 341, 346 (Cal. Ct. App. 1959) (same).

98. *Cintrone v. Hertz Truck Leasing & Rental Serv.*, 212 A.2d 769, 776 (N.J. 1965).

adequately care for the horse or rides it too hard.⁹⁹ Today, the same is true for rented cars and the like.¹⁰⁰ More recently, dockless electric scooters have reignited interest in the question of the obligations owed between bailors and bailees in these relationships.¹⁰¹ Most modern courts hold bailees who have rented property from their bailor to a negligence standard.¹⁰²

These bailments are distinct from bailments for hire because the bailors warrant to bailees that the good is fit to use for the intended purpose.¹⁰³ They have a duty to inspect goods and will face standard tort liability if they rent a dangerous product.¹⁰⁴ Similarly, where the bailor leaves the goods with the bailee to be repaired, the bailor must inform the bailee of dangerous conditions not known to the bailee.¹⁰⁵ In other words, the obligations between bailors and bailees are mutual.

Pawn and Pledge. Moving into Holt's fourth category, pawn and pledge,¹⁰⁶ the breadth of the bailment relationship becomes more apparent. To pawn is to deliver goods to a bailee as collateral for a loan.¹⁰⁷ Here, the bailor is the borrower and the bailee the lender. Pawnees are

99. BAKER, *supra* note 1, at 422.

100. Coffey v. Moore, 948 So. 2d 544, 545 (Ala. 2006) (determining that the party renting a car is a bailee of the car).

101. See Darden Copeland, Comment, *Electric Scooters: A New Frontier in Transportation and Products Liability*, 26 RICH. J.L. & TECH. 1 (2020); John Kendall, Comment, *Could the Rise of Dockless Scooters Change Contract Law?*, 71 MERCER L. REV. 617 (2020).

102. See CFC Fabrication, Inc. v. Dunn Constr. Co., 917 F.2d 1385, 1388 (5th Cir. 1990).

103. Fili v. Matson Motors, 590 N.Y.S.2d 961, 963–64 (App. Div. 1992); Meester v. Roose, 144 N.W.2d 274, 276 (Iowa 1966); Cintrone, 212 A.2d at 777–78.

104. Butler v. Nw. Hosp. of Minneapolis, 278 N.W. 37, 38 (Minn. 1938).

105. 8A AM. JUR. 2D *Bailments* § 105 (2021); Se. Steel & Tank Maint. Co. v. Luttrell, 348 S.W.2d 905, 907 (Tenn. Ct. App. 1961).

106. Cogg's v. Bernard (1703) 92 Eng. Rep. 107, 109; 2 Ld. Raym. 909, 913 (KB).

107. *Pawn*, BLACK'S LAW DICTIONARY (11th ed. 2019); see also STORY, *supra* note 1, at 196–97; Jacobs v. Grossman, 141 N.E. 714, 715 (Ill. 1923) (“A pawn is a species of bailment which arises when goods or chattels are delivered to another as a pawn for security to him on money borrowed of him by the bailor.”); Johnson v. Smith, 30 Tenn. (11 Hum.) 396, 398 (1850) (“A pledge or pawn is a bailment of personal property, as security for some debt or engagement.”); Huddleston v. United States, 415 U.S. 814, 819 (1974) (“[A] pawn transaction is only a temporary bailment of personal property, with the pawnshop having merely a security interest in the pledged property, title or ownership is constant in the pawnor . . .”).

liable to borrowers for negligence,¹⁰⁸ although many pawnees attempt to disclaim liability with mixed success.¹⁰⁹

This category illustrates how the law of bailment allocates risk based on information advantages. In choosing a pawnee, borrowers are entitled to rely upon their perception of the pawn shop's facilities. As one court explained, pawning of an heirloom "imposed a personal trust upon appellant to personally keep the property at his shop and under the assurance of protection."¹¹⁰ Transferring the property to another facility opens the pawnee up to liability for conversion.¹¹¹ Similarly, a pledge agreement specifying that the goods be "stored in the Bay Warehouse, at our risk and expense," was only effective in adjusting the bailees duty of care as long as the goods remained in the identified warehouse.¹¹²

This category, like consumer lending more generally, is rife with misbehavior.¹¹³ Some pawnees attempt to circumvent consumer protection laws by structuring the transaction as a sale with a right of repurchase.¹¹⁴ But courts look through the parties' terminology to the substance of the transaction and find bailments where no true sale has occurred.¹¹⁵ In these cases, the pawnee is responsible for the property, notwithstanding assertions to the contrary.

Common Carriers and Tradespeople. Holt lumped those engaged in "publick employment," together with private citizens engaged in trade but conceded that different rules applied to the two.¹¹⁶ Today, "publick employment" largely aligns with common carries. At common law, these common carriers included "innkeepers, victuallers, taverners, smiths,

108. See Stoljar, *supra* note 8, at 22 (explaining that courts held pledgees and depositaries to the same standard of care); *Jacobs*, 141 N.E. at 715 ("All that is required by the common law on the part of a pawnee in the protection of the property thus intrusted to him is ordinary care and diligence."); *St. Losky v. Davidson*, 6 Cal. 643, 647 (1856) ("A pledge is a bailment which is reciprocally beneficial to both parties. The law therefore requires of the pledgee the exercise of ordinary diligence in the care and custody of the goods pledged, and he is responsible for ordinary negligence."); *McLemore v. La. State Bank*, 91 U.S. 27, 29 (1875) ("[I]t was the duty of the bank to return the pledge, or show a good reason why it could not be returned. This it has done by proof, that without any fault on its part, and against its protest, the pledge was taken from it by superior force.").

109. *Dutherae v. Bos. Jewelry & Loan Co.*, 1989 Mass. App. Div. 144, 146-47 (Dist. Ct.).

110. *Jacobs*, 141 N.E. at 715.

111. *Id.*

112. *St. Losky*, 6 Cal. at 647.

113. See, e.g., *Bullene v. Smith*, 73 Mo. 151, 161 (1880) (lamenting that pawns are often used to hide property from creditors).

114. *Caudle v. City of Fayetteville*, 866 S.W.2d 410, 411 (Ark. 1993).

115. See *State v. Johnson*, 799 P.2d 896, 897 (Ariz. Ct. App. 1990) (finding that the defendant could not avoid liability for trafficking stolen property by describing his sale as a pawn).

116. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 112-13; 2 Ld. Raym. 909, 917-18 (KB).

farriers, tailors, carriers, ferrymen, sheriffs, and gaolers.”¹¹⁷ Common carriers were liable for all harm to the bailed goods except those “acts of God” and “enemies of the King.”¹¹⁸ Thus, the default rule was that common carriers were strictly liable for the bailed goods, even in cases of theft.

This rule is sometimes called “insurer’s liability” since the common carrier is effectively insuring the goods from loss.¹¹⁹ Unlike insurers, common carriers do not make individualized determinations about what to charge their clients based on risk.¹²⁰ Still, since their duty of care makes them answerable for the good even where they may not otherwise be answerable in tort, common carriers provide the economic equivalent of insurance while the goods are in their possession.

Because common carrier liability is effectively a form of insurance, it only applies where the bailee has exclusive control over the carried good. In *Stevens v. The White City*,¹²¹ the Supreme Court held that towage contracts did not create bailments because “[t]he tug does not have exclusive control over the tow, but only so far as is necessary to enable the tug and those in charge of her to fulfill the engagement.”¹²² Rather, the towed vessel and its cargo remain under the control of the master and crew, except “as is required to govern the movement of the flotilla.”¹²³

According to Holt, the higher duty of care applied to common carriers serves two purposes. First, it disincentivized collaboration with thieves.¹²⁴ Second, it provides security to merchants and those who necessarily rely on common carriers.¹²⁵ Between the merchant and the common carrier, one party has to bear the risk of loss for the bailed goods. The carrier is in a better position to control that risk by taking precautions. Strict liability is an imperfect rule, but a simple one. It avoids the need for fact-intensive trials about the carriers’ negligence and the cause of the harm.

117. Beale, *supra* note 8, at 163.

118. *Coggs*, 92 Eng. Rep. at 112; 2 Ld. Raym. at 918.

119. *See* Beale, *supra* note 8, at 158 (arguing that common carriers’ liability “has nothing in common with the voluntary obligation of the insurer” despite the name); *see also* Stoljar, *supra* note 8, at 31 (explaining that “the germs of the insurance-idea can already be detected” by the late eighteenth century).

120. *See* Beale, *supra* note 8, at 158.

121. 285 U.S. 195 (1932).

122. *Id.* at 200.

123. *Id.*; *see also* *The Steamer Webb*, 81 U.S. (14 Wall.) 406, 414 (1871) (explaining the difference between towage liability and common carrier liability).

124. *Coggs*, 92 Eng. Rep. at 112; Ld. Raym. at 918 (“[T]hese carriers might have an opportunity of undoing all persons that had any dealings with them, by combining with thieves . . .”).

125. *Id.*

Actions against common carriers often sound in negligence.¹²⁶ Innkeepers and hotel operators are iconic defendants in these cases. Historically, innkeepers were liable for the theft of guests' property unless the thief was one of the guests' own servants.¹²⁷ Today, many of the bailment cases that reach an opinion involve cars parked at hotels.¹²⁸ Hotels often attempt to disclaim the bailment, but, as in the case of pawnees, courts look through these disclaimers to the facts of the relationship.¹²⁹

Today, the Carmack Amendment¹³⁰ governs the liability of shippers on bills of lading for loss of goods in their care. It provides that carriers are liable "for the actual loss or injury to the property caused by (A) the receiving carrier, (B) the delivering carrier, or (C) another carrier over whose line or route the property is transported."¹³¹ To make a claim under the Carmack Amendment, "a shipper must prove '(1) delivery of goods to the initial carrier in good condition, (2) damage of the goods before delivery to their final destination, and (3) amount of the damages.'"¹³² The burden then shifts to the shipper to show that it was "not negligent and the damage was caused entirely by '[an] act of God[,] . . . the public enemy[,] . . . the act of the shipper [itself,] . . . public authority[,] . . . or the inherent vice or nature of the goods.'"¹³³ Although this standard is not quite the strict liability that Holt envisioned, it is close.¹³⁴

Common carriers, like other bailees, can use contracts to limit their damages. They can limit their liability for ordinary negligence but not gross negligence.¹³⁵ Similarly, courts regularly enforce damages caps where shippers fail to note a higher value of the goods shipped on the bill

126. Beale, *supra* note 8, at 159 (recounting that the earliest recorded case of negligence against a common carrier involves a boatman who was found to have overloaded the board causing the loss of the plaintiff's mare).

127. Southcote's Case (1601) 76 Eng. Rep. 1061; 4 Co. Rep. 83 b (KB).

128. Allen v. Hyatt Regency-Nashville Hotel, 668 S.W.2d 286, 288-90 (Tenn. 1984).

129. *Id.*

130. 49 U.S.C. § 14706.

131. *Id.* § 14706(a)(1).

132. Paper Magic Grp., Inc. v. J.B. Hunt Transp., Inc., 318 F.3d 458, 461 (3d Cir. 2003) (quoting Beta Spawn, Inc. v. FFE Tranp. Servs., Inc., 230 F.3d 218, 223 (3d Cir. 2001)).

133. *Id.* (quoting *Beta Spawn*, 230 F.3d at 226); see also *ABN Amro Verzekeringen BV v. Geologistics Ams., Inc.*, 253 F. Supp. 2d 757, 765 (S.D.N.Y. 2003) ("Under New York common law, a common carrier is an insurer against damage to property received by it for transportation; the only exceptions are losses arising from an act of God or from acts of the public enemy.").

134. See, e.g., *Paper Magic*, 318 F.3d at 460-61 (holding a shipper liable for the full invoice amount of a delivery of merchandise for Christmas 1998 that arrived at Target in early 1999 even where the contract did not indicate that the goods were especially time sensitive).

135. *ABN Amro*, 253 F. Supp. 2d at 765-66.

of lading.¹³⁶ Critically, the shippers in these cases had the option to declare a higher value, but opted not to, perhaps for strategic reasons.¹³⁷ As the New York Court of Appeals explained, these limitations on liability are “supported by sound principles of fair dealing and freedom of contracting.”¹³⁸ Still, courts look more skeptically at common carrier’s use of exculpatory clauses on the ground that common carrier liability has a significant impact on the public interest.¹³⁹ As the New Jersey Supreme Court explained, “[t]he duty of the common carrier is *sui generis*. His obligations are so peculiar, it is difficult, perhaps impossible, to apply closely, by way of analogy, the rules of law which control his conduct, and give rise to his responsibilities, to the situation of other contractors.”¹⁴⁰

The unique rules that apply to common carriers do not apply to private citizens who may be in possession of another’s property to work on it. For example, cobblers repairing shoes in their shops are bailees and the customers the bailors. They, like the bare naked bailees above, are liable only for losses attributable to their own negligence.

Volunteers. Holt’s final category, and the subject of *Coggs v. Bernard*, covered cases where someone delivered or worked on the goods of another without pay.¹⁴¹ In these cases, the bailor alone benefits from the bailment. In *Coggs*, the defendant, Bernard, along with his servants,¹⁴² attempted to transport several hogsheads of brandy from one cellar to another. In the move, “one of the casks was staved, and a great quantity of brandy, viz. so many gallons . . . was spilt.”¹⁴³ Although the plaintiff sued Bernard as a common porter, Bernard averred that he had not been paid, thereby changing the nature of the alleged bailment.¹⁴⁴ Holt

136. Kershen, *supra* note 62, at 1632.

137. *Id.* at 1632–33.

138. *Art Masters Assocs., v. United Parcel Serv.*, 567 N.E.2d 226, 228 (N.Y. 1990).

139. *See Kuzmiak v. Brookchester, Inc.*, 111 A.2d 425, 427 (N.J. Super. Ct. App. Div. 1955) (“Thus, a common carrier may not exempt itself from liability to a passenger for hire, but may as to a non-paying rider.”); *Brown v. Bonesteele*, 344 P.2d 928, 938 (Or. 1959) (“If a common carrier enters into a special contract to carry the same type of goods as he is authorized to carry under his permit, he does not thereby change his position as a common carrier.”); *N.Y. Cent. R.R. Co. v. Lockwood*, 84 U.S. 357, 377 (1873) (“[W]hen a . . . carrier be a corporation created for the purpose of the carrying trade, and the carriage of the articles is embraced within the scope of its chartered powers, it is a common carrier, and a special contract about its responsibility does not divest it of the character.”).

140. *Kinney v. Cent. R.R. Co.*, 32 N.J.L. 407, 409 (Sup. Ct. 1868).

141. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 109; 2 Ld. Raym. 909, 913 (KB).

142. Because the servants were agents, Bernard was liable for their acts. *Id.* at 107; 2 Ld. Raym. at 909.

143. *Id.*

144. *Id.*

explained that notwithstanding their lack of payment, volunteer bailors owe their bailees a duty of care because of their position of trust,¹⁴⁵ and that trust alone was “a sufficient consideration” for imposing an obligation on the volunteer.¹⁴⁶ Holt explained that, “neglect is a deceit to the bailor . . . [the volunteer’s] pretence of care being the persuasion that induced the plaintiff to trust him.”¹⁴⁷ Writing separately, Gould noted that payment was evidence of the trust bestowed upon the bailee,¹⁴⁸ not the source of the responsibility.¹⁴⁹

More modern courts agree. Writing in 1809, Lord Kent explained that volunteers were generally not answerable for nonfeasance, regardless of any promise they made, but they are answerable for misfeasance once they undertook an act.¹⁵⁰ Looking to Kent, the New Jersey Supreme Court has explained *Coggs* as resting not on some theory of contract “but upon the common-law doctrine that one who undertakes to perform an act and performs it negligently whereby damage results is liable for his misfeasance.”¹⁵¹ More recently still, the Tenth Circuit has even leaned on this rule to cut through facts making it difficult to categorize the relationship between the plaintiff and an alleged bailee.¹⁵²

But while courts sometimes emphasize which party benefits from the bailment and whether money changed hands, the standard of care for which volunteer bailees are answerable is the same as bailees for hire: negligence. This category illustrates how stable the core of bailment is: when one party assumes possession of another’s property, for any reason, that party is liable if their negligent acts later harm the property.

II. STORING DIGITAL PROPERTY

Having traced the law of bailment as it applies to tangible property, we come to the question of digital property. This Part explains the basics of cloud storage and the risks that come with it. Next, it explains that electronic files should be understood as a form of property. Finally, this

145. *Id.* at 110; 2 Ld. Raym. at 913.

146. *Id.* at 114; 2 Ld. Raym. at 920.

147. *Id.* at 113; 2 Ld. Raym. at 919.

148. *Id.* at 107; 2 Ld. Raym. at 909.

149. *Id.*

150. *Thorne v. Deas*, 4 Johns. 84 (N.Y. Sup. Ct. 1809).

151. *La Brasca v. Hinchman*, 79 A. 885, 885 (N.J. 1911); *see also* *Bauer v. 141-149 Cedar Lane Holding Co.*, 130 A.2d 833, 837 (N.J. 1957) (quoting *La Brasca*, 79 A. at 885).

152. *George Bohannon Transp., Inc. v. Davis*, 323 F.2d 755, 757 (10th Cir. 1963) (holding that one who takes possession of another’s property in an emergency is liable if their negligent handling of the property damages it).

Part explains that storing digital property carries risks similar to bailments of tangible property: loss of possession and loss of exclusion.

A. *The Basics of Cloud Storage*

Cloud storage refers to warehousing digital files on servers managed by a third party. Cloud computing is the foundation of cloud storage. According to the National Institute of Standards and Technology, cloud computing “is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”¹⁵³ Cloud computing depends on cloud infrastructure—the hardware and software that make the cloud work.¹⁵⁴ There are as many variations of cloud infrastructure as there are cloud storage companies.

Cloud storage is different from network or local storage in that the files actually live in the care of the storage company. To be sure, network and local storage might rely on externally produced infrastructure to store files, but the user nominally controls that infrastructure on site. With cloud storage, the files are accessible to the user, but the infrastructure that manages them belongs to and is in the possession of the cloud storage company.

For the purposes of this Article, there are a few essential details. The first is that cloud storage users save files to online services that then host these files. The user might be intentionally storing files for later use—for example, there are drafts of this Article saved on to Microsoft’s OneDrive, a back-up copy on iCloud, and fragments archived with Evernote and Dropbox. Similarly, a firm with a dozen employees working in different locations may run all aspects of its business—their website, documents, human resources infrastructure, and more—with Amazon Web Services. Cloud storage can include any kind of file, from those intentionally created and saved to incidental metadata that individuals have no knowledge of. For consumers, most of what they do on their smartphones implicates cloud storage in some way, especially as apps save less data locally. For companies, and even governments, the data that comprise their business is increasingly saved on the cloud.¹⁵⁵ Some of these storage

153. PETER MELL & TIMOTHY GRANCE, NAT’L INST. OF STANDARDS & TECH., SPECIAL PUB. 800-145, THE NIST DEFINITION OF CLOUD COMPUTING 2 (2011).

154. *Id.* at 2 n.2.

155. *Cloud Storage Market Size, Share & COVID-19 Impact Analysis*, FORTUNE BUS. INSIGHTS,

providers might rely on third-party services to provide physical hosting, but that matters less than the consumer's choice to deliver their data in some kind of online locker. Consider the analogy to a bank safety deposit box: the depositors care about which bank their box is at far more than they care about which fabricator made the physical box.

The second detail to note is whether the storage company can access the files under its care or whether those files are encrypted before the storage company has access to them. Here, the relevant encryption is not the security measures that prevent unauthorized access to the files, but rather the security measures that prevent even the storage company from reading the data on its servers. For example, Apple famously uses end-to-end encryption in its messaging app, making it nearly impossible for Apple to access users' data, even at the behest of law enforcement.¹⁵⁶ When data is not encrypted, the storage companies conceivably know what they are hosting. While they may not scan the files they store in practice,¹⁵⁷ if they had reason to want to know, they could.

B. *Electronic Files as Digital Property*

Having covered how cloud storage works, it is time to look at the subject of cloud storage: electronic files.¹⁵⁸ These files can be difficult to describe. On the one hand, from a functional perspective many of them are perfect substitutes for tangible goods. Compare a Rolodex card to a contact saved in your phone. On the other hand, unlike the chattels they

<https://www.fortunebusinessinsights.com/cloud-storage-market-102773> [https://perma.cc/34D8-8BTA].

156. Caitlin Dewey, *Apple's iMessage Encryption Foils Law Enforcement*, *Justice Department Complains*, WASH. POST (Apr. 5, 2013), https://www.washingtonpost.com/business/technology/apples-imessage-encryption-foils-law-enforcement-justice-department-complains/2013/04/05/f4a6b66e-9d68-11e2-a2db-efc5298a95e1_story.html [https://perma.cc/4VRD-UCTD].

157. Many of the largest cloud storage companies do not even scan the data they store for child pornography and other contraband. See Michael H. Keller & Gabriel J.X. Dance, *Child Abusers Run Rampant as Tech Companies Look the Other Way*, N.Y. TIMES (Nov. 9, 2019), <https://www.nytimes.com/interactive/2019/11/09/us/internet-child-sex-abuse.html> [https://perma.cc/5KKM-XR6W]; Sebastian Klavig Skelton, *Parents Accuse Amazon of Inaction in Combatting Child Abuse Material Online*, COMPUT. WKLY. (July 31, 2020, 1:47 PM), <https://www.computerweekly.com/news/252487004/Parents-accuse-AWS-of-inaction-in-combatting-child-abuse-material-online> [https://perma.cc/JZ5H-LSEQ]; see also Sean Gallagher, *Updated: How Verizon Found Child Pornography in Its Cloud*, ARS TECHNICA (Mar. 5, 2013, 8:51 AM), <https://arstechnica.com/information-technology/2013/03/how-verizon-found-a-child-pornographer-in-its-cloud> [https://perma.cc/44J3-K5V5] (recounting how Verizon, unlike other companies, does scan files it stores for child pornography).

158. The ALI prefers to use the term "data" instead of "file" to refer to code and its "physical manifestation on a particular medium," but concedes that data has two meanings, the other referring to the meaning of the code. PRINCIPLES FOR A DATA ECONOMY—DATA RIGHTS AND TRANSACTIONS § 3 cmt. a (NEIL COHEN & CHRISTIANE WENDEHORST, AM. L. INST. & EUR. L. INST. 2020).

replace, they are mostly intangible. Yet they are not quite like other intangibles—goodwill, shares, etc. For starters, although you cannot touch files, they exist in space on whatever medium they are stored. They are potentially affected by events in the physical world. If your photos from the 2010s are still on SD cards in some dark corner of your house,¹⁵⁹ and you lose them, damage them, or they otherwise fall victim to the powers that be, those photos are gone. The photo files are distinct from any medium on which they are stored, yet completely dependent on that medium while they are there.

Other intangibles have no such connection to the tangible world. The patents covering that SD card and the copyright in the photos are entirely immune to the happenings in the physical world. These intangibles cannot be accidentally lost or destroyed. Similarly, most shareholders no longer keep snazzy certificates for each share they own. And even if they do, losing those certificates does not destroy the shares. Files, by contrast, are subject to accidental loss and destruction.

An SD card storing photos presents two familiar forms of property. The physical SD card is a chattel, subject to the state laws of chattel that have been around for centuries. The photos may be protected by copyright. Though not universally accepted as full-fledged property,¹⁶⁰ copyright and other forms of intellectual property now receive property protections both under the statutes creating them and from general property doctrine.

The SD card also has a potential third kind of property: the files themselves. The question here is whether a file is property distinct from whatever chattel houses the file and whatever intellectual property rights might layer on top of it. A definitive answer to the question of whether digital files are property is beyond the scope of this Article. Still, showing that files are things that can be subject of bailment is essential to this Article's core claim that cloud storage creates a bailment.

Joshua A.T. Fairfield has made the most persuasive argument that digital property is property. He argues that “property rights are nothing but information: information about *who* may do *what* with *which resource* over *which time period*.”¹⁶¹ The resource is secondary to the rights in the

159. This is a bad idea.

160. See Adam Mossoff, *Is Copyright Property?*, 42 SAN DIEGO L. REV. 29, 29–35 (2005) (cataloging the debate about whether copyright is property or policy); see also Julie E. Cohen, *Copyright as Property in the Post-Industrial Economy: A Research Agenda*, 2011 WIS. L. REV. 141, 145–53 (2011).

161. JOSHUA A.T. FAIRFIELD, OWNED: PROPERTY, PRIVACY, AND THE NEW DIGITAL SERFDOM 135 (2017) (emphasis in original).

resource.¹⁶² Freed from the constraints of tangibility, this conception of property rights easily encompasses digital property such as files¹⁶³ and suggests that “the rules for ordinary property ownership should apply to digital . . . property.”¹⁶⁴

But if you are not convinced that electronic files are “Property” in the strongest sense of the word, the question remains whether files are at least a kind of quasi-property subject to some property doctrines. The answer here has to be yes. The file is a distinct thing over which a person or entity has control. This control has the typical attributes of ownership: the right to exclude, use, alienate, and even destroy.¹⁶⁵ These rights are independent of any intellectual property that might attach to the file.

Consider the example of a team of researchers who have an electronic file that holds data downloaded from a governmental agency’s public website. For various reasons, that team has no intellectual property rights in that data. Nor can the team claim any rights arising from licensing that data. Still, that team has in rem rights attached to the file itself. It can exclude others from the file that contains a copy of the data, keeping it behind a password or on inaccessible servers. Even if that file is difficult to replicate, perhaps because it is unmanageably large or because the website from which it came is no longer public, the team has no legal obligation to share its file. When the file is no longer useful to it, the team can sell its copy of the file or delete it, no matter how badly someone else wants it. And if someone converts the file and locks the team out of it, it can sue to get it back.¹⁶⁶

In this example, there is no reason to expect that the researcher’s interest in the file would turn on where she stored the file. The researcher’s interest in and rights to the file is distinct from the chattel on which it is encoded. Her interest in the file should not be diminished if she chooses to store the file on the cloud where a cloud storage company owns the tangible servers that host the file. To say otherwise would be to erect pointless formalities across functionally identical technology.

162. *Id.*; see also Thomas C. Grey, *The Disintegration of Property*, in 22 PROPERTY: NOMOS XXII 69, 70 (J. Roland Pennock & John W. Chapman eds., 1980) (arguing that property cannot be tied to things because “most property in a modern capitalist economy is intangible”).

163. FAIRFIELD, *supra* note 161, at 135.

164. *Id.* at 16.

165. See F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1, 41 (2004) (“Outside of legislatively recognized intellectual property rights, legal scholars have noted how markets in intangible properties have been conjured into existence through the simple expedient of declaring a saleable interest.”).

166. See *Kremen v. Cohen*, 337 F.3d 1024, 1030 (9th Cir. 2003) (theft of the domain sex.com); see also Juliet M. Moringiello, *What Virtual Worlds Can Do for Property Law*, 62 FLA. L. REV. 159, 187–88 (2010) (explaining conversion of intangible property).

C. *Interference with Digital Property Rights*

This part explores the risks that come with storing digital property, and shows that those risks are analogous to those that come with storing traditional, tangible property.

1. *Loss of Possession*

There are many ways to lose possession of a tangible object. There are unintended events: bouts of forgetfulness, accidents, natural disasters, and theft, to name a few. Most of these translate directly to storing digital property. After all, digital property exists on servers that are as susceptible to physical harm as any other object. Back-up protocol, particularly on the cloud, might mitigate the risk of loss. But the risk will never be zero.¹⁶⁷

Accidental losses in the digital space are unintentional deletions or corruptions of data. While actions by either the firm or the consumer can cause this kind of loss, this Article is interested only in the former. What happens when the company that hosts the stored data accidentally renders that data inaccessible or unusable? Is there any reason why the outcome should differ from what would happen if a storage company lost or broke a tangible object?

Theft looks somewhat different in the digital space. Unlike with tangible property, theft of digital property typically does not deprive the owner of possession. Instead, it usually deprives the owner of the right of and power to exclude. Still, there are real threats to possession: Hacks that deny owners' possession in order to extort a ransom, so-called ransomware attacks, are becoming more common.¹⁶⁸ There is always the risk that a disgruntled employee will sabotage a company by deleting files, wherever they may be stored.¹⁶⁹

167. For a fanciful depiction of what it takes to destroy well-duplicated digital property, see *Mr. Robot: Season 1* (USA Network television broadcast June 24 to Sept. 2, 2015).

168. See Danny Palmer, *Ransomware: Huge Rise in Attacks This Year as Cyber Criminals Hunt Bigger Pay Days*, ZDNET (Sept. 9, 2020), <https://www.zdnet.com/article/ransomware-huge-rise-in-attacks-this-year-as-cyber-criminals-hunt-bigger-pay-days/> [<https://perma.cc/79HK-PEXV>]; Shannon Bond, Vanessa Romo & Laurel Wamsley, *U.S. Hospitals Targeted in Rising Wave of Ransomware Attacks, Federal Agencies Say*, NPR (Oct. 29, 2020, 10:55 AM), <https://www.npr.org/2020/10/29/928979988/u-s-hospitals-targeted-in-rising-wave-of-ransomware-attacks-federal-agencies-say> [<https://perma.cc/8KAD-SFFF>].

169. See Alanna Petroff, *Experts: Global Cyberattack Looks More like "Sabotage" than Ransomware*, CNN (June 30, 2017, 8:27 AM), <https://money.cnn.com/2017/06/30/technology/ransomware-cyber-attack-computer/index.html> [<https://perma.cc/EZ3C-E333>]; David W. Chen, *Man Charged with Sabotage of Computers*, N.Y. TIMES (Feb. 18, 1998), <https://www.nytimes.com/1998/02/18/nyregion/man-charged-with-sabotage-of-computers.html> [<https://perma.cc/A2P7-5S5X>] (reporting how a former employee deleted critical files causing \$10 million in lost sales).

In the storage context, there is also the risk that the cloud storage company will decide to wind up its business. Ideally, it will give those storing property notice and an opportunity to retrieve their property. But there will be mishaps—notice is imperfect or it may be impossible to retrieve the property in the given window. This risk is the same in both digital and traditional storage arrangements. Companies may invite users to store data with them only to decide to exit the business at a later date. For example, when Twitter decided to close its popular social network, Vine, it notified Vine users that they needed to export their videos before a certain date after which they would no longer be available.¹⁷⁰ Tumblr did the same when it decided to ban “adult” content after allowing it to flourish there for years.¹⁷¹ While users of free social media might understand their creations to be more ephemeral than items placed in physical storage, the potential destruction of value is equivalent, particularly if there is no convenient place to which to move the content.¹⁷²

Government action against storage companies can also threaten possession. Consider the case of Kim Dotcom’s file storage company, Megaupload. In its heyday, Megaupload allowed users to store and share all kinds of files. The company did not police the content of its servers for intellectual property infringement and other violations of the law (of which there were many), which eventually led federal prosecutors to shut the site down.¹⁷³ When it seized the company, the government did not create a viable process for users to retrieve data, even if that data violated no laws.¹⁷⁴ With its assets frozen, Megaupload could no longer pay its hosting bills, leading to several tense weeks where user data was on the verge of destruction.¹⁷⁵ Eventually, at least one hosting company deleted

170. See Sarah Perez, *Vine Is Shutting Down, so Don't Forget to Export Your Videos Today*, TECHCRUNCH (Jan. 17, 2017, 9:01 AM), <https://social.techcrunch.com/2017/01/17/vine-is-shutting-down-today-so-dont-forget-to-export-your-videos/> [<https://perma.cc/4XW9-U7EZ>].

171. *Help Center: Adult Content*, TUMBLR, <https://tumblr.zendesk.com/hc/en-us/articles/231885248-Adult-content> (last visited Jan. 17, 2022); *What Tumblr's Ban on 'Adult Content' Actually Did*, ELEC. FRONTIER FOUND., <https://www.eff.org/tossedout/tumblr-ban-adult-content> [<https://perma.cc/SZ25-X7ZX>].

172. See Ann-Derrick Gaillot, *Life After Vine*, OUTLINE (Jan. 16, 2018, 11:59 AM), <https://theoutline.com/post/2941/vine-shutdown-one-year-later-christiana-gilles> [<https://perma.cc/555R-NAXN>] (tracing what happened to Vine’s content after Vine shut down).

173. David Kravets, *Megaupload Case Has Far-Reaching Implications for Cloud-Data Ownership Rights*, WIRED (Nov. 7, 2012, 6:30 AM), <https://www.wired.com/2012/11/megaupload-data-what-to-do/> [<https://perma.cc/L7S4-YRA6>].

174. *Id.*

175. Ernesto Van der Sar, *MegaUpload User Data Soon to Be Destroyed*, TORRENT FREAK (Jan. 30, 2012), <https://torrentfreak.com/megaupload-user-data-soon-to-be-destroyed-120130/> [<https://perma.cc/PL26-4FRG>]; Zack Whittaker, *Megaupload Data Safe for “at Least Two Weeks”*,

petabytes of user data¹⁷⁶ and some of the hardware storing the data has become inoperable in the ensuing years.¹⁷⁷

While advocacy groups like the Electronic Frontier Foundation warned that the government's actions were violating the property rights of innocent users,¹⁷⁸ the digital files stored on Megaupload never received the same treatment as traditional property. Indeed, even compared to moneys held by shuttered electronic gambling sites,¹⁷⁹ Megaupload's user files received little protection. Absent clear rules for what should happen to user property in these cases, consumers should duplicate their holdings across different cloud storage companies and perhaps even stick to storage companies that are potentially too big to fail.

A subsidiary question in the cloud storage space is what are the cloud storage company's rights to deny their clients access to their files? Put differently, can cloud storage firms deny their clients the right to use their stored files? Firms may lock clients out of their files for non-payment or violations of the terms of service. Locking clients out is one way to deny clients possession of their files. Here, the analogy to the storage of physical property is again useful. Depending on the reason, companies that store tangible goods may lock out the owner of the goods.

Looking at how the loss of possession works in the digital space reveals just how analogous digital storage is to physical storage. That the two forms of storage are so similar suggests that they should be governed by similar rules.

2. *Loss of Exclusion*

In digital storage, loss of exclusion is loss of privacy. That wrongdoers—whether the storage companies or intruders—can copy or read the files without taking them is a particularly acute risk in this space. Unlike chattels, there is no limit to the number of copies of digital property that may exist and no limit on the number of people who might read a

ZDNET (Jan. 30, 2012), <https://www.zdnet.com/article/megaupload-data-safe-for-at-least-two-weeks/> [<https://perma.cc/MQF3-63X4>].

176. Steven Vaughan-Nichols, *Kim Dotcom: Petabytes of Megaupload Users' Data Has Been Destroyed*, ZDNET (June 19, 2013), <https://www.zdnet.com/article/kim-dotcom-petabytes-of-megaupload-users-data-has-been-destroyed/> [<https://perma.cc/3SBE-UEBM>].

177. Ernesto Van der Sar, *Megaupload Hard Drives Are Unreadable, Hosting Company Warns*, TORRENT FREAK (May 18, 2016), <https://torrentfreak.com/megaupload-hard-drives-are-unreadable-hosting-company-warns-160518/> [<https://perma.cc/LHX6-BLW9>].

178. Kravets, *supra* note 173.

179. David Kravets, *Deadline Looms for Online Gamblers to Petition for Seized Bankrolls*, WIRED (July 14, 2011, 5:30 PM), <https://www.wired.com/2011/07/online-gambling-bankrolls/> [<https://perma.cc/3GT2-ADJC>].

document. Having copied or read the files, these wrongdoers can vitiate the owners' right to exclude by publishing the files or revealing the information that they contain.¹⁸⁰

Some losses of exclusion will be minorly embarrassing, perhaps revealing little more than a failure to use robust encryption. But others will be far more significant, depending on the information copied. Bailors could lose trade secrets, face security threats, or have the most intimate details of their lives exposed.¹⁸¹

III. CLOUD STORAGE AS BAILMENT

Property students might think of bailment as one of those crusty doctrines that only professors can love. Its modern iterations, particularly in the law of warehouses, might seem a world away from the law of Silicon Valley. But this is wrong. For all of the newness of cloud storage, it is still storage.

A. *Situating Cloud Storage in the Law of Bailment*

The basic bailment is the delivery of a good to the possession of another on the expectation that the recipient will return the good at some later point. The building blocks of the transaction are what matter. To determine whether cloud storage is a bailment, there needs to be a good that is capable of being stored.¹⁸² The good must actually be delivered and accepted into the possession of the alleged storage company. And finally, the parties must understand that the storage company will return the good to the deliverer at some later point.

The relevant goods for this analysis are digital files.¹⁸³ One example is the file containing the draft of this Article that I stored primarily on Microsoft's OneDrive with backup copies saved to iCloud and Dropbox. Other examples include the file encoding the spreadsheet that I used to collect data on cloud storage contracts and the file encoding the photograph that I took of my cat commandeering my keyboard. It is easy

180. See generally Lauren Henry Scholz, *Privacy as Quasi-Property*, 101 IOWA L. REV. 1113 (2016) (explaining privacy as a kind of quasi-property giving owners a relational entitlement to exclude).

181. See, e.g., Neil Richards & Woodrow Hartzog, *A Relational Turn for Data Protection?*, 6 EUR. DATA PROT. L. REV. 492, 493 (2020) (arguing that legal conceptions of privacy underestimate the power of data).

182. See Dickerson, *supra* note 17, at 130–31.

183. The case law on whether software or other digital goods can be the subject of bailment is thin. See *Bizrocket.com, Inc. v. Interland, Inc.*, No. 04-60706-CIV, 2005 U.S. Dist. LEXIS 47887, at *14 (S.D. Fla. May 23, 2005) (denying summary judgment on a negligent bailment claim where the moving party owned a server on which the plaintiff stored its software).

to imagine that a smartphone user with an office job might make thousands of these files each week. A retailer might have voluminous inventory records and even more voluminous security footage from its stores. Gone are the days of keeping one's contacts on a physical Rolodex. Now, those little cards live in the cloud, accessible on any device through digital address books and customer relationship software. Given their close analogy to tangible property, these files are best understood as digital property.¹⁸⁴

That brings us to the question of whether digital property can be the subject of bailments. To be sure, the common law doctrine of bailment predates the possibility of digital property. But there is no analytical reason for limiting the law of bailment to tangibles. In many cases, digital files have replaced tangibles in form without changing their function. For example, I no longer need to preserve binders of the articles found in this Article's footnotes. I preserve the same content in digital files that I store on the cloud. That is, my digital property has relieved me of the need to maintain tangible property. Where there is something close to a 1:1 substitution of tangible property for digital property, the arguments for divorcing digital property from the rest of the private law are thin.

Still, there is uncertainty about whether bailment covers other-than-tangible goods. Story argued that intangibles, despite having many attributes of property, could not be pawned because they could not be delivered.¹⁸⁵ For certain, legislatures sometimes passed laws specifying that certain intangibles could be pledged.¹⁸⁶ Despite earlier uncertainty, modern technology demonstrates that digital property is capable of being delivered much in the same way as tangible property, albeit via digital means. So, while one cannot mail a digital greeting card to a friend by post, email can substitute for the post.

While email might demonstrate that it is possible to deliver digital files, the more difficult question is whether saving a file to the cloud is delivering the file to the cloud storage company. Again, finding analogs in the tangible world is instructive. If I want to preserve my drafts of this Article without cluttering my office, I can corral them into redwelds that I then drop off in my basement or remote storage unit. Dropping boxes of Redwelds in my basement raises no question of bailment because I have not delivered the boxes to anyone else. But dropping the boxes in remote storage does raise questions of bailment precisely because there is a storage company that has received the property. For our purposes, the

184. See *supra* section II.B.

185. STORY, *supra* note 1, at 38–39.

186. *First Nat'l Bank of Macon v. Charles Nelson & Co.*, 38 Ga. 391, 402 (1868).

question is whether saving files to the cloud is more like putting them in one's own basement or more like putting them in remote storage.

The latter seems correct. When the creators of a file save it to the cloud, they cede at least some control over the file much in the same way that one cedes some control when using a storage company. The owners of the file, like the lessors of a storage unit or safe deposit box, retain the right to access their property and may have some control over how secure the property is, but they do not control the infrastructure that makes the storage possible. Decisions about the infrastructure lie with the cloud storage company or the owner of the self-storage site. While the storage company might grant clients some customization rights or might seek input from clients in its decision-making, as the owner of the storage infrastructure, it is responsible for the infrastructure.

The question of acceptance may turn on the facts of each cloud storage provider. Where the provider makes the cloud storage space available without interacting with the client or going through any meaningful verification, the storage might be more analogous to an unsupervised, ungated parking lot—which usually does not create a bailment relationship¹⁸⁷—than to the kind of service that does. On the other hand, if the cloud storage provider is scanning the files for contraband and touting its security, the best analogy might be to the attended parking lot—which usually does create a bailment relationship.¹⁸⁸ Some scanning appears to be the norm. For example, Dropbox scans uploads for copyright infringement, even though it claims not to “read” private files.¹⁸⁹ In other words, Dropbox can inspect the files it hosts to limit at least some of its liability. This ability to inspect files suggests that cloud storage firms accept these files when they permit them to be saved and to remain on their servers.

B. Possession and Control

After cloud storage companies accept files for storage, the next question is whether they are in possession of the files. This analysis often turns on questions about whether the storage companies know what property it stores and whether it controls that property. Cloud storage companies may not know the content or value of the files using their

187. See *Rhodes v. Pioneer Parking Lot, Inc.*, 501 S.W.2d 569, 571 (Tenn. 1973).

188. See *Allen v. Hyatt Regency-Nashville Hotel*, 668 S.W.2d 286, 288–90 (Tenn. 1984).

189. Greg Kumparak, *How Dropbox Knows When You're Sharing Copyrighted Stuff (Without Actually Looking at Your Stuff)*, TECHCRUNCH (Mar. 30, 2014, 1:38 PM), <https://social.techcrunch.com/2014/03/30/how-dropbox-knows-when-youre-sharing-copyrighted-stuff-without-actually-looking-at-your-stuff/> [https://perma.cc/GY3G-SJR6].

infrastructure, but they are knowledgeable about the fact of the storage. In this way, cloud storage companies are like the providers of safe deposit boxes.

Safe deposit boxes are secure lockers held in a vault, often at a bank but sometimes at a stand-alone safe deposit company. These lockers are supposed to protect deposited property from theft, natural disasters,¹⁹⁰ and accidental loss. Depositors pay the company rent for the box. In return, the company gives the depositor a key and maintains various protocols for keeping the box secure. There is some variation in these protocols, but they typically involve some element of dual control, meaning that both the depositor's key and the bank's key is essential for opening the box. State law typically specifies the limited circumstances in which the safe deposit company can drill the box open, including non-payment of the rent, court order, and other law enforcement activity. While many people trust their most valuable goods to safe deposit boxes, there are ample stories of them failing to keep goods safe.¹⁹¹

Safe deposit boxes would seem an obvious application of the law of bailment, and many courts have held that they are.¹⁹² Still, upon closer inspection, there are several paths that safe deposit companies use to challenge any bailee liability that they may face. The first path is contract. Customers seeking a safe deposit box typically sign rental agreements. These contracts often disclaim the creation of a bailment.¹⁹³ Today, safe deposit companies can unilaterally change these contracts to add disclaimers not in place when the depositor rented the box.¹⁹⁴ Many courts have found these disclaimers to be ineffective.¹⁹⁵ For example, in

190. See *Seitz v. Lemay Bank & Tr. Co.*, 959 S.W.2d 458, 464 (Mo. 1998) (upholding a verdict against a bank that failed to protect its vault from the Great Flood of 1993).

191. Stacy Cowley, *Safe Deposit Boxes Aren't Safe*, N.Y. TIMES (July 19, 2019), <https://www.nytimes.com/2019/07/19/business/safe-deposit-box-theft.html> [<https://perma.cc/H3FJ-FGR2>].

192. See, e.g., *Seitz*, 959 S.W.2d at 461 (“It is well settled that when a bank lets a safe deposit box to a customer, a bailment relationship is created between the bank and the customer as to the property deposited into the box.”); *James v. Webb*, 827 S.W.2d 702, 704 (Ky. Ct. App. 1991) (“A safe deposit box and the valuables placed therein, be they jewelry, coin collections, or bearer bonds create a situation analogous to a bailment, rather than a bank account.”); see also 1 BANKING LAW § 10.03 (2020) (“The relationship between a bank and its customer renting a safe deposit box is that of bailee and bailor, the bailment being for hire or mutual benefit.”).

193. See, e.g., *Ellenbogen v. PNC Bank, N.A.*, 1999 PA Super 131, ¶ 4 (safe deposit agreement disclaimed creation of a bailment).

194. See Cowley, *supra* note 191. But see *Martin, Lucas & Chioffi, LLP v. Bank of Am., N.A.*, 714 F. Supp. 2d 303, 310 (D. Conn. 2010) (declining to enforce an exculpatory clause that the bank could not prove was in the original safe deposit agreement).

195. See *Smith v. Peoples Bank of Elk Valley*, No. 01A01-9111-CV-00421, 1992 LEXIS 477, at *10–14 (Tenn. Ct. App. June 3, 1992) (holding that operation of safe deposit boxes meets the *Tunkl* factors for when exculpatory clauses are ineffective).

Ellenbogen v. PNC Bank, North America,¹⁹⁶ the Pennsylvania Superior Court explained that a disclaimer of bailment did “not dissuade [the court] that the essential relationship created under the contract was one of bailment.”¹⁹⁷ The court explained that it could not “uphold a total waiver of the fundamental legal relationship created by the contract. Such a waiver would swallow the bank’s duty whole.”¹⁹⁸ Judicial consensus that safe deposit companies cannot contract out of being bailees has not prevented companies from attempting to do so.¹⁹⁹

Still, operators of safety deposit boxes, usually banks, have argued that they are not in possession of goods stored in safety deposit boxes. One argument that most courts have rejected is that because the bank has no knowledge of what is in the safety deposit box, it is not in possession.²⁰⁰ A similar argument claims that deposit companies are not bailees because they are not in exclusive control of the bailment.²⁰¹ Neither has gained traction.²⁰² As the court in *Cussen v. Southern California Savings Bank*²⁰³ explained, “the very manner of conducting this somewhat peculiar line of business contemplates that the bailee shall not know the value of the thing

196. 1999 PA Super 131.

197. *Id.* at ¶ 34.

198. *Id.*

199. *See, e.g., Saribekyan v. Bank of Am., N.A.*, No. B285607, 2020 LEXIS 25, at *6 (Cal. Ct. App. Jan. 3, 2020), *as modified* (Jan. 6, 2020) (explaining that Bank of America’s safe deposit box contract attempted to repudiate “any relation of ‘bailor and bailee’”).

200. *See Nat’l Safe Deposit Co. v. Stead*, 95 N.E. 973, 977 (Ill. 1911) (holding that “the fact that the safety deposit company does not know, and that it is not expected it shall know, the character or description of the property which is deposited in such safety deposit box or safe does not change” the bailment relationship); *see also Lockwood v. Manhattan Storage & Warehouse Co.*, 50 N.Y.S. 974, 976 (App. Div. 1898) (rejecting the argument that safety deposit boxes cannot create bailments lest “it be said that a warehouseman was not in possession of silks in boxes deposited with him as warehouseman, because the boxes were nailed up, and he had no access to them”); *Cussen v. S. Cal. Sav. Bank*, 65 P. 1099, 1100 (Cal. 1901) (“Indeed, the very manner of conducting this somewhat peculiar line of business contemplates that the bailee shall not know the value of the thing deposited.”); *Dumlao v. Atl. Garage, Inc.*, 259 A.2d 360, 362 (D.C. 1969) (holding that a hotel garage was not the bailee of goods left in a car trunk because “acceptance of such contents must be based upon either express or imputed knowledge, such as where they are in plain view”). *But see O’Malley v. Putnam Safe Deposit Vaults, Inc.*, 458 N.E.2d 752, 758 n.8 (Mass. App. Ct. 1983) (“In Massachusetts, the liability of a bailee is not imposed with respect to the contents of a box or other container unless the alleged bailee has knowledge of such contents.”).

201. *Seitz v. Lemay Bank & Tr. Co.*, 959 S.W.2d 458, 461 (Mo. 1998) (rejecting the argument that there was no bailment because there was no exclusive control); *Martin, Lucas & Chioffi, LLP v. Bank of Am., N.A.*, 714 F. Supp. 2d 303, 311 (D. Conn. 2010).

202. *See Steinhauser v. Repko*, 249 N.E.2d 567, 571–72 (Prob. Ct. Ohio 1969) (“The courts of Ohio seem divided as to whether a safe deposit box rental is a bailment, or, as the lease in this case itself provided, a landlord-tenant relationship.”).

203. 65 P. 1099.

deposited.”²⁰⁴ Cloud storage seems no different. Still, the lack of exclusive control is perhaps a reason to categorize cloud storage as a bare-naked bailment rather than the more protective bailment to a common carrier.²⁰⁵

Few cases have produced as much disagreement as *Bowdon v. Pelleter*,²⁰⁶ decided in 1315.²⁰⁷ The question before the court was whether delivery of a locked chest created a bailment in the contents of the chest.²⁰⁸ There, William of Bowdon delivered a locked chest to a widow, Emma Pelleter for safekeeping.²⁰⁹ The chest was later found in a field with its lock broken and the contents missing.²¹⁰ Bowdon sued Pelleter for detinue, to which she responded that she had been robbed, losing her own property along with the chest.²¹¹ Pelleter claimed that he neither gave her the key nor informed her what was in the chest.²¹² Bowdon denied that the chest was locked.²¹³ The records do not record the jury’s ultimate verdict in the case.²¹⁴ Holmes and Coke believed that the Pelleter could not be liable on these facts because Bowdon never trusted the contents of the chest to her.²¹⁵ Holt, writing in *Coggs*, found the chest to be irrelevant.²¹⁶ Story found the bailment relevant if the concealment of the goods in the chest was meant to induce the bailee to accept a bailment that she would not otherwise accept.²¹⁷

Because bailees’ duty of care creates insurance for the bailor against certain losses, bailees need to know the risk they are assuming. They can account for the risk either by charging a higher price for the bailment or by refusing the bailment altogether. Common carriers have no such luxury, but they have benefitted from several statutory interventions protecting them from outsized insurance risk.²¹⁸

204. *Id.* at 1110.

205. *See* *Stevens v. The White City*, 285 U.S. 195, 200 (1932); *see also supra* section I.C.

206. YB 8 Edw. 2, 275, Pasch, pl. 8 (1315) (Eng.), *reprinted in* 41 SELDEN SOCIETY 136 (1924).

207. *Id.* Joseph Beale has cataloged the documentary issues with transcripts of this case. *See* Beale, *supra* note 8, at 160 n.4.

208. *Bowdon*, YB 8 Edw. 2.

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.*

213. *Id.*

214. *Id.*

215. *Id.*

216. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 110; 2 Ld. Raym. 909, 913–14 (KB).

217. STORY, *supra* note 1, at 54–55; *see also* Stoljar, *supra* note 8, at 20 (explaining the evidentiary difficulty of reconstructing what was in the chest if indeed the bailee was liable).

218. *See supra* section I.C.

While the facts of *Bowdon* are fanciful today, the economics of the transaction mirror self-storage and no-knowledge cloud storage.²¹⁹ In self-storage leases, individuals rent designated spaces from a storage company, fill the space with their goods, and put their own lock on the space. The lock is important: it is the only way for the lessee to control the space and mark it as their own.²²⁰ The storage company neither has knowledge of what is in the storage space nor access to the space without cutting the lock.²²¹ While self-storage would likely create a bailment relationship, most states have self-storage statutes that protect storage companies from becoming bailees of their tenants.²²² Still, out of an abundance of caution, industry convention is to require tenants to provide their own lock and avoid handling tenant property.²²³ It is far from clear whether these precautions would avoid creating a bailment relationship absent the statutory protection.

Although the basic facts of self-storage would likely create a bailment at common law, many states have implemented a law that places the risk of loss on the tenant alone.²²⁴ The Kansas statute has language common to several states: “[u]nless the rental agreement specifically provides otherwise . . . the exclusive care, custody and control of all personal property stored in the leased self-service storage space remains vested in the occupant.”²²⁵ This logic resembles that employed in *Bowdon*: because the chattel-owner’s lock separates the would-be bailee from the goods, the storage creates no bailment. Other states continue to recognize self-storage units as “bailments for hire”²²⁶ and codify that the bailee storage companies are liable for negligence unless the contract states otherwise.²²⁷

Today, standard form self-storage contracts almost always disclaim liability for negligence.²²⁸ Under these contracts, courts regularly find that tenants bear the risk of theft, even where the storage company is aware of

219. No-knowledge cloud storage uses encryption to prevent the storage company from reading the files it holds at any point in the storage relationship. This is different from the services that companies like Dropbox employ when they scan files for contraband before encrypting them.

220. Jones, *supra* note 49, at 1017.

221. To be clear, the storage company might have rules about what cannot be stored and may have security cameras to promote safety, but this is insufficient information for the storage company to be said to know what is in the space.

222. Jones, *supra* note 49, at 1019.

223. *Id.* at 1035.

224. See KAN. STAT. ANN. § 58-818 (2021).

225. *Id.*

226. *Gonzalez v. A-1 Self Storage, Inc.*, 795 A.2d 885, 886 (N.J. Super. Ct. Law Div. 2000).

227. *Id.* (applying N.J. STAT. ANN. § 12A:7-204 to self-storage). The New Jersey law is identical to the Uniform Commercial Code. See U.C.C. § 7-204 (AM. L. INST. & UNIF. L. COMM’N 2022).

228. Jones, *supra* note 49, at 1022.

security problems.²²⁹ Putting the risk of loss on the tenant may occasionally shock tenants but is mostly consistent with the common law of bailments.²³⁰

The enforceability of these disclaimers distinguishes self-storage from other bailments.²³¹ For example, in *Kane v. U-Haul International, Inc.*,²³² the Third Circuit found that an exculpatory clause in the rental contract prevented the tenant from recovering damages for the losses caused by a leak that the bailee knew about but failed to warn the tenant about.²³³ The court in *Kane* even explained that “failure to notify probably constituted gross negligence,” but found the exculpatory clause effective as a matter of New Jersey law since the conduct was not “wanton and willful.”²³⁴ In other words, bailees cannot disclaim all liability, but courts will let them contract for a very low duty of care. In *Kane*, the court noted that a tenant who wanted additional protection could always purchase insurance.²³⁵

With robust encryption, it is more difficult to argue that the cloud storage company possesses the file. Depending on the kind of encryption used, it may be practically impossible for cloud storage companies to access the content of the files stored in their infrastructure. After all, breaking the encryption is an order of magnitude more difficult than drilling a safe deposit box or cutting the lock on a chest. The arguments around *Bowdon* begin to look more applicable to cloud storage if the storage company cannot assess the files and decide if the storage fee overcomes the risk of taking on the storage.

229. See *Lathers v. U-Haul Co. of La.*, 03-1466, p. 6 (La. App. 5 Cir. 5/11/04); 875 So. 2d 839, 842. Under U.C.C. article 7, bailees cannot disclaim liability for conversion for their own use. U.C.C. § 7-204(b).

230. Recall that even as early as *Coggs*, Holt imagined that liability for loss would lie with bailors who left their property with unfit bailees. *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 110–11; 2 Ld. Raym. 909, 913–15 (KB). Here, tenants are theoretically aware of the security situation in their neighborhood and ought not leave irreplaceable property where thieves are common. Of course, there is no guarantee that self-storage will be available in more secure neighborhoods. Similarly, courts have found that storage companies are not liable for losses cause by other tenants’ misconduct. See *Jones*, *supra* note 49, at 1026.

231. Some states also have statutes giving dry cleaners similar rights over property left for more than 180 days. KY. REV. STAT. ANN. § 376.300(3) (2021); OR. REV. STAT. ANN. § 87.214 (2021); see also *Jones*, *supra* note 49, at 1045 (“[S]elf-storage facility owners enjoy legal powers that do not make sense from the perspective of property law.”).

232. 218 F. App’x 163 (3d Cir. 2007).

233. *Id.* at 167.

234. *Id.*; see also *Jones*, *supra* note 49, at 1033 (arguing that storage companies are liable only for intentional bad faith that damages tenants’ property and breach of the storage contract).

235. 218 F. App’x at 167.

Cloud storage also raises questions about who is in possession of the files that may differentiate it from other kinds of storage. It is almost definitional that cloud storage is available on demand. This means that the person or company that owns the files may be manipulating them—perhaps even in possession of them—on a local computer while the files live on cloud infrastructure. On these facts, the storage company may be in possession of the files but not strictly exclusive possession.

It is not clear that it matters if the bailor can choose when and how to break exclusive possession. Consider a workplace parking garage: the employee is in possession of the car while driving it to and from work and perhaps even during the workday while retrieving items from the car. But the garage operator may still be a bailee in possession of the car for the remainder of the workday.²³⁶ Still, the doctrine is not settled on these questions. Some courts have held that bailments only exist where the bailee has “such full and complete possession of it as to exclude, for the time of the bailment, the possession of the owner.”²³⁷ Where the owner does not intend to relinquish control, there is no bailment.²³⁸ For example, a store clerk handing a good to a potential customer for inspection does not create a bailment.²³⁹ But cloud storage necessarily involves relinquishing some control. After all, the cloud storage company controls the infrastructure that facilitates the storage. The cloud storage relationship is more than the ephemeral custody of the customer inspecting goods, it is a change in where the goods live.

In sum, there is little distinction between cloud storage and warehouse storage. The introduction of modern technology ensures that the storage occurs through different means but the relationship between the storage company and the client remains the same. Because the law of bailment polices that relationship, not the means of storage, it should apply to cloud storage.

C. *Cloud Storage and the Duty of Care*

Having shown that cloud storage is analogous to the bailment of tangibles, the next step is to consider storage companies’ duty of care and the extent to which they may waive those duties. Here, the kind of

236. See *Allen v. Hyatt Regency-Nashville Hotel*, 668 S.W.2d 286, 288–90 (Tenn. 1984) (explaining the conditions under which garage operators can become the bailees of cars parked on their premises).

237. *Fletcher v. Ingram*, 50 N.W. 424, 425 (Wis. 1879).

238. BROWN, *supra* note 78, § 10.4.

239. *Id.*

bailment matters since the kind of bailment determines the bailee's obligations to the bailor.

Where the cloud storage company receives payment—whether in dollars or data—from the users of its services, it is most analogous to a bailment for hire or bailment for mutual benefit.²⁴⁰ In these cases, the default rule would be that the bailee company owes its customers a duty not to act negligently with respect to the stored data. This standard might compel firms to maintain security protocol at least at industry norms and, more importantly, respond more promptly to reported security flaws.²⁴¹ Bailment will not be a panacea for the lax data privacy laws in the United States, but more robust protection against data loss may in turn prevent data exposure.

An aggressive application of the law of bailment may analogize unauthorized exposure of data to the law of misdelivery.²⁴² Historically, bailees of all kinds were strictly liable when they delivered the bailed property to the wrong person.²⁴³

With tangible goods, assigning blame in the case of misdelivery is easy since only one party controls the delivery—the bailee. Indeed, that the bailee alone controls delivery is often used to justify the strict liability rule.²⁴⁴ With cloud storage, customer error often creates the breach or misdelivery.²⁴⁵ A strict liability rule is more difficult to justify on these facts unless it is reserved for data breaches in which there is no customer error.²⁴⁶

240. See *supra* section I.B.

241. Present law provides little incentive for companies to respond promptly to data breaches. See Edward J. McAndrew, *The Hacked & the Hacker-for-Hire: Lessons from the Yahoo Data Breaches (So Far)*, NAT'L L. REV. (May 11, 2018), <https://www.natlawreview.com/article/hacked-hacker-hire-lessons-yahoo-data-breaches-so-far> [<https://perma.cc/MQ43-9PYR>] (describing how Yahoo allowed hackers to exploit a security flaw for years). There are already significant questions about the security of cloud storage. See Kim S. Nash, *Tech Chiefs Press Cloud Suppliers for Consistency on Security Data*, WALL ST. J. (May 20, 2020, 6:24 AM), <https://www.wsj.com/articles/tech-chiefs-press-cloud-suppliers-for-consistency-on-security-data-11589967000> [<https://perma.cc/DG4J-EU9Q>].

242. Juliet E. Moringiello, *Warranting Data Security*, 5 BROOK. J. CORP., FIN. & COM. L. 63, 82 n.166 (2010) (“One can certainly think of a data breach as a misdelivery of personal payment data.”).

243. See *supra* note 42 and accompanying text.

244. See Merrill & Smith, *supra* note 8, at 815–16.

245. James Rundle, *Human Error Often the Culprit in Cloud Data Breaches*, WALL ST. J. (Aug. 27, 2019, 3:24 PM), <https://www.wsj.com/articles/human-error-often-the-culprit-in-cloud-data-breaches-11566898203> [<https://perma.cc/DL33-SSN4>].

246. See Ryan Vacca, *Viewing Virtual Property Ownership Through the Lens of Innovation*, 76 TENN. L. REV. 33, 51–53 (2008) (explaining how exculpatory clauses for lost property in virtual environments might promote innovation).

Depending on the jurisdiction, the cloud storage company may be able to disclaim liability for negligent acts causing harm to customers' files.²⁴⁷ This kind of exculpatory clause would alert clients to the possibility of data loss. Giving consumers the option to buy insurance for an additional fee may increase the likelihood that a court will enforce the exculpatory clause.²⁴⁸ Some courts might require that the exculpatory clause is only enforceable where it is in place at contract formation.²⁴⁹ Efforts to disclaim liability for gross negligence and intentional acts are less likely to be effective.

Although there is significant variability among modern precedents on the enforceability of exculpatory clauses, there are a few themes. First, exculpatory clauses are ineffective when the bailee has allegedly converted the bailors' property.²⁵⁰ Second, clauses excluding liability for gross negligence and intentional malfeasance are often held unenforceable on grounds of public policy.²⁵¹ Third, clauses excluding liability for negligence are disfavored, but enforceable as long as they clearly state what they disclaim and are not otherwise unconscionable or contrary to the public interest.²⁵² There is enough room in the tests for enforceability that it can be difficult to know *ex ante* which clauses courts will enforce.²⁵³

247. See *infra* note 252 and accompanying text.

248. See *Tunkl v. Regents of Univ. of Cal.*, 383 P.2d 441, 446 (Cal. 1963) (explaining that exculpatory clauses may affect the public interest where the beneficiary "makes no provision whereby a purchaser may pay additional reasonable fees and obtain protection against negligence"); see also *Kanovsky v. At Your Door Self Storage*, 255 Cal. Rptr. 3d 578, 579 (Ct. App. 2019) (enforcing a clause disclaiming liability for water damage in a self-storage contract where the contract offered customers an insurance option that the customer declined).

249. *Saribekyan v. Bank of Am., N.A.*, No. B285607, 2020 LEXIS 25, at *6 (Cal. Ct. App. Jan. 3, 2020), *as modified* (Jan. 6, 2020).

250. See *Aetna Cas. & Sur. Co. v. Higbee Co.*, 76 N.E.2d 404, 408–09 (Ohio Ct. App. 1947); see also U.C.C. § 7-204(b) (AM. L. INST. & UNIF. L. COMM'N 2022) ("Damages may be limited by a term in the warehouse receipt or storage agreement limiting the amount of liability in case of loss or damage beyond which the warehouse is not liable. Such a limitation is not effective with respect to the warehouse's liability for conversion to its own use.").

251. RESTATEMENT (SECOND) OF CONTRACTS § 195(1) (AM. L. INST. 1981). *But see* Jason R. Harris, *Sources of Marina Liability for Storage and Repairs Ashore and the Effectiveness of Red Letter Clauses*, 37 J. MAR. L. & COM. 545, 551–58 (2006) (tracing a split among courts about whether maritime law allows exculpatory clauses to include all liability).

252. For example, the Arkansas Supreme Court has held that exculpatory clauses are enforceable if the party signing the release is knowledgeable about the liability being released, that party benefits from the transaction, and the contract is fairly entered into. *Jordan v. Diamond Equip. & Supply Co.*, 207 S.W.3d 525, 530 (Ark. 2005); see also *Merrill & Smith*, *supra* note 8, at 815; *Martins et al.*, *supra* note 15, at 1286–90.

253. See *Vacca*, *supra* note 246, at 51–52 (explaining how uncertainty about the enforceability of exculpatory clauses shapes tech innovation); James F. Hogg, *Consumer Beware: The Varied Application of Unconscionability Doctrine to Exculpation and Indemnification Clauses in Michigan*,

Courts have particularly struggled to determine when efforts to lower bailees' duty of care are contrary to the public interest. In the leading case on the subject, *Tunkl v. Regents of University of California*,²⁵⁴ the California Supreme Court summarized the challenge as follows: "The social forces that have led to such characterization are volatile and dynamic. No definition of the concept of public interest can be contained within the four corners of a formula."²⁵⁵ Still, the court articulated a six-factor test for determining whether transactions affect the public interest:

It concerns a business of a type generally thought suitable for public regulation. The party seeking exculpation is engaged in performing a service of great importance to the public, which is often a matter of practical necessity for some members of the public. The party holds [it]self out as willing to perform this service for any member of the public who seeks it, or at least for any member coming within certain established standards. As a result of the essential nature of the service, in the economic setting of the transaction, the party invoking exculpation possesses a decisive advantage of bargaining strength against any member of the public who seeks [its] services. In exercising a superior bargaining power the party confronts the public with a standardized adhesion contract of exculpation, and makes no provision whereby a purchaser may pay additional reasonable fees and obtain protection against negligence. Finally, as a result of the transaction, the person or property of the purchaser is placed under the control of the seller, subject to the risk of carelessness by the seller or [their] agents.²⁵⁶

Hailed as the "true rule" of exculpatory clauses, *Tunkl* seemed to suggest that enforceability was at the discretion of the court.²⁵⁷ Predictably, this test has produced convoluted results when courts review exculpatory clauses in bailments contracts.²⁵⁸

The extent to which exculpatory clauses are disfavored depends, in part, on the kind of bailee. So-called "professional bailees" have the most difficulty enforcing exculpatory clauses. For example, in *Griffin v.*

Minnesota, and Washington, 2006 MICH. ST. L. REV. 1011 (2006) (exploring how three states take three different approaches to exculpatory clauses, leading to different substantive outcomes in cases).

254. 383 P.2d 441 (Cal. 1963).

255. *Id.* at 444.

256. *Id.* at 445–46 (footnotes omitted).

257. Daniel I. Reith, Comment, *Contractual Exculpation from Tort Liability in California—The "True Rule" Steps Forward*, 52 CALIF. L. REV. 350, 351 (1964); see also Martins et al., *supra* note 15, at 1286–90 (explaining the legacy of *Tunkl*).

258. A. Darby Dickerson produced a comprehensive overview of the law as of 1988 in her Note, *Dickerson*, *supra* note 17, at 132–34. The case law since then has added little certainty.

Nationwide Moving & Storage Co.,²⁵⁹ the Connecticut Supreme Court explained that “[a]lthough . . . limitation of liability clauses for negligence may be validly contracted for by an ordinary bailee, [courts] have demonstrated a strong tendency to hold contracts of this type against public policy when entered into by bailees in the course of dealing with the general public.”²⁶⁰ Likewise, the Supreme Court of Washington has held repeatedly that “professional bailees may not limit their liability for negligence.”²⁶¹ Courts look to public policy to justify these limitations on the freedom of contract. Hence, in *Ellerman v. Atlanta American Motor Hotel Corp.*,²⁶² a case involving a car that disappeared from a hotel parking lot, the Court of Appeals of Georgia explained that the reason that “[u]nlike an ‘ordinary’ bailee the ‘professional’ bailee is often precluded from limiting by contract liability for [their] own negligence” is that “the public, in dealing with innkeepers, lacks a practical equality of bargaining power and may be coerced to accede to the contractual conditions sought by the innkeeper or else be denied the needed services.”²⁶³ In many cases, state legislatures have intervened with statutes limiting bailees’ risk notwithstanding courts’ reluctance to do so.²⁶⁴

Beyond professional bailees and misdelivery, several courts have indicated that they will not enforce exculpatory clauses that attempt to avoid the bailment relationship altogether. For example, a court may hold a bailee to a duty of care even where the underlying agreement purports to create a license with no duty of care.²⁶⁵ Similarly, courts have refused to enforce caps on bailee liability that effectively eliminate the duty of care.²⁶⁶

Recent commentators have argued that exculpatory clauses are allowing contracts to displace guardrails established by tort and other private law doctrines.²⁶⁷ While bailment has often been an exception to

259. 446 A.2d 799 (Conn. 1982).

260. *Id.* at 804.

261. *Am. Nursery Prods., Inc. v. Indian Wells Orchards*, 115 Wash. 2d 217, 231, 797 P.2d 477, 485 (1990).

262. 191 S.E.2d 295 (Ga. Ct. App. 1972).

263. *Id.* at 296.

264. *See supra* section I.A.

265. *See, e.g., Allen v. Hyatt Regency-Nashville Hotel*, 668 S.W.2d 286, 288–90 (Tenn. 1984) (explaining that the defendant parking garage could not use language printed on the back of a ticket to transform a bailment into a license to avoid liability for harm to the car).

266. *See, e.g., Allright, Inc. v. Elledge*, 508 S.W.2d 864, 869 (Tex. Civ. App. 1974) (rejecting a \$100 liability cap in a parking contract as void against public policy); *see also Dickerson, supra* note 17, at 139–42 (explaining courts’ reluctance to enforce exculpatory clauses in bailment agreements where the parties have unequal information and bargaining power).

267. *See Martins et al., supra* note 15; *Fairfield, supra* note 19.

this trend, the rise of digital property creates a new opening for allowing contracts to replace the traditional private law constraints on contract. Courts should not let this happen.

In recent decades, software has evolved away from being a product that customers purchase and own into being a service to which customers subscribe. This shift “focuses on separating the *possession* and *ownership* of software from its *use*.”²⁶⁸ This focus on use puts contracts at the center of the law of technology. For consumers, these contracts are classic adhesion contracts: tech firms set the terms then consumers either accept the terms or walk away. Larger firms may have the bargaining power to customize their technology contracts, but given the relative scale of companies like Amazon and Microsoft, that is not a given.²⁶⁹ Either way, the elevation of the service contract tends to center consent at the expense of the procedural and substantive guardrails that other private law doctrines have historically provided. That is, focusing on the service contract alone limits the analytical tools through which we might understand the technology.

Even in jurisdictions that allow bailees to disclaim liability for negligence, there is no guarantee that courts will enforce such a clause in a cloud storage contract. Courts may find such a clause to be unconscionable or against the public interest according to the factors in *Tunkl*.²⁷⁰ In a dispute over lost data, both the cloud storage company and the upset client would have strong arguments on their side.

The client would argue that there is asymmetric information about the risk of either loss of possession or loss of privacy. Most cloud storage clients cannot vet the security of the system. It is unobservable in a way that the security around self-storage or a safe deposit box is not. Indeed, merely allowing clients to vet the security of cloud storage infrastructure would likely create risk for other users. For these reasons, allowing the bailee to use contracts to lower their duty of care or cap their liability may create significant moral hazard.²⁷¹ With enforceable waivers, the bailee would face only limited incentives to act carefully from *ex ante* market forces, and similarly limited incentives from *ex post* liability rule.

For their part, cloud storage providers can argue that their exculpatory clause poses no grave risk to the public interest because there is a competitive market offering several options. Moreover, most digital files

268. Mark Turner, David Budgen & Pearl Brereton, *Turning Software into a Service*, 36 *COMPUTER* 38, 38 (2003) (emphasis in original).

269. *But see* OVERLY & KALYVAS, *supra* note 15 (explaining that even for businesses there is often little room to negotiate the terms of technology contracts).

270. *See supra* notes 254–256 and accompanying text.

271. *See* Merrill & Smith, *supra* note 8, at 815 (explaining information asymmetries in bailments).

can be copied infinitely, enabling clients to efficiently insure their own data. Finally, the industry standard may coalesce around broad disclaimers for lost data, such that consumers should expect to maintain duplicates of their data. Clauses that require customers to maintain a backup of their data may nudge courts towards enforcing exculpatory clauses. If marginal increases in security on any one cloud are comparatively expensive, it is possible that this duplication norm is efficient.

Differentiation within the industry on the level of security provided may suggest that enforcing some exculpatory clauses is in the public interest, assuming that firms price their products accordingly. Individuals and firms that need additional protection for their digital property might choose a service offering better protection. This differentiation already exists in the market for storage of tangible chattels; just compare self-storage to a bank safe deposit box. The law can trust consumers to choose among cloud storage providers just as it trusts consumers to choose between safe deposit boxes and self-storage. Alternatively, clients can contract with the cloud storage provider for a higher standard of care, much like a person can deliver a chattel to a bailee “for safekeeping.” The ability to contract for a higher duty of care is as old as the law of bailment itself.²⁷² Presumably, cloud storage companies would charge a premium for taking on such risk.

These same arguments support allowing cloud storage providers to cap their liability based on the fee charged. These arguments are especially strong where the companies have no knowledge of the value of the data their clients store with them. Such a cap would be consistent with many of the statutory interventions in self-storage and U.C.C. article 7.²⁷³ While safe deposit companies have not been able to avoid liability as bailees for hire, they have attempted to cap their liability by contract. For example, in an unpublished decision in *Saribekyan v. Bank of America, N.A.*,²⁷⁴ the bank allegedly lost millions of dollars of its client’s valuables when it drilled her box in connection with closing the branch.²⁷⁵ The safe deposit rental contract purported to limit damages to ten times the annual rent on the box.²⁷⁶ Bank of America argued that this provision was necessary because it had no knowledge of the content of the boxes.²⁷⁷ The

272. See *supra* section I.A.

273. U.C.C. § 7-204 (AM. L. INST. & UNIF. L. COMM’N 2022).

274. No. B285607, 2020 LEXIS 25 (Cal. Ct. App. Jan. 3, 2020), *as modified* (Jan. 6, 2020).

275. *Id.* at *8–10, *12.

276. *Id.* at *6.

277. *Id.*

trial court enforced the liability cap, but the Court of Appeal reversed, explaining that “[i]f this is a confidential, but not safe or secure, box, then it needs to expressly disclose that fact and to disclaim in a much more obvious fashion that it is renting a deposit box that may ultimately prove to be insecure.”²⁷⁸ The court concluded that the limit was unconscionable given the disconnect between the service that the bank purported to provide and the service specifically described in the contract.²⁷⁹ Whether other courts follow *Saribekyan* remains to be seen.

Where the cloud storage company offers its services for free, particularly if it is not monetizing customer data, the cloud storage company may be more analogous to Holt’s volunteer or gratuitous bailee than to a bailment for hire. Still, having made themselves available as a bailee, the volunteer owes the bailor a minimal duty of care.²⁸⁰

Recognizing cloud storage as a bailment does impose a duty of care on cloud storage providers, but it also offers protection from liability. A cloud storage company facing lawsuits from losses attributable to hacking may find refuge in the long line of cases holding that bailees are not liable for losses attributable to theft provided that they exercise reasonable care in preventing the theft.²⁸¹ Somewhat more fancifully, if the hack comes from abroad, they may find an especially effective shield in the old enemy of the king defense,²⁸² which protected bailees from liability when said enemies injured or destroyed the stored property. Though born in a world of feuding states, the defense remains vibrant in admiralty given the persistent threat of online piracy.²⁸³

278. *Id.* at *29–30.

279. *Id.*

280. *See Thorne v. Deas*, 4 Johns. 84, 96 (N.Y. Sup. Ct. 1809) (explaining that once a volunteer undertakes a bailment, he owes the bailor a duty of care).

281. *See supra* section I.A.

282. Some of the most curious rules of bailment impose liability on those charged with detaining others, usually pursuant to the criminal law. Sheriffs and gaolers were kinds of public employment that traditionally carried a higher standard of care. Wardens were historically thought to be bailees with the prisoners themselves being the bailment. *See Shattuck v. State*, 51 Miss 575, 584 (1875) (explaining that a “sheriff is not a mere bailee” of the prisoner, but in fact owes a higher duty of care). Courts imposed a particularly high duty of care on wardens, holding them responsible for prisoners’ escape even if “traitors or rebels” assisted in the escape. Only acts of God or enemies of the king would discharge wardens from their liability. *See Beale, supra* note 8, at 163, 167; *see also Southcote’s Case* (1601) 76 Eng. Rep. 1061, 1063; 4 Co. Rep. 83 b (“[I]f the enemies of the king break a prison and let the prisoners at large, the warden of the prison may discharge himself for the escape; but if the prison be broken by traitors or rebels it is otherwise, because he has a remedy over against them, and it was his fault that he did not guard them more carefully.”); *Coggs v. Bernard* (1703) 92 Eng. Rep. 107, 112; 2 Ld. Raym. 909, 918 (KB) (“The law charges this person thus intrusted to carry goods, against all events but acts of God, and of the enemies of the King.”).

283. *King Ocean Cent. Am., S.A. v. Precision Cutting Servs., Inc.*, 717 So. 2d 507, 511–12 (Fla.

In sum, because bailees' duty of care arises out of their relationship with their bailors, regardless of contract, it is far from clear that contract alone can undo that duty. Were these bailments of tangible goods, there would be ample case law holding that parties cannot disclaim the bailment relationship. Cloud storage is sufficiently analogous to traditional storage that this case law should apply. That is, we should not allow the novelty of the technology to overshadow the legal frameworks that we have for analyzing these relationships.

IV. EMPIRICAL ANALYSIS OF CLOUD STORAGE CONTRACTS

Having outlined the basics of bailment doctrine and the mechanics of cloud storage, it is time to ask how cloud storage companies understand their storage obligations. To study this question, I pulled a sample of fifty-eight contracts used by fifty-four cloud storage companies and reviewed their terms.²⁸⁴ This Part describes the sample, its limitations, and findings. This study does not purport to be comprehensive. Rather, its goal is to provide a snapshot as of 2020 of the terms that cloud storage companies offer to consumers and businesses unwilling or unable to negotiate custom terms.²⁸⁵

A. *Methodology and Limitations*

To build a sample of contracts from cloud storage providers, I needed a workable definition of cloud storage company. Leaning on NIST's definition,²⁸⁶ I defined cloud storage companies as any company that provides cloud-based data storage services to its customers as a core part of its business. This definition is meant to exclude two types of related businesses: those that primarily provide data management services for companies that choose to keep their data on their own local network and companies that only store incidental data in cloud-based systems. For example, a network security business that stores its customer relationship

1998) (explaining the application of the enemies of the king defense to common carriers at sea); *see also* Cent. of Ga. Ry. Co. v. Lippman, 36 S.E. 202, 206 (Ga. 1900) (railroads); Montgomery Ward & Co., Inc. v. N. Pac. Terminal Co. of Or., 128 F. Supp. 475, 492 (D. Or. 1953) (railroads and trucking lines).

284. The universe of contracts considered is available at: <https://wustl.box.com/s/qrwgwxk8p5j9jeuroige7lpv2g74wpu> (last visited Feb. 23, 2022).

285. Although 2020 was a highly unusual year given the global coronavirus pandemic and disputed election in the United States, there is no reason to assume that those events would have caused companies to make changes to their cloud storage contracts.

286. *See* MELL & GRANCE, *supra* note 153 and accompanying text.

data in the cloud would not be on my initial list, nor would a dentist with a digital address book.

To build this list I relied on media reports to develop a list of companies providing cloud storage services. This list included both consumer-facing companies, like Dropbox and Facebook,²⁸⁷ and business-oriented companies, like Amazon Web Services (AWS). This initial list included companies in a range of sizes, from mid-sized firms like Wasabi, to giants like AWS and Google. This list was by no means comprehensive. It almost certainly excludes cloud storage companies that have attracted little media attention.

Having built an initial list of fifty-four companies with fifty-eight cloud storage services,²⁸⁸ I searched these companies' websites for the contracts that they offered prospective customers. Of the cloud storage products in the sample, I found the storage contracts for fifty-nine of them. Firms typically styled these contracts as "terms of use" or "terms of service." Working with a team of research assistants, I downloaded these contracts over the spring and summer of 2020. These contracts comprise the sample.²⁸⁹ Having pulled the sample of contracts, I then read them and recorded any terms relating to the companies' liability for damaged, lost, stolen, or accidentally released data.

This sample has several key limitations. First, as described above, it is not drawn from any comprehensive list of cloud storage companies. It is possible that the selection process has influenced the findings. Relying on media reports also likely skews the sample towards consumer-facing companies. Second, the sample does not include any contracts that firms did not make publicly available on their website. While few companies appeared to offer potential clients the opportunity to negotiate the terms of their agreement, it is reasonable to assume that some clients, especially large clients, can and do negotiate for nonstandard terms. These customized contracts are not readily available on public websites, and therefore are not in the sample. Finally, in many cases, it is impossible to determine if a company is providing its own cloud infrastructure or relying on another company, notably AWS. This means that I cannot know if the contract between the cloud infrastructure provider and the cloud storage company influences the terms that the cloud storage

287. Although Facebook is best known as a social media company, both Facebook and Instagram enable users to store large numbers of photos and other media.

288. Three companies in this sample, Facebook, Google, and Microsoft, offer multiple cloud-storage products with distinct contracts.

289. My team also attempted to use the WayBack machine to find older versions of these contracts, but the coverage was too spotty to be useful.

company makes publicly available. Despite these limitations, this sample reveals what consumer-facing cloud storage contracts looked like in 2020.

B. *Results and Analysis*

A manual review of the contracts in the sample revealed that fifty-two had one or more terms attempting to limit liability for data loss. MSP 360's disclaimer is typical: "We are not responsible for content residing on the Website. In no event shall we be held liable for any loss of any Content. It is your sole responsibility to maintain appropriate backup of your Content We make no guarantee that the data you need will be available."²⁹⁰ Microsoft Azure's terms specify that neither party will be liable for "damages for lost profits, revenues, business interruption, or loss of business information, even if the party knew they were possible or reasonably foreseeable."²⁹¹ Consumer-facing products like Box, Dropbox, Evernote, Flickr, and iCloud all contain similar terms.²⁹² One of the most aggressive disclaimers in the sample belongs to Dribbble, which caters to designers.²⁹³ Where permissible, Dribbble has customers agree that "under no legal theory" will it be liable for loss of data.²⁹⁴

Some companies include what Professor David Hoffman calls "precatory fine print"—instructions dictating how consumers should use the product or service.²⁹⁵ In this sample, precatory fine print often specifies that customers should maintain at least one additional copy of their data. For example, Rackspace's contract provides that "[a]lthough the service may be used as a backup service, Customer agrees that Customer shall maintain at least one additional current copy of Customer's Customer Data somewhere other than on the Rackspace Public Cloud Services."²⁹⁶ HostMonster's contract says, "[y]ou will be solely responsible to for backing-up all Subscriber Content, including any Subscriber Websites off of HostMonster's servers. This is an affirmative

290. *Terms and Conditions*, MSP360 (formerly CLOUDBERRY LAB) (downloaded Apr. 30, 2020) (on file with author).

291. *Online Subscription Agreement*, MICROSOFT AZURE (downloaded Apr. 30, 2020) (on file with author).

292. *Box Service Agreement*, BOX (downloaded Apr. 28, 2020) (on file with author); *Dropbox Terms of Service*, DROPBOX (downloaded Apr. 28, 2020) (on file with author); *Terms of Service*, EVERNOTE (downloaded Apr. 28, 2020) (on file with author); *Flickr Terms & Conditions of Use*, FLICKR (downloaded June 25, 2020) (on file with author); *Use of Service*, ICLOUD (downloaded Apr. 29, 2020) (on file with author).

293. *Terms of Service*, DRIBBBLE (downloaded June 25, 2020) (on file with author).

294. *Id.*

295. David A. Hoffman, *Relational Contracts of Adhesion*, 85 U. CHI. L. REV. 1395, 1398 (2018).

296. *Rackspace Public Cloud Product Terms*, RACKSPACE (downloaded Apr. 30, 2020) (on file with author).

duty.”²⁹⁷ Photobucket uses similar terms.²⁹⁸ These terms put customers in a bind: to lose one’s data is to be in breach of contract.

Only one contract used the term “bailment” at the time of this study. BackupVault’s contract provides that “[n]o bailment or similar obligation is created between the Subscriber and [BackupVault] with respect to the Subscriber’s stored encrypted data.”²⁹⁹ Amazon Web Services’ contract explicitly disclaimed “any duties of a bailee or warehouseman” in 2017,³⁰⁰ but that language was not in the contract available on its website at the time of this study.³⁰¹ Without a bigger pool of historical contracts, it is impossible to know if bailment was commonly contemplated at an earlier time.

Beyond limiting their liability for lost data, thirty-eight contracts in the sample explicitly reserve the right to delete customer data. Some specify that they will provide notice before deleting data.³⁰² Others tie this right to delete to non-payment or violation of the terms of use, but most of these clauses leave the company with broad discretion over when to delete customer data.³⁰³

V. COMPLICATIONS & IMPLICATIONS

If digital asset storage so clearly looks like a bailment and cloud storage firms have the same liability concerns as traditional bailees, it is fair to ask why there is no line of cases on the topic and if the classification of digital asset storage as a bailment matters at all. This Part turns first to the question of why these cases have not come before state courts and then to the question of why the categorization matters. On the latter question, this Part first argues that the categorization has significant implications for Fourth Amendment jurisprudence and second that it matters for the future of ownership more broadly.

297. *User Agreement*, HOSTMONSTER (downloaded June 25, 2020) (on file with author).

298. *Photobucket.com Terms of Use*, PHOTOBUCKET (downloaded June 25, 2020) (on file with author).

299. *Terms and Conditions*, BACKUPVAULT (downloaded Apr. 30, 2020) (on file with author).

300. *AWS Service Terms*, AMAZON WEB SERVICES (last updated Oct. 16, 2017) (on file with author).

301. *AWS Service Terms*, AMAZON WEB SERVICES (downloaded Apr. 28, 2020) (on file with author).

302. *See, e.g., Box Service Agreement*, *supra* note 292 (giving users thirty days to preserve their data if and when the service agreement between Box and the customer is terminated); *Dropbox Terms of Service*, *supra* note 292 (allowing terminated customers a “commercially reasonable” period before deleting their data).

303. *Online Subscription Agreement*, *supra* note 291; *User Agreement*, *supra* note 297.

A. *The Missing Common Law*

Since the Middle Ages, common law courts have been the institution charged with promulgating the law of bailment and adjusting it to accommodate emerging forms of property and new technologies. While the common law process is imperfect, it guaranteed that the law was constantly subject to revision. Any case presenting new technology would challenge the court to fit that technology into existing law.

Over the past century, the common law has been left to wither. Its replacements—codification, arbitration, and to a lesser extent, federal diversity jurisdiction³⁰⁴—are hardly as robust. For over a century, commentators have hotly debated the merits of the common law as compared to codification.³⁰⁵ As state legislatures have codified the law of bailment, they have potentially prevented it from evolving to accommodate new technologies such as cloud storage.³⁰⁶ For example, if a state has a bailment statute that covers only tangible goods, a judge hearing a case about digital property must decide whether the statute is inapplicable to digital property or the statute prohibits bailments of digital property. The latter position is arguably more deferential to the legislature. It may be especially appealing when suspicion of judicial overreach runs high. To be sure, legislatures can and do periodically update the law, but that process is tied less to the needs of any one case and more to the political economy.

The shift away from traditional common law judging suggests that only a statute will firmly locate cloud storage in the law of bailment. One solution is to codify the duty of care that cloud storage providers owe their clients. This approach has the benefit of directly tackling the problem at hand, but it risks inserting rigid code into a rapidly evolving space.

The second force limiting the common law's adaptation to new technology is arbitration.³⁰⁷ Digital storage is always a creature of contract—the terms of service. Cloud storage companies often include

304. See generally Samuel Issacharoff & Florencia Marotta-Wurgler, *The Hollowed Out Common Law*, 67 UCLA L. REV. 600 (2020) (finding that contracts involving newer technologies lack adjudication by courts of apex jurisdiction).

305. See generally Aniceto Masferrer, *The Passionate Discussion Among Common Lawyers About Postbellum American Codification: An Approach to Its Legal Argumentation*, 40 ARIZ. ST. L.J. 173 (2008) (tracing the history of the debate between codification and the common law).

306. See Aniceto Masferrer, *Defense of the Common Law Against Postbellum American Codification: Reasonable and Fallacious Argumentation*, 50 AM. J. LEGAL HIST. 355, 388 (2008) (explaining that a common argument against codification was that codes were rigid).

307. See MARGARET JANE RADIN, *BOILERPLATE: THE FINE PRINT, VANISHING RIGHTS, AND THE RULE OF LAW* 125–26, 130–32 (2012) (explaining how arbitration pushes the resolution of publicly-imposed obligations into private tribunals).

arbitration provisions in these terms,³⁰⁸ meaning that if one did lose customers' data, it is unlikely that there would ever be a precedential court opinion explaining whether, and if so, how, cloud storage companies act as bailors for their customers.³⁰⁹

Given the value of the data stored on the cloud, the uncertainty around the applicable law is remarkable. We might attribute some of that uncertainty to the lack of significant losses of data stored in the cloud, but that alone does not justify the uncertainty. After all, courts developed the law of bailment over a myriad of small cases—individual coats, horses, and other small chattels.³¹⁰ From Megaupload to Tumblr and beyond, these kinds of small losses have already occurred.³¹¹ What is more, it is not clear how the law of cloud storage can become more certain. Not only are there few cases in state courts over which to develop precedent, but given piecemeal codification, it is unclear that courts will believe themselves to be institutions competent to promulgate rules.

Absent any law of bailment that contemplates cloud storage, the law of contract will be its alpha and omega. While contracts have the benefit of private ordering, or at least the fiction thereof, they are potentially inefficient. The law of bailment has always been a system of default rules that spare parties inefficient negotiations for routine transactions. Eliminate those defaults and the parties must negotiate even small deals, or the less powerful party must accept the terms on offer. That is, cloud storage could become another topic of contract-as-product.³¹²

Finally, even if the question of whether cloud storage creates a bailment was before a court, it would likely be a federal court sitting in diversity jurisdiction. Cloud storage is, almost by definition, accessible anywhere meaning that the clients who could experience data loss are likely to be diverse to the cloud storage company. Such a court would look

308. See David Horton, *Infinite Arbitration Clauses*, 168 U. PA. L. REV. 633, 657–60 (2020) (arguing that companies have been expanding the scope of their arbitration clauses beyond the agreements that contain the arbitration provision); *Mey v. DIRECTV, LLC*, 971 F.3d 284, 287, 293–95 (4th Cir. 2020) (holding that companies may compel arbitration even where the relevant arbitration provision is only in a contract between the consumer and an affiliated company).

309. See J. Maria Glover, *Disappearing Claims and the Erosion of Substantive Law*, 124 YALE L.J. 3052, 3076–81 (2015) (explaining how arbitration thwarts the public evolution of the law).

310. See *supra* Part I.

311. See *supra* section II.C.1.

312. See Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1206 (2003) (“Terms that govern the contractual relationship between buyers and sellers are attributes of the product in question, just as are the product’s price and its physical and functional characteristics.”); Margaret Jane Radin, Comment, *Boilerplate Today: The Rise of Modularity and the Waning of Consent*, 104 MICH. L. REV. 1223, 1230 (2006) (“The collapse of contract into product has conceptually been in the offing for a long time; but it has really come to fruition now that both terms and products are digitized.”).

to the state common law but might feel less empowered to push the boundaries of that law. And even if it did, its opinion would not become the new common law of the applicable state but would stand on its own as law outside the law.³¹³

B. *The Fourth Amendment*

Recognizing that cloud storage creates a bailment relationship may shape the future of Fourth Amendment jurisprudence.³¹⁴ In *Carpenter v. United States*,³¹⁵ the Supreme Court held that the Fourth Amendment protects cell phone location information held by cell phone service providers.³¹⁶ *Carpenter* appeared to endorse the idea that some technological innovations are the “modern-day equivalents” of searches subject to the Fourth Amendment.³¹⁷

Carpenter is a departure away from a privacy-based theory of the Fourth Amendment towards a positive law approach.³¹⁸ Concurring in *Katz v. United States*,³¹⁹ Justice Harlan explained that searches trigger the Fourth Amendment when they implicate an “expectation of privacy” that “society is prepared to recognize as ‘reasonable.’”³²⁰ Over time, the Court recognized the third-party doctrine as an exception to the reasonable expectation of privacy test. The third-party doctrine provided that individuals have no reasonable expectation of privacy to information provided to third parties.³²¹ *Carpenter* appears to scale back the third-

313. Issacharoff & Marotta-Wurgler, *supra* note 304, at 607–08.

314. See generally Eric Johnson, Note, *Lost in the Cloud: Cloud Storage, Privacy, and Suggestions for Protecting Users' Data*, 69 STAN. L. REV. 867, 885–95 (2017) (exploring the privacy implications of cloud storage); Aaron J. Gold, *Obscured by Clouds: The Fourth Amendment and Searching Cloud Storage Accounts Through Locally Installed Software*, 56 WM. & MARY L. REV. 2321, 2324–25 (2015) (examining the Fourth Amendment implications of cloud storage); Laurie Buchan Serafino, “I Know My Rights, So You Go’n Need a Warrant for That”: *The Fourth Amendment, Riley’s Impact, and Warrantless Searches of Third-Party Clouds*, 19 BERKELEY J. CRIM. L. 154, 162–63 (2014) (same); David A. Couillard, Note, *Defogging the Cloud: Applying Fourth Amendment Principles to Evolving Privacy Expectations in Cloud Computing*, 93 MINN. L. REV. 2205 (2009) (same); Lucas Issacharoff & Kyle Wirshba, *Restoring Reason to the Third Party Doctrine*, 100 MINN. L. REV. 987, 995 (2016) (contemplating the intersection of cloud storage and the third-party doctrine).

315. 585 U.S. ___, 138 S. Ct. 2206 (2018).

316. *Id.* at 2223.

317. *Id.* at 2222 (praising Justice Kennedy’s “modern-day equivalent[]” test); see also Paul Ohm, *The Many Revolutions of Carpenter*, 32 HARV. J. L. & TECH. 357, 360 (2019).

318. Daniel Epps, *Justifying the Fourth Amendment* (unpublished manuscript) (on file with author).

319. 389 U.S. 347 (1967).

320. *Id.* at 360–61 (Harlan, J., concurring).

321. See *Smith v. Maryland*, 442 U.S. 735, 743–44 (1979) (use of a pin register to log phone calls

party doctrine; after all, the cell phone location data at issue in the case was held not by the target of the search, but by that individual's cell phone service provider.³²² In doing so, the Justices looked to other areas of law for a place to anchor search doctrine.

For the purposes of this Article, the relevant question is how these tests interact with cloud storage. On the one hand, many cloud storage customers take great care and expense to preserve the privacy of the information that they store in the cloud. On the other hand, the cloud storage provider would seem to be the classic third party, especially where the cloud storage can and does read its clients' files for its own purposes. The problem of how technological innovations interact with the Fourth Amendment is not new.³²³ In *Kyllo v. United States*,³²⁴ which held that police need a warrant to scan a home with a thermal imaging device, the court grappled with the question of "what limits there are upon this power of technology to shrink the realm of guaranteed privacy."³²⁵

Fourth Amendment scholarship is rich with theories about how to square the amendment's protections with technological innovations.³²⁶ Prior to *Carpenter*, a few leading theories looked to property, among other sources, for a more meaningful anchor than a "reasonable" "expectation of privacy." Notably, Will Baude and James Stern argued that the positive law should be a floor for Fourth Amendment protections.³²⁷ They would have courts ask, "whether it was unlawful for an ordinary private actor to do what the government's agents did."³²⁸ This suggests that understanding how technology fits into traditional private law concepts, like bailment, is

does not violate the Fourth Amendment because the information is disclosed to the phone company); *United States v. Miller*, 425 U.S. 435, 442–43 (1976) (no reasonable expectation of privacy in bank record).

322. *Carpenter*, 138 S. Ct. at 2212.

323. See generally Matthew Tokson & Ari Ezra Waldman, *Social Norms in Fourth Amendment Law*, 120 MICH. L. REV. 265 (2021).

324. 533 U.S. 27 (2001).

325. *Id.* at 34–35, 40.

326. See, e.g., David Alan Sklansky, *Too Much Information: How Not to Think About Privacy and the Fourth Amendment*, 102 CALIF. L. REV. 1069, 1119–21 (2014) (reconceptualizing the privacy violations of electronic surveillance).

327. See William Baude & James Y. Stern, *The Positive Law Model of the Fourth Amendment*, 129 HARV. L. REV. 1821 (2016); see also Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 809–14 (2004). But see Sherry F. Colb, *A World Without Privacy: Why Property Does Not Define the Limits of the Right Against Unreasonable Searches and Seizures*, 102 MICH. L. REV. 889 (2004); Richard M. Re, *The Positive Law Floor*, 129 HARV. L. REV. 313 (2016).

328. Baude & Stern, *supra* note 327, at 1826.

essential to understanding how the Fourth Amendment interacts with this technology.³²⁹

Justice Gorsuch addressed this question in his dissent in *Carpenter*.³³⁰ He observed how smartphones and other technology have rapidly shifted how individuals “do most everything.”³³¹ He explained that “[e]ven our most private documents—those that, in other eras, we would have locked safely in a desk drawer or destroyed—now reside on third party servers.”³³² Under *Smith v. Maryland*³³³ and *United States v. Miller*,³³⁴ the Fourth Amendment would permit police to search the digitally stored files without a warrant, “on the theory that no one reasonably expects any of it will be kept private.”³³⁵ The rule in both cases is categorical: any disclosure to a third party destroys the reasonable expectation of privacy.³³⁶ The problem with this argument, according to Justice Gorsuch, is that “no one believes that, if they ever did.”³³⁷

Justice Gorsuch asked a rhetorical question that highlights the absurdity of the doctrine: “Can the government demand a copy of all your e-mails from Google or Microsoft without implicating your Fourth Amendment rights?”³³⁸ Justice Gorsuch emphasized that “[c]onsenting to give a third party access to private papers that remain my property is not the same thing as consenting to a search of those papers by the government.”³³⁹ Instead of relying on the third-party doctrine and fraught notions of privacy, Justice Gorsuch proposes to re-hitch Fourth Amendment doctrine to the private law.³⁴⁰

329. See Ian Samuel, *Carpenter and the Property Vocabulary*, HARV. L. REV. BLOG (Dec. 8, 2017), <https://blog.harvardlawreview.org/carpenter-and-the-property-vocabulary/> [<https://perma.cc/BY86-JJNC>] (exploring the usefulness of bailment for Fourth Amendment purposes).

330. 585 U.S. ___, 138 S. Ct. 2206, 2262 (Gorsuch, J., dissenting).

331. *Id.*

332. *Id.*

333. 442 U.S. 735 (1979).

334. 425 U.S. 435 (1976).

335. *Carpenter*, 138 S. Ct. at 2262 (Gorsuch, J., dissenting).

336. *Smith*, 442 U.S. at 742; *Miller*, 425 U.S. at 440–41.

337. *Carpenter*, 138 S. Ct. at 2262 (Gorsuch, J., dissenting); see also Orin S. Kerr, *The Case for the Third-Party Doctrine*, 107 MICH. L. REV. 561, 564 (2009) (describing the third-party doctrine as “not only wrong, but horribly wrong” and collecting criticism (footnotes omitted)).

338. *Carpenter*, 138 S. Ct. at 2262 (Gorsuch, J., dissenting). Justice Gorsuch also asked whether the government can “secure your DNA from 23andMe without a warrant or probable cause?” *Id.* This Article will put that second question aside for now because it is possible that there is some distinction between data that an individual creates and stores with a third party and data that the third party creates then stores for the individual.

339. *Id.* at 2263 (emphasis omitted).

340. *Id.* at 2267–72.

The Fourth Amendment protects “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.”³⁴¹ According to Justice Gorsuch, the “original understanding, the traditional approach asked if a house, paper or effect was *yours* under law. No more was needed to trigger the Fourth Amendment.”³⁴² In this formulation, the common law determinations of ownership would govern whether the Fourth Amendment applied to a particular search. This formulation would all but eliminate the third-party doctrine. Gorsuch offers a series of colorful examples:

Ever hand a private document to a friend to be returned? Toss your keys to a valet at a restaurant? Ask your neighbor to look after your dog while you travel? You would not expect the friend to share the document with others; the valet to lend your car to his buddy; or the neighbor to put Fido up for adoption.³⁴³

To be sure, these examples all cover tangible goods that have long been the subject of the doctrine of bailment. But Justice Gorsuch does not intend to cabin these doctrines to their historical uses or to cases in which the target of the search owns property in fee simple. He explained that “[t]hese ancient principles may help us address modern data cases too. Just because you entrust your data—in some cases, your modern-day papers and effects—to a third party may not mean you lose any Fourth Amendment interest in its contents,”³⁴⁴ rather the Fourth Amendment protects both the “specific rights known at the founding” and “their modern analogues too.”³⁴⁵

Under Justice Gorsuch’s argument, the applicability of Fourth Amendment protections to cloud storage should depend, at least in part, on whether cloud storage is a bailment or at least the modern analog of a bailment.³⁴⁶ This Article has demonstrated that bailment is the best way to understand cloud storage, even if cloud storage providers resist conceiving of themselves as bailees.

341. U.S. CONST. amend. IV.

342. *Carpenter*, 138 S. Ct. at 2267–68 (Gorsuch, J., dissenting) (emphasis in original).

343. *Id.* at 2268.

344. *Id.* at 2269.

345. *Id.* at 2271.

346. See Johnson, *supra* note 314, at 885–95 (exploring how the Fourth Amendment doctrine maps onto cloud storage); see also Michael J. O’Connor, *Digital Bailments*, 22 U. PA. J. CONST. L. 1271, 1306–09 (2020) (observing that bailment doctrine might be important to Fourth Amendment doctrine, but not explaining how bailment would apply to cloud storage).

C. *The Future of Ownership*

Recognizing digital files as something that can be the subject of bailment may radically transform consumers' relationship with digital media. Today, firms structure the contracts facilitating downloads of books, music, movies, and other media so that consumers have a license in the media, but not title.³⁴⁷ Consumers may believe that they own these digital files, but they do not.³⁴⁸ Although there are many critics of this licensing regime,³⁴⁹ eliminating it may not lead to greater consumer ownership of digital media. Recall that Holt's third category of bailment is hired goods.³⁵⁰ This relationship, which covers equipment rental among other things, gives consumers use and enjoyment of the goods "without the burdens of becoming and remaining the owner," while the lessor receives rent.³⁵¹ In a world in which digital files can be bailed, digital media distributors could restructure their contracts to make consumers bailees of the media they download. Like someone renting a U-Haul truck, the consumer could keep the files as long as they paid for it. In this framework, there would be nothing suspicious about the media distributor taking its property, the files, back at the termination of the bailment. Although rooted squarely in property doctrine, a bailments approach to digital media downloads would be subject to the same criticisms as the present licensing regime. Namely, it might contradict consumer expectations and deny consumers autonomy over "their" possessions.

CONCLUSION

Bailment is a relationship between two parties. While it can seem complex with its many categories and formerly convoluted procedural rules, the core is quite simple: bailment is the law of entrusting our things to other people. As a private law doctrine, it gives the force of law to the trust on which subsequent transactions rely. This much has been true for at least a millennium. In that time, the doctrine has weathered countless changes in society, forms of property ownership, and technology. As a concept, bailment is as flexible as it is essential.

347. See generally AARON PERZANOWSKI & JASON SCHULTZ, *THE END OF OWNERSHIP: PERSONAL PROPERTY IN THE DIGITAL ECONOMY* (2016).

348. See Aaron Perzanowski & Chris Jay Hoofnagle, *What We Buy When We Buy Now*, 165 U. PA. L. REV. 315, 320–22 (2017).

349. PERZANOWSKI & SCHULTZ, *supra* note 347, at 57–81; FAIRFIELD, *supra* note 161.

350. See *supra* section I.C.

351. *Cintrone v. Hertz Truck Leasing & Rental Serv.*, 212 A.2d 769, 776 (N.J. 1965).

Having robust default rules regarding who can trust whom for what is efficient. These rules should capture what the parties would negotiate for if they could negotiate efficiently and without grossly unequal bargaining power. That is, these rules reflect the expectations of reasonable individuals. Failure to extend these rules to the emerging digital economy risks further disconnecting the law from the expectations of society at large. This disconnect is not good for the legitimacy of the law.

More broadly, any law of technology that skirts the core principles of private law is the law of suckers. The tech companies will insulate themselves from responsibility to their customers with contract. The effect of these contracts will be to bind the consumer alone. Firms will draft themselves unilateral modification rights and erect procedural barriers to enforcing any remaining rights. The gist will be that anyone who trusts technology with something they value is embarrassingly naïve. Sure, consumers thought they were paying a firm for secure storage, but they should have read the fine print that said the firm could delete their files at will—*everyone* knows to back up their backup. Adding salt to the wound, the user who fails to have a backup for their backup may even be in breach of contract if the contract contains precatory terms.³⁵²

Reputational concerns may police behavior at the margins but do little to align the promise of these products with the substance of their contracts. The companies purport to be storage companies, but then waive liability for loss of data. Even resources for lawyers helping their business clients enter into cloud storage contracts warn that there will be broad disclaimers of liability that may be difficult, if not impossible, to negotiate.³⁵³

Ceding the large swaths of private law to contracts is a pointless abdication³⁵⁴—technology fits into the robust doctrinal framework of the private law. An earlier generation of common law judges might have recognized this fit through the natural flow of cases. Those days have long since passed, but that does not mean those common law concepts should be abandoned. Instead, any statutory law of cloud storage should be built on the law of bailment, much in the same way that the statutory law of warehousing is.

352. Hoffman, *supra* note 295, at 1401–08 (explaining how firms can and do use terms of use to motivate user behavior).

353. See DAVID W. TOLLEN, *THE TECH CONTRACTS HANDBOOK: CLOUD COMPUTING AGREEMENTS, SOFTWARE LICENSES, AND OTHER IT CONTRACTS FOR LAWYERS AND BUSINESSPEOPLE* 146–49 (2d ed. 2015); OVERLY & KALYVAS, *supra* note 15.

354. See Deborah A. DeMott, *Beyond Metaphor: An Analysis of Fiduciary Obligation*, 1988 DUKE L.J. 879, 893–97 (1988) (pushing back on the idea that contract can explain and therefore govern fiduciary law).

