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Adam MacLeod

Faulkner University, amacleod@faulkner.edu

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CYBER TRESPASS AND PROPERTY CONCEPTS

Adam J. MacLeod¹

INTRODUCTION: ACCESS AND PROPERTY IN INFORMATION

Access to information is the purpose of the Internet. Ask anyone born after the dawn of the information age; they will tell you that cyberspace is the place to go if one wants to know stuff. On the other hand, many of the people who put stuff on the Internet or on systems connected to the Internet will tell you that, without legal rights to control or block access, people will not have incentives to put on the Internet stuff that is worth knowing.

In this tension between access and control, property is generally assumed to be on the side of control. But what Margaret Jane Radin called the “propertyization” of information² is not simply a process of making data less accessible. Property rights concern different relations between persons with respect to things. Some of those relations have nothing to do with exclusion, and many property rights do not necessarily entail a right to exclude.

Property in fact serves a more comprehensive purpose. Familiar property concepts play a role in cyber law because they facilitate legal reasoning. And lawyers and judges have a practical need when resolving conflicts about access to and use of information. They need to resolve those disputes according to law. This essay briefly discusses how property concepts help them meet that need.

I. THE POWER AND LIMITS OF THE TRESPASS IDEA

A. *Cyber Wrong as Trespass*

From early days, proposed solutions to problems in the realm of information have been drawn from the law. The legal approach, famously expressed by Judge Easterbrook,³ reasons by analogy from familiar legal categories and concepts to new applications. Courts frequently reason this way about Internet access, treating access as a familiar legal problem in a new context. They consider a cyber wrong as a kind of trespass.⁴

According to the conventional understanding that has taken hold in legal and judicial reasoning, an infringement of private rights with respect to resources on and in the Internet is a trespass to chattels.⁵

¹ Adam J. MacLeod is a Professor of Law at the Thomas Goode Jones School of Law at Faulkner University. He has been a visiting fellow at Princeton University and a Thomas Edison Fellow at George Mason University. This article was presented at a Philosophy & IP colloquium at NYU’s Classical Liberal Institute and a faculty workshop at Jones School of Law, which was facilitated by a grant from the Acton Institute. For helpful comments, the author is grateful to Shyam Balganes, Carys Craig, Bryan Cwyk, Christopher Essert, Lateef Mtima, Adam Mossoff, David Simon, and Talha Syed. Thanks are also due to the editors of *IP Theory* for their careful editorial work.

² Margaret Jane Radin, *A Comment on Information Propertyization and Its Legal Milieu*, 54 CLEV. ST. L. REV. 23 (2006).

³ Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207 (1996).

⁴ Orin S. Kerr, *Norms of Computer Trespass*, 116 COLUM. L. REV. 1143 (2016) [hereinafter *Norms*].

⁵ Mary W.S. Wong, *Cyber-trespass and ‘Unauthorized Access’ as Legal Mechanisms of Access Control: Lessons from the US Experience*, 15 INT’L. J.L. & INFO. TECH. 90 (2007); MICHAEL D. SCOTT, SCOTT ON INFORMATION AND TECHNOLOGY LAW §15.14 (3d ed. 2020); RAYMOND T. NIMMER, LAW OF COMPUTER TECHNOLOGY §16:9 (4th ed. 2020).

The concept of personal property wrongs thus informs and shapes judicial analysis of cyber wrongs. The concept has certain benefits. Analyzing cyber wrongs as trespasses to chattels simplifies legal analysis. It defines the res to be secured and supplies a ready-formed doctrine with discrete elements and presumptive remedies. It makes things easy.

Nevertheless, dissatisfaction persists with the trespass to chattels concept.⁶ It is charged with “improperly requiring courts to construct fanciful legal fictions in which spam is somehow dispossessing’ a plaintiff of its computer network.”⁷ Also, courts differ on some key aspects of cyber trespass. Some influential scholars have concluded that, without more, trespass doctrines do little to help define the boundary of the res at issue, the right claims at stake, the character of the alleged wrong, or what counts as authorized access which could justify entry into a network or system.⁸ Some think that conceiving of Internet wrongs as trespass can even be misleading, at least in certain cases.⁹

This article moves toward clarity by taking seriously both the conventional understanding of Internet wrongs as trespasses and the concerns of dissenters that the trespass to chattels doctrine is unhelpful. Cyber trespass can be a coherent body of legal doctrine. But there are more than one kind of cyber wrongs. So, cyber law should avail itself of more than one form of trespasses. Trespass to chattels is inadequate not because cyber wrongs are not trespassory acts but rather because they amount to different trespasses.

B. *The Work of Property Concepts*

A trespass is a legal wrong. Specifically, it is a property wrong, an act that infringes a property right. But that is the beginning, not the end, of the analysis of trespasses. The common law developed multiple trespass writs and doctrines to vindicate different property rights in different kinds of resources and in different relational contexts. The common law treats property not as a unitary concept but as a plural concept, organized around a few, central features. Thus, it has plural, but not limitless, forms of trespass. The law of the Internet can engage those plural forms; nothing in the nature of information resources requires a univocal trespass doctrine.

The complexity and coherence of trespass doctrine can best be understood by examining the more fundamental legal concepts underneath it. Those concepts are property concepts, which clarify the different rights of property. Trespass is not a univocal doctrine because property is not a univocal right. To distinguish the different property rights and duties at work in common law is to begin to see the different senses in which cyber wrongs can be spoken of as trespasses.

Getting clear in one’s mind the similarities and differences between kinds of property—getting property concepts right—can go a long way toward understanding the rights and wrongs that are grouped together under the heading “trespass.” Property is complex because it structures different jural

⁶ Mark Lemley, *Place and Cyberspace*, 91 CALIF. L. REV. 521 (2003) [hereinafter *Place and Cyberspace*]; Orin S. Kerr, *Vagueness Challenges to the Computer Fraud and Abuse Act*, 94 MINN. L. REV. 1561 (2010).

⁷ Adam Mossoff, *Spam—Oy, What a Nuisance!*, 19 BERKELEY TECH. L.J. 625, 630 (2004).

⁸ Shyamkrishna Balganesh, *Common Law Property Metaphors on The Internet: The Real Problem with the Doctrine of Cybertrespass*, 12 MICH. TELECOMM. & TECH. L. REV. 265 (2006) [hereinafter *Property Metaphors*].

⁹ *Place and Cyberspace*, *supra* note 5; Keith N. Hylton, *Property Rules, Liability Rules, and Immunity: An Application to Cyberspace*, 87 B.U.L. REV. 1, 17–22 (2007); Jennifer Daskal, *The Un-Territoriality of Data*, 125 YALE L.J. 326, 329–30, 366–68 (2015) [hereinafter, *Un-Territoriality*].

relationships between persons and groups of persons, and concerns a variety of resources, tangible and intangible, exclusive and common. A joint tenancy in land is different than an individual's right to possess a chattel, which differs from the liberty of a riparian land owner to consume water from an adjacent stream, and all of those ownership estates behave differently than a trade secret.

In its early decades, the law of the Internet has assumed a certain conception of property as chattels that are subject to trespassory invasion by a failure of self-exclusion. But courts seldom re-examine that assumed conception. In this sense, cyber law is similar to intellectual property law generally. Other areas of law governing intangible resources, such as patent and trademark law, are constructed around property concepts but conceal those concepts behind idiosyncratic terms. Patent infringement is helpfully understood as species of trespass, and was long remedied by trespass on the case, the form of action for remedying wrongs against rights of use (distinct from those trespass writs that secured the right to exclude), though it is called infringement rather than trespass.¹⁰ Alternatively, patent infringement can be understood as a species of nuisance.¹¹ The analysis as nuisance doctrine makes the fundamental, usufructuary nature of patent rights even clearer.

Trademarks are fruitfully understood as usufructuary rights that are appurtenant to business property, in a way that is similar to the way that appurtenant easements are appurtenant to property in land, even though trademarks are not called "easements."¹² Lawyers, judges, and law professors do not often think of patents and trademarks in terms of property rights to use. But examining patents and trademarks as rights of property primarily concerned with use, rather than exclusion, explains many features of the patent and trademark law.

Even if we accept courts' conception of information systems as personal property, cyber law runs together different forms of property that structure jural relations between persons in quite different ways. Personal property estates fix jural relations between persons with respect to resources according to the function that people need the estates to make. The bailment that a dry cleaner acquires when a customer drops off a suit for cleaning, and the chose in action that customer retains, are both property rights. Each estate carries legal incidents that impose discrete legal disadvantages on other people, and each imposes disadvantages and responsibilities on its bearer which correlate with others' rights. Those rights and duties are the rights and duties that are most beneficial to persons who wish to transfer custody of a movable item for a discrete purpose and a limited period of time—a bailment. They are different rights and duties than the liberty to consume water from a riparian stream, or a patent owner's exclusive right to use, make, offer, and sell an invention.

Property consists in the jural relations themselves, rather than the resource governed. So, confusion results from trying to cram all kinds of trespass into the same form simply because they all affect computer systems. And an equal confusion results from the opposite tendency to distinguish property concepts that are actually the same concept. The law often uses the same jural relation to structure rights and duties concerning different kinds of resources. For example, a money debt and a

¹⁰ Adam J. MacLeod, *Patent Infringement as Trespass*, 69 ALA. L. REV. 723 (2018). Patents are usufructuary property rights ab initio, but are rendered exclusive by positive patent grants. *Id.* at 746–48.

¹¹ Christopher M. Newman, *Patent Infringement as Nuisance*, 59 CATH. U. L. REV. 61 (2009).

¹² Adam Mossoff, *Trademark as a Property Right*, 107 KY L.J. 1 (2018).

bailment are both secured by a chose in action. This explains why two legal relationships that on the surface appear to be different nevertheless behave in similar ways.

C. *Law Above Sovereignty*

Legal concepts can play a role in solving practical problems about information systems because familiar concepts facilitate practical reasoning. Widely shared concepts are often better at this function than particular policies of sovereign states. Because the law of the Internet transcends sovereign boundaries, the work of legal concepts is not as densely concealed behind positive enactments as it is in intellectual property law within states, where sources of law are more clearly defined by text but also limited within jurisdictions.¹³ If there is to be a law of the Internet that is independent of the sovereign decisions of the United States, India, and China (for example), a common set of legal concepts would come in handy. At least some of those concepts will be normative; people engage in practical reasoning when acting across international boundaries.

Property concepts can also address the problem of authority. The Internet is a valuable resource that spans the globe and crosses boundaries of sovereign states. Thus, cyber law cannot rely exclusively, or even primarily, upon sovereign power to supply its authority. It must, to some degree, appeal on its own merits to the practical reasoning of those who use the Internet. Cyber law gives us a real-time demonstration of customary rights formation, the exercise of giving form to rights and duties by applying one's practical reason to solve immediate problems and then assenting to the settled-upon solution over a period of time. This is the process of lawmaking that medieval philosopher Thomas Aquinas referred to as promulgation by action rather than words, and that Blackstone characterized as lawmaking by free people.¹⁴

We are watching this process of action-promulgation before our eyes. The choices and actions that resulted in English property doctrines governing land and chattels occurred in time "immemorial," in the words of common law jurists.¹⁵ By contrast, the law of the Internet has sprung up within the span of a single generation. The English trespass writs were differentiated over the span of several centuries. The doctrine of cyber trespass has emerged in little more than two decades.

Yet while cyber trespass doctrine is new, the transparency of norm formation in law is not. Other bodies of customary law have before now grown and annealed in the light of day, notably maritime and admiralty law¹⁶ and the commercial rules of the *ius gentium*.¹⁷ Many of the practical problems that cyber law must solve would seem quite familiar to commercial and maritime lawyers of previous centuries, who deliberately chose some solutions over others and wrote down their reasoning for later examination. Those problems involve whether and how to define and draw boundaries, the specification of rights to exclude and license, and how to resolve conflicts about use.

¹³ See Jennifer Daskal, *Borders and Bits*, 71 VAND. L. REV. 179 (2018) [hereinafter, *Borders and Bits*].

¹⁴ THOMAS AQUINAS, *SUMMA THEOLOGICA*, pt. II-I, questions 97, art. 3 (1485); 1 WILLIAM BLACKSTONE, *COMMENTARIES ON THE LAWS OF ENGLAND* 15, 74 (1765) [hereinafter BL. COMM.].

¹⁵ BL. COMM., *supra* note 13, at 17, 64.

¹⁶ Consider, for example, the customary law defining territorial seas and exclusive economic zones, which was codified in the United Nations Convention on the Law of the Sea in 1982. See Dustin E. Wallace, *An Analysis of Chinese Maritime Claims in the South China Sea*, 63 NAVAL L. REV. 128, 135–42 (2014).

¹⁷ EMER DE VATTEL, *THE LAW OF NATIONS* (Béla Kapossy & Richard Whatmore eds., 2008) (1758).

Property concepts shaped the solutions to those problems in transcendent, clear, and authoritative ways. Property concepts supplied coherent and workable resolutions to conflicts over the resources of the seas and commercial trade across sovereign borders, which appealed to the practical reason of everyone. They can provide the same service to lawyers resolving conflicts over information resources.¹⁸

II. STRATEGIES FOR SETTLING NORMS

A. *The Problem of Defining Wrongs on the Internet*

How to define and redress cyber wrongs remains a pressing problem.¹⁹ This is a new problem that resembles, in important respects, old problems for which the law developed solutions long ago, especially the norms of trespass. Drawing the legal boundaries of rights in cyber space is in important respects like drawing the boundaries of rights in English forests after the Norman conquest, in patented inventions during periods of fierce competition to innovate, and in Western American lands during the Gold Rush. Now, as at those times, conceptual boundaries are necessary to work where physical boundaries are either contested or impracticable.

Before examining how property concepts can clarify doctrines of cyber trespass, it is worthwhile to briefly examine why lawyers and judges reasonably look to trespass doctrine and property concepts when specifying the law of Internet wrongs. At bottom, those engaged in this work have adopted a strategy of norm declaration; they find and declare legal rights and duties rather than create them *ex nihilo*.²⁰ The declaration of law is not well understood today, but it has a long and distinguished pedigree in American law, and in Anglo-American jurisprudence generally.²¹ It has fallen out of favor among legal scholars, so it is worth considering why lawyers and judges still find it attractive. In short, it has advantages over making up norms from scratch.

B. *A Strategy of Creating Norms*

The strategy favored by many scholars today is not to declare existing legal concepts and norms but rather to create them. This approach treats all conflicts concerning data as disputes about use in which no person is presumed to have a presumptive, pre-positive right. It characterizes the problem of cyber trespass not as a problem of private rights and wrongs but rather as a public regulatory problem.²² The job

¹⁸ Cf. Danielle Keats Citron, *Reservoirs of Danger: The Evolution of Public and Private Law at the Dawn of the Information Age*, 80 S. CAL. L. REV. 241 (2007) (using the doctrine of *Rylands v. Fletcher* to clarify the duties of Internet database owners).

¹⁹ See *Norms*, supra note 3, at 1154; *Un-Territoriality*, supra note 8, at 361–78.

²⁰ See generally Stephen E. Sachs, *Finding Law*, 107 CAL. L. REV. 527 (2019); Adam J. MacLeod, *Metaphysical Right and Practical Obligations*, 48 U. MEM. L. REV. 431 (2017).

²¹ Before the legal realist revolution, American lawyers did not think of courts as law-making institutions. Rather, they understood the declaration of law to precede the articulation of rules and the provision of remedies and sanctions. They also distinguished between legislation that is declaratory of existing law (immemorial customs, contracts, conveyances, etc.) and legislation that altered existing law in some discrete respect. See, e.g., 2 JAMES WILSON, COLLECTED WORKS OF JAMES WILSON 1053–83 (Kermit L. Hall & Mark David Hall eds., 2007); THOMAS M. COOLEY, A TREATISE ON THE CONSTITUTIONAL LIMITATIONS WHICH REST UPON THE LEGISLATIVE POWER OF THE STATES OF THE AMERICAN UNION 93–96 (2d ed. 1871), the sources cited therein. The idea was most influentially articulated by Blackstone. BL. COMM., supra note 13, at 53–58, 86–87 (1765).

²² Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501 (1999); *Borders and Bits*, supra note 12, at 184.

is to regulate uses of the internet and other information resources according to the benefits they produce and the harms they cause to other users, a task that can be accomplished either by law or by code.²³ On this view, cyber trespass is not the most logical or justifiable doctrine. The alternative to regulatory regimes is for each alleged cyber trespass to be determined unlawful on an all-things-considered, context-dependent basis. Sovereign powers must promulgate rules for public ends. Call this the Zoning Strategy.²⁴

The Zoning Strategy is attractive insofar as it rests on general assessments of costs and benefits. The normative purpose of land use zoning is to empower local governments to account for the externalities imposed on neighbors by private land use. The central case is a comprehensive zoning ordinance, which segregates uses according to type. It keeps incompatible uses in different zones and thus reduces use conflicts (in theory).

Nevertheless, the Zoning Strategy has some drawbacks and limitations. Three deserve particular attention. First, it requires positive law to define the governing norms. And positive law does not always work. Unlike the customary rights and duties of the *ius gentium*, which can transcend sovereign borders and are derived from the practical reasoning of the people who are on the ground, posited rights are contingent upon positive laws. Positive law reaches only to the borders of the jurisdiction of the sovereign power that enacted it. And if it does not solve practical problems well, people ignore it.

This limitation of positive enactments is a two-edged sword. Each nation ignores customary norms at its peril. To the extent that the positive laws of other nations do not declare existing rights and duties, and neglect or contradict property concepts that are shared throughout the commercial world, they are not entitled to respect as *laws* in American legal institutions. For the same reason, if American law is to be respected as law elsewhere, it must not directly contravene standard, widely-shared conventions about what we owe each other in our dealings on the Internet.

Second, positive law that disrupts settled expectations and rights generates significant costs, disrupts productive customs and practices, and is often used for unjust ends, such as arbitrary or malicious discrimination. Generally, the problem is that a Zoning Strategy centralizes power. Centralizing power in the hands of zoning officials has led to a number of unsatisfactory results in the land use context. For this reason, zoning has never been more controversial than it is today. The confidence that scholars and courts expressed in planners during the early twentieth century has given way to the realization that zoning officials play favorites, and that zoning is prone to corruption and unjust discrimination.²⁵

In response to this limitation (and others) of positive regulation, American jurists developed the doctrine of vested private rights, which distinguishes between mere private expectations and those legal interests that have settled and annealed into rights that people take as conclusive reasons for their actions

²³ LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999).

²⁴ See Lawrence Lessig, *The Zones of Cyberspace*, 48 STAN. L. REV. 1403 (1996).

²⁵ David Callies & Julie Tappendorf, *Unconstitutional Land Development Conditions and the Development Agreement Solution: Bargaining for Public Facilities After Nollan and Dolan*, 51 CASE W. RES. L. REV. 663, 664 (2001); Carol Rose, *Property Rights, Regulatory Regimes and the New Takings Jurisprudence—An Evolutionary Approach*, 57 TENN. L. REV. 577, 588–89 (1990). See generally Alejandro Camacho, *Mustering the Missing Voices: A Collaborative Model for Fostering Equality, Community Involvement and Adaptive Planning in Land Use Decisions Installment One*, 24 STAN. ENVTL. L.J. 3 (2005); Daniel P. Selmi, *The Contract Transformation in Land Use Regulation*, 63 STAN. L. REV. 591 (2011).

in the real world.²⁶ The search for *legal* limits to legislative powers which motivated interest in the vested rights doctrine led jurists to distinguish between declaratory legislation, which articulates and clarifies existing rights, and innovative enactments that divest people of settled property rights.²⁷ Attention to existing property norms and concepts provided a principled basis for, and legal limitation on, new enactments, especially legal and constitutional doctrines that prohibited or made more costly retrospective abrogation of settled rights. The doctrine of vested private rights was a central feature of American jurisprudence for over a century and continues to play a prominent role in American law.²⁸

Third, positive enactments are often adopted piecemeal and are not always consistent or clear. Positive enactments that are inconsistent with the comprehensive reasons of a regulatory scheme as a whole are difficult to justify as law and do not command the respect and obedience of persons subject to law. At the very least, general, public rules must not contravene what Lon Fuller influentially called the “inner morality” of law, the requirements that a law must be coherent, published, consistently administered, and in general, capable of being obeyed.²⁹

In short, the law must appeal to the reason of those who must obey, enforce, and apply it. The reason of the law depends in part upon its intelligibility. And the law is made more intelligible when it incorporates legal concepts with which people are already familiar.

Beyond minimum rationality, the law is effective as a source of practical obligation insofar as it does not contravene what is objectively real, meaning that it is consistent with the nature and activities of the persons whose conduct it is supposed to govern and the relevant facts about the natural things and artifacts with respect to which those persons act.³⁰ To take an obvious example, a legal judgment that treated Cyberspace as a tangible place and denied a remedy for trespass in the absence of a physical entry upon the res would be contrary to reason and would not be entitled to respect as a lawful judgment. It would be a defective judgment.

Cyber lawyers can learn from the experience of land use lawyers and from the common law of real property. That would, of course, require a choice. Zoning is not inherently grounded in property concepts, and in its most ambitious enactments, zoning abrogates vested property rights.³¹ Zoning decisions that disregard settled expectations disrupt rights that are vested by customs and conventions. But often, settled conventions reflect hard-won practical wisdom. A presumption against disruptive

²⁶ Elmer E. Smead, *The Rule Against Retroactive Legislation: A Basic Principle of Jurisprudence*, 20 MINN. L. REV. 775, 780–82 (1936); Adam J. MacLeod, *Of Brutal Murder and Transcendental Sovereignty: The Meaning of Vested Private Rights*, 41 HARV. J.L. & PUB. POL’Y 253 (2017).

²⁷ Edward S. Corwin, *The Basic Doctrine of American Constitutional Law*, 12 MICH. L. REV. 247 (1914).

²⁸ THOMAS M. COOLEY, A TREATISE ON THE CONSTITUTIONAL LIMITATIONS WHICH REST UPON THE LEGISLATIVE POWER OF THE STATES OF THE AMERICAN UNION 357–413 (Little, Brown, and Company 1868); Gordon S. Wood, *The Origins of Vested Rights in the Early Republic*, 85 VA. L. REV. 1421, 1441–42 (1999).

²⁹ LON L. FULLER, THE MORALITY OF LAW (1964).

³⁰ Thomas C. Folsom, *Defining Cyberspace (Finding Real Virtue in the Place of Virtual Reality)*, 9 TUL. J. TECH. & INT. PROP. 75, 79 (2007); Thomas C. Folsom, *Space Pirates, Hitchhikers, Guides, and the Public Interest: Transformational Trademark Law in Cyberspace*, 60 RUTGERS L. REV. 825, 837–42 (2008).

³¹ *Compare Soc’y for the Propagation of the Gospel v. Wheeler*, 22 F. Cas. 756, 768–69 (C.C.D.N.H. 1814) (finding unconstitutional a state law that retrospectively awards to a trespasser the value of his improvements), *with Harbison v. City of Buffalo*, 152 N.E.2d 42, 46 (N.Y. 1958) (concluding that, “with regard to prior nonconforming structures, reasonable termination periods based upon the amortized life of the structure are not . . . unconstitutional,” notwithstanding that the termination deprived the landowner of a vested use).

zoning, predicated on the concept of vested rights, would require planners to account for the goods that customary law secures and to justify their disruption of those goods.

C. *A Strategy of Declaring Norms*

Whatever the advantages and disadvantages of creating law from scratch, lawyers and judges prefer to declare existing norms and legal doctrines and apply them to new cases where they fit. Ever since lawyers successfully characterized hacking attempts and spam emails as forms of trespass to chattels in the 1990s,³² the conceptual apparatus of a personal property trespass has framed judicial and scholarly discussion of Internet wrongs.

Orrin Kerr has explained why trespass norms provide useful referents for lawyers trying to distinguish between lawful and unlawful access.³³ Trespass norms are familiar to lawyers and provide a “sensible” balance between competing interests. Other scholars have shown how existing legal doctrines might sensibly address problems concerning jurisdiction over data and conflicts of laws,³⁴ how to draw legal boundaries around computer systems,³⁵ how to identify norms governing virtual worlds,³⁶ and how to secure legal interests in privacy.³⁷

To declare norms well, it is necessary to pay close attention to the concepts that people who build and use the Internet are already employing, which can point toward familiar families of legal doctrines. For example, the virtual space which secures rivalrous virtual resources, such as URL and email addresses,³⁸ is referred to as a “domain.” Upon reflection, it seems like no mere coincidence that the term “domain” is a classical property term of ancient origin. Domains in land, like domains in the Internet, mark off spaces within which some person or group of persons can manage and use resource without interference by outsiders, and from which those in control of the domain expect to have the right to exclude potential meddlers.

The concept of a domain appeared in Roman law and plays a foundational role in Justinian’s *Corpus Juris Civilis*, which shaped Western law for many centuries. In both the common law and civil law traditions, a “domain” refers to the space—physical or metaphorical—within which a person lawfully exercises authority to determine use and management of some resources. In our legal tradition, dominion is not sole and despotic, as often charged, but is instead bounded by the principles of customary law.³⁹

The concept of a domain can thus serve as a vehicle to bring into contemporary law time-tested maxims and rules for resolving conflicts about resource use. The idea of a domain within the Internet

³² Thrifty-Tel, Inc. v. Bezenek, 46 Cal. App. 4th 1559, 1566–67 (Cal. Ct. App. 1996); CompuServe, Inc. v. Cyber Promotions, Inc., 962 F. Supp. 1015, 1020 (S.D. Ohio 1997); Mossoff, *supra* note 6, at 640–46.

³³ *Norms*, *supra* note 3, at 1159–61.

³⁴ Andrew Keane Woods, *Against Data Exceptionalism*, 68 STAN. L. REV. 729 (2016).

³⁵ Harold Smith Reeves, *Property in Cyberspace*, 63 U. CHI. L. REV. 761 (1996).

³⁶ Christopher J. Cifrino, *Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds*, 55 B.C. L. REV. 235 (2014).

³⁷ Richard A. Epstein, *Cybertrespass*, 70 U. CHI. L. REV. 73, 75–76 (2003).

³⁸ Joshua A.T. Fairfield, *Virtual Property*, 85 B.U.L. REV. 1047, 1052–58 (2005).

³⁹ ADAM J. MACLEOD, *THE BOUNDARIES OF DOMINION*, IN CHRISTIANITY AND PRIVATE LAW 109–25 (Robert Cochran & Michael Moreland eds., 2020).

suggests a conceptual locus of both rights and responsibilities, legal advantages and disadvantages. And these come in discrete forms.

III. PROPERTY CONCEPTS AND THE DECLARATION OF TRESPASS DOCTRINES

A. *How Property Concepts Do and Do Not Work*

Property in both common law and civil law consists of a closed set of artefactual forms of ownership, use rights, cooperative norms, and other jural relations between persons with respect to things.⁴⁰ Each form is comprised of particular rights and duties. In the words of the First Restatement, property in the legal sense does not “denote the thing with respect to which legal relations between persons exist.”⁴¹ Property is not the land, the automobile, the computer network, or the patent invention. Rather, the term “‘property’ is used in this Restatement to denote legal relations between persons with respect to a thing.”⁴²

The legal relations of property vary, but not infinitely. They come pre-fabricated in a finite number of discrete forms.⁴³ Both the types of jural relations themselves and the forms into which they are combined are limited in number. Thus, property estates and future interests comprise a discrete set. This set has been promulgated by the actions of human beings as they go about solving practical problems in the world, beginning during the settlement of Roman law and continuing in the civilian and Anglo-American common-law traditions to this day. Property concepts enable us to understand the content of those legal artifacts and to apply them to the solution of similar problems today.

Whether one conceives of these property estates as bundles of rights and their correlative legal disadvantages,⁴⁴ as essential structures,⁴⁵ or as forms of authority over things,⁴⁶ the central point to understand is that property estates and interests are artifacts of human lawmaking.⁴⁷ They can be studied as products of human efforts to manage the use of things and to resolve disputes between persons with respect to the use of things.⁴⁸

In both the common-law and civilian traditions, the “things” that property governs encompass both tangible and intangible resources.⁴⁹ Cyberlaw, like property law, is the law of rights and wrongs concerning resources that are external to the relevant acting agents (i.e. not the agent’s body, autonomy, or agency). With respect to *rights* in Cyberspace, those which are most essential are the same as those

⁴⁰ J.E. PENNER, *THE IDEA OF PROPERTY IN LAW* 2 (1997); THOMAS W. MERRILL & HENRY E. SMITH, *THE OXFORD INTRODUCTIONS TO U.S. LAW: PROPERTY* 108–09, 146, 162 (2010).

⁴¹ Restatement (First) of Prop. ch.1, intro. note (1936).

⁴² *Id.*

⁴³ Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1 (2000).

⁴⁴ Stephen R. Munzer, *A Bundle Theorist Holds on to His Collection of Sticks*, 8 ECON J. WATCH 265 (2011); Richard Epstein, *Property and Necessity*, 13 HARV. J.L. & PUB. POL’Y 2 (1990).

⁴⁵ Penner, *supra* note 39; Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730 (1998); Thomas W. Merrill & Henry E. Smith, *The Morality of Property*, 48 WM. & MARY L. REV. 1849 (2007).

⁴⁶ Larissa Katz, *Exclusion and Exclusivity in Property Law*, 58 U. TORONTO L.J. 275 (2008).

⁴⁷ Eric R. Claeys, *Use and the Function of Property*, 63 AM. J. JURIS. 221 (2018).

⁴⁸ Eric R. Claeys, *Property, Concepts, and Functions*, 60 B.C. L. REV. 1 (2019).

⁴⁹ 1 The Digest of Justinian 39 (Charles Henry Monro trans., 1904); The Institutes of Justinian 46 (John Baron Moyle trans., 5th ed. 1913); BL. COMM., *supra* note 13, at 20–43.

which are most essential to rights in land or rights in chattels. The problem is how to identify and declare rights to use and exclude, powers to license entry, bail, and alienate, and the degree and kinds of immunity of those rights from retrospective abrogation. It is error to assume that property concepts cannot solve that problem.

B. Tying the Trespass Action to the Appropriate Property Concept

Cyber lawyers have not always remembered these lessons. The conceptual apparatus of trespass to chattels did not fit the wrongs alleged in early cyber trespass cases.⁵⁰ The lawyers and the court focused on the character and (in)tangibility of the resource, rather than the character of the wrong and the nature of the rights at stake. They made the classic error of conceiving of property as the thing rather than rights and duties with respect to things.

The dominion is the property, not the thing itself. This is clear in classic trespass to chattels doctrine, which will not justify an action without evidence that an unauthorized possession or entry interfered with the owner's *use*.⁵¹ While trespass to land is conventionally understood to refer to unconsented entry upon the res,⁵² one may also trespass by infringing the owner's liberty to use, as in a classic trespass on the case⁵³ or trespass on an easement.⁵⁴ The character and type of a trespass turns on which right is infringed.

The problem in *CompuServe, Inc. v. Cyber Promotions, Inc.*⁵⁵ involved unconsented intrusions into a privately-owned system, a domain. The character of the wrong was therefore as much like a trespass to an estate in land as it was like a trespass to chattels. The court was misled in part because a computer system, like chattels and unlike land, is impermanent and not fixed in one location. But dominion over land, like dominion over chattels and intangible resources, is also mutable and movable. A natural person, trust, or corporation that is located in one state can own and govern land located in another state.

Cyberspace is different from land, of course, and this leads some scholars to conclude that property norms are inapposite to Cyberspace.⁵⁶ But to focus on the nature of the space or resource is to get bogged down in peripheral and accidental matters and to miss what is central and essential. It is, in short, to be distracted by a mistaken focal meaning. Property concepts do not settle disputes about things directly. Rather, they specify and enable jurists to declare the rights and responsibilities that people have *toward other people* with respect to things. The focal meaning of property, which concerns legal advantages and disadvantages, can carry the weight of settling cases and controversies concerning all sorts of resources, movable and immovable, tangible and intangible.

⁵⁰ Mossoff, *supra* note 6, at 645–46.

⁵¹ RESTATEMENT (SECOND) OF TORTS §217 (Am. Law Inst. 1965); *Omega World Travel, Inc. v. Mummagraphics, Inc.*, 469 F.3d 348, 359–59 (4th Cir. 2006).

⁵² *Jacque v. Steenberg Homes*, 563 N.W.2d 154 (Wis. 1997).

⁵³ *Keeble v. Hickeringill* 88 Eng. Rep. 945 (K.B. 1707).

⁵⁴ *Chicago Title Land Trust Co. v. JS II, LLC*, 977 N.E.2d 198 (Ill. App. Ct. 2012).

⁵⁵ 962 F. Supp. 1015 (S.D. Ohio 1997).

⁵⁶ See, e.g., *Place and Cyberspace*, *supra* note 5.

In this sense, all property rights are instrumental.⁵⁷ But this does not entail that we could in reason do otherwise than use property concepts. To say that some norm or institution is instrumental is to say nothing about its dispensability. Language is instrumental, but we could not live meaningful lives without languages. Medicine is instrumental, but who would prefer to live in a world without medicine?

Nor is it to say that the character of the resource does not factor into the specification of rights that concern the resource. Not all property concepts will apply in the same way to all resources.⁵⁸ Some concepts, such as the bailment, refer to forms of jural relations that were developed specifically for one kind of resource (i.e. chattels) and not another (i.e. land). Some resources are inherently common, such as obvious technologies and rivers that are subject to navigable servitudes. And doctrines such as accession and patent doctrines such as shop rights take into account the mixture of resources belonging to different persons. But the problems of settling right and duty are the same, and the solutions are often similar, if not identical, across a wide range of resource use and management problems.

A similar limitation constrains scholarship which assumes that property must be rivalrous or inherently exclusionary.⁵⁹ This assumption leads to the conclusion that intellectual property and virtual resources must therefore not be property, or more modestly, that trespass concepts must be inapposite. But the focal meaning of a property conflict is not rivalry, if by rivalry we mean exclusive possession that inherently entails others being out of possession. Focal property rights often concern use and dominion, rather than exclusion or possession. Riparian water rights, easements, and profits are familiar examples of property rights that concern use primarily or exclusively. And the legal doctrines developed to address nuisances and other conflicts over use can help frame or even resolve disputes about access to computer systems and Internet resources.⁶⁰

Rivalry and exclusive possession are not features of *all* property, and many scholars teach that they are peripheral to what property is in its core or essence.⁶¹ Trespass doctrines settle cases of rivalry, and they might be apposite to disputes in Cyberspace insofar as people have competing plans of action for the use and management of resources in Cyberspace, or in cases where use by one adversely affects use by another. But the inherent, physical rivalrousness of a resource will not (by itself) determine the

⁵⁷ This notion of “instrumental” rights comes from *Property Metaphors*. *Property Metaphors*, *supra* note 7, at 316–17.

⁵⁸ See HANOCH DAGAN, A LIBERAL THEORY OF PROPERTY 20 (2021) (property types consist of “distinct frameworks of human interaction with respect to different categories of resources” which shape the “configuration of entitlements that constitute an owner’s rights vis-à-vis others, or a certain type of others, with respect to a given resource”).

⁵⁹ See, e.g., *Property Metaphors*, *supra* note 7, at 311.

⁶⁰ Mossoff, *supra* note 6, at 646–54.

⁶¹ The question whether exclusion or use is the core of property is a live controversy in property scholarship today. Compare Penner, *supra* note 39, at 24–26, and Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357, 364–65 (2001), with Adam Mossoff, *What is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 372–74 (2003), and Eric R. Claeys, *Bundle-of-Sticks Notions in Legal and Economic Scholarship*, 8 ECON J. WATCH 205, 210–11 (2011). But it is not as lively as some suppose, for many of the disputants agree that property shows different core features when viewed from different perspectives, especially inside the property domain versus outside of it. Thomas W. Merrill, *The Property Prism*, 8 ECON J. WATCH 247, 247–51 (2011); Henry E. Smith, *The Language of Property: Form, Context, and Audience*, 55 STAN. L. REV. 1105 (2003); and ADAM J. MACLEOD, PROPERTY AND PRACTICAL REASON 42–49 (2015); Dagan, *supra* note 57, at 81–82.

efficacy of any trespass doctrine. We need to know the character of the wrong, which knowledge will point toward the particular right that is being infringed.

Nor is the right to exclude at the core of all types of property. Indeed, much property is either owned or used as a matter of right by groups and associations of people who act within property's domain of liberty to achieve a common good or shared purpose: families, businesses and non-profits corporations and schools and universities, licensors and licensees, bailors and bailees.⁶² And many property owners share their resources with non-owners, either with or without condition: charities and aid organizations, religious assemblies, common carriers, etc. To focus exclusively on the right to exclude as the central feature of property is therefore to miss most of property's important features *and* to miss that the right to exclude itself entails the power to license inclusion on terms that foster cooperation and creation of new resources.

Nor can essential property concepts be collapsed into tort and criminal law. To conflate the *remedies* and *sanctions* for violating norms in Cyberspace with the trespassory norms themselves⁶³ is to miss the focal meaning of the concepts that must be clarified in order to declare rights and wrongs with accuracy.⁶⁴ To justify a sanction or remedy one must have clearly in mind the character of the wrong being sanctioned or remedied. To achieve that clarity, one first needs a clear view of the right that was infringed. Property concepts provide that clarity.

C. *Different Problems, Different Concepts, Different Trespasses*

The solutions that might emerge in Cyberlaw, like those that earlier emerged in admiralty and maritime law, resemble established property doctrines. Consider the boundary-drawing problem in Cyberlaw. Scholars have considered different types of solutions.⁶⁵ Not many of them have caught on in practice, perhaps because they do not fit the practical reasoning of lawyers. But some solutions have precedents in law and employ familiar property concepts. Each can remedy a different kind of wrong insofar as lawyers already have in mind existing correlations between familiar wrongs and the kinds of rights that they infringe.

To see this, consider how property concepts can help solve two persistent, practical problems. The problem of settling privacy rights in data is analogous to the problem solved by the law of bailments. The problem of discerning when access to a computer system or site is authorized resembles in significant ways the problems solved by property licenses, especially the doctrine of public accommodations.

⁶² MacLeod, *supra* note 60, at 72–87, 114–21.

⁶³ *Compare Norms*, *supra* note 3, at 1157–58 (conflating rights and remedies), with Shyamkrishna Balganes, *Demystifying the Right to Exclude: Of Property, Inviolability, and Automatic Injunctions*, 31 HARV. J.L. & PUB. POL'Y 593 (2008) (correctly identifying the right to exclude with its correlative duty of abstention).

⁶⁴ This was the basic error of the Legal Realists, who focused on consequences and effects and characterized all private rights as mere means to predict the outcomes of cases. For an example of the confusion that can result, see Andrew Moore, *Stuxnet and Article 2(4)'s Prohibition Against the Use of Force: Customary Law and Potential Models*, 64 NAVAL L. REV. 1 (2015) (trying to apply to the Stuxnet cyberattack a provision of the United Nations Charter that prohibits states from making a “threat or use of force against the territorial integrity or political independence of any state”).

⁶⁵ A good discussion of these is found in Harold Smith Reeves, *Property in Cyberspace*, 63 U. CHI. L. REV. 761 (1996).

1. Problem: Defining Data Privacy Rights; Solution: Bailments

The first problem is that people who generate data often entrust data to other persons. This problem spins off a related problem, that data move around the world and are stored in multiple locations, while a state's positive laws reach only to its territorial boundaries. So, how is law to define the rights and duties of persons who are interested in data relative to the custodians of data?

A solution is to treat information that is entrusted to a custodian like chattels entrusted to a custodian. This enables lawyers to declare the respective statuses of particular persons or group agents who interact with data according to whether they hold the data in trust, are the person for whose benefit the data are held, or are strangers to the custody of the data.⁶⁶ The status of each class of person fixes their respective rights and duties according to their relation to the custody of the data. Call this the Bailment Model.

The concept of bailments is packed full of legal doctrines that settle the respective rights and responsibilities of bailors, bailees, and third parties.⁶⁷ Central to the bailment is the bailee's right and duty to exclude from the resource all but the bailor. It corresponds with the responsibility of third parties to act toward the bailee as if the bailee were the owner. The private-law application to computer systems which store information for others is straight forward. With respect to third parties, the bailee is considered the owner of the data and has the right to exclude, though the bailee owes to the bailor duties to steward the data and not to misdeliver it.

Many people who originate data are, in reality, bailors. A bailor has a chose in action, which is the residual estate remaining after custody and control of the res has been transferred to the bailee. It entitles the bailor to prohibit delivery of the res to third parties and to demand redelivery at the conclusion of the bailment. Similarly, though originators of useful data often yield custody and control of their data, they expect to maintain control over who accesses it. This expectation can be expressed as a legal right arising out of their chose in action.

Those to whom bailors entrust their information—system administrators and Internet service providers—are in an important sense bailees. They have possession of the data, which generally involves control of the data and entails the right to exclude those who have no legal interest in it. Third parties who have neither the right to access the data nor the choice in action which would empower them to direct its access and delivery must take the bailee as if it is the owner, under the doctrine of *jus tertii*, and thus have a duty of self-exclusion.

The Bailment Model could help inform questions arising under the Takings Clause, Fourth Amendment, and other public law constitutional protections. An original understanding of those constitutional and fundamental-law provisions refers to property doctrines because those rules were settled and ratified by jurists and lawyers who thought of rights in terms of common-law property and

⁶⁶ See Michael C. Pollack, *Taking Data*, 86 U. CHI. L. REV. 77 (2019).

⁶⁷ See JOSEPH STORY, COMMENTARIES ON THE LAW OF BAILMENTS WITH ILLUSTRATIONS FROM THE CIVIL AND THE FOREIGN LAW (9th ed. 1878); M.G. BRIDGE, PERSONAL PROPERTY LAW 35–43 (2002); Thomas W. Merrill & Henry E. Smith, *supra* note 39, at 87–89.

remedies in terms of common-law torts.⁶⁸ As the Supreme Court of the United States has taken pains to emphasize, the property-rights protections declared in the Bill of Rights encompass property rights in personal and intangible resources, just as they do estates in land, because common law property rights pertain to those resources.⁶⁹

A simple reading of the Bill of Rights would specify a simple legal analysis of data takings. One who is neither bailor nor bailee of the data has no property in it and, indeed, has a duty to exclude himself from it. This is no less true of officials than of private individuals, except that officials have powers to enforce law by accessing resources which they have probable cause to believe are used in the commission of criminal acts. If they access data without probable cause, they have taken private property within the meaning of the Fifth Amendment.

This also means that the third-party doctrine in the U.S. Supreme Court's Fourth Amendment jurisprudence, under which one is deemed to have abandoned one's expectation of privacy when one entrusts data to a third party, is mistaken insofar as it assumes that one gives up one's property rights when one yields up possession.⁷⁰ The bailment framework articulated by the dissents in *Carpenter v. United States*⁷¹ provides a cleaner doctrine for third-party search analysis than the subjective, contingent, expectation-of-privacy test employed by the majority. It enables lower courts to ground their Fourth Amendment decisions in settled law rather than balancing tests under which, as one federal court expressed it, "[a]nswers evade analysis."⁷²

2. Problem: Defining Authorization to Enter; Solution: Licenses

Another problem is how to define authorization to access a resource. *Ab initio*, the same presumption of openness should not apply to information stored by the public library, the fan fiction club, and the U.S. Department of Homeland Security. In particular cases, an additional difficulty arises whether to infer authorization from the words and conduct of the parties, the efficacy of efforts to deny access, or something else.

⁶⁸ BRADFORD P. WILSON, ENFORCING THE FOURTH AMENDMENT: A JURISPRUDENTIAL HISTORY (1986); Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689 (2007). See generally JAMES R. STONER, JR., COMMON-LAW LIBERTY: RETHINKING AMERICA CONSTITUTIONALISM 79–81, 127–31 (2003).

⁶⁹ *Horne v. Dep't of Agriculture*, 576 U.S. 350, 358–61 (2015); *Carpenter v. United States*, 138 S. Ct. 2206 (2018).

⁷⁰ Cf. Richard A. Epstein, *Privacy and the Third Hand: Lessons from the Common Law of Reasonable Expectations*, 24 BERKELEY TECH. L.J. 1199 (2009).

⁷¹ *Carpenter*, 138 S. Ct. at 2228, 2268–70 (Kennedy, J., dissenting) (Gorsuch, J., dissenting) (“[J]ust because you have to entrust a third party with your data doesn’t necessarily mean you should lose all Fourth Amendment protections in it. ... [U]se of technology is functionally compelled by the demands of modern life, and in that way the fact that we store data with third parties may amount to a sort of involuntary bailment too.”)

⁷² *United States v. Howard*, 426 F. Supp. 3d 1247, 1253 (M.D. Ala. 2019) (“In *Carpenter*, the Court explicitly refused to answer whether one’s ‘reasonable expectation of privacy in the whole of his physical movements’ extends to shorter periods of time or to other location tracking devices. Courts like this one are left to decide just how long is a piece of string.”).

The property solution is to look at the words and conduct of the parties and discern whether those in control of the resource are presumed to have granted a license to outsiders. This is how public accommodation licenses to enter privately-owned land are discerned.⁷³ Call this the License solution.

A license is made concrete and particular by contract, and is conventionally understood to be freely revocable, unlike a grant of property.⁷⁴ The role of contracts in crafting licenses is thus better understood than the role of property.⁷⁵ Property licenses shape access norms in more subtle ways than contracts do.⁷⁶ Licenses in property operate as presumption norms rather than as concrete rights and duties.⁷⁷ A business owner who opens the doors of her premises to the public creates a multital presumption of access—an in rem privilege—for all who come to do business, however revocable and contingent in cases where the owner has valid reasons to exclude.⁷⁸

Many scholars and jurists express concern that a presumption of open access would jeopardize many valuable uses of the Internet which require secrecy or private control.⁷⁹ The concerns include that a presumption of authorized access would disincentivize the creation of valuable knowledge and that it would unjustly deprive creators of the value of their labor. Other scholars want the Internet to be presumed open because the most significant general value of the Internet consists in its network effects. These can be achieved by multital (also known as “in rem,” as opposed to paucital or in personam) jural relations, which are necessary to enable multi-directional sharing of information.⁸⁰ They tend to worry about the Internet being “propertized,” by which they seem to mean not that information rights tend to become multital but rather that the operative presumption would be in favor of exclusion.

The License solution can account for all of those concerns because it does not impose a one-sized solution on all problems. Not all resources are open in fact, and not all are closed in fact. So, the law should not have one presumption to govern all resource access problems. The law should declare the presumption created by the presence or absence, and the terms and conditions, of a license to enter.

⁷³ Richard Epstein, *Freedom of Association and Antidiscrimination Law: An Imperfect Reconciliation*, LAW & LIBERTY (Jan. 2, 2016), <https://lawliberty.org/forum/freedom-of-association-and-antidiscrimination-law-an-imperfect-reconciliation/> [<https://perma.cc/P7TU-MPYR>]; Richard A. Epstein, *The Problem with Antidiscrimination Laws*, HOOVER INSTITUTION (Apr. 13, 2015), <http://www.hoover.org/research/problem-antidiscrimination-laws> [<https://perma.cc/N8JT-TLEC>].

⁷⁴ Wood v. Leadbitter, 13 M. & W. 838 (1845).

⁷⁵ H.W.R. Wade, *What is a License?*, 64 L. Q. REV. 57 (1948); Ronald W. Polston, *Licenses*, in 8 THOMPSON ON REAL PROPERTY 1, 16–17 (Thomas ed. 1994).

⁷⁶ See Christopher Essert, *Legal Powers in Private Law*, 21 LEGAL THEORY 136 (2015).

⁷⁷ See generally Adam J. MacLeod, *Tempering Civil Rights Conflicts: Common Law for the Moral Marketplace*, 2016 MICH. ST. L. REV. 643 [hereinafter *Marketplace*].

⁷⁸ Markham v. Brown, 8 N.H. 523 (1837); Ferguson v. Gies, 46 NW 718, 719, 720 (Mich 1890); Noble v. Higgins, 158 N.Y.S. 867 (N.Y. Sup. Ct. 1916); 3 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 212 (1769).

⁷⁹ Frank H. Easterbrook, *Cyberspace Versus Property Law?*, 4 TEX. REV. L. & POL. 103 (1999); Richard Warner, *Border Disputes: Trespass to Chattels on the Internet*, 47 VILL. L. REV. 117 (2002); Daniel Kearney, *Network Effects and the Emerging Doctrine of Cybertrespass*, 23 YALE L. & POL’Y REV. 313 (2005).

⁸⁰ James Boyle, *The Second Enclosure Movement and the Enclosure of the Public Domain*, 66 L. & CONTEMP. PROBS. 33 (2003); Lawrence Lessig, *The Architecture of Innovation*, 51 DUKE L.J. 1783 (2002); Michael A. Carrier & Greg Lastowka, *Against Cyberproperty*, 22 BERKELEY TECH. L.J. 1485 (2007). On multital and paucital jural relations, see Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Legal Reasoning*, 26 Yale L.J. 631, 712 (1917).

At common law, an owner who keeps her resource private is presumed not to have conferred a license, while an owner who invites others in by her words or conduct is presumed to have authorized access for the particular purposes of the enterprise. An owner does not lose her right to exclude when she opens her premises to the public but is deemed to have given the public a provisional and revocable, in rem or multital license to enter for the purpose of doing business.⁸¹ Thus, the right remains with the owner, but the presumption shifts in favor of the public.

When the owner of a computer system or Internet domain treats its resources like a commercial business or common carrier—for example, by posting information on a publicly-available website—it confers upon the public a presumed license to access the information. When those in control have acted more like a residential homeowner, exercising strict control over who enters and for how long, they are presumed not to have authorized access in any case.

Either presumption can be overcome. A presumption for or against open access can be rebutted with evidence that the person or group who controls the space has carved out a principled exception for a class or category of actions or types of access. But in the absence of contrary evidence, the presumption controls.

The License solution can draw upon centuries of precedent distinguishing closed associations from services agreements from places of public accommodation from common carrier monopolies, and all of them from non-commercial, purely private land. The legal concept that centers this category of otherwise-disparate legal doctrines is that of a property license. A license is a property concept that supplies a coherent taxonomy to organize the various rights and privileges that owners confer upon non-owners to access or use a resource.

The License solution would look to the administrator's or owner's intentions to establish presumptions, just like the law of licenses in land looks to the intentions of the person who enjoys the right of exclusive possession of the land. For an administrator who intends to keep a system closed, or an owner who intends to keep information private, a presumption arises that any intrusion is unlawful. For open systems, by contrast, we might presume that the domain is open and that access is permitted unless access is affirmatively thwarted by a marked gate or is expressly denied.

The normative purpose of a property license is to include outsiders in access to a resource in order to collaborate for some definite end, usually some good that is instrumentally valuable to both parties. The particular purpose for a property license can be quite narrow or very broad. And the presumption for or against access varies according to the purposes for which the owner holds open the premises.⁸² At one end of the spectrum, an invitation to a dinner party at a private residence creates an entirely-contingent concession of privilege, revocable at the will of the host. Call this the Castle Model, which is founded on the maxim that a person's home is his castle. A homeowner can exclude for any or no reason.

The central case of the Castle Model is a private residence.⁸³ A homeowner may safely presume that anyone whom she does not expressly license to enter is obligated to stay out, and she need not justify

⁸¹ Blackstone, *supra* note 77, at 212–13.

⁸² *Marketplace*, *supra* note 76, at 696–700.

⁸³ *Cf.* Dagan, *supra* note 57, at 136.

her decision to exclude any person. She may withdraw her consent at any time for any reason. She may obtain equitable relief against intruders and punitive damages against intentional trespassers. The Castle Model can thus import into cyber law basic concepts about control and privacy that are grounded in the more fundamental legal concept of *in rem dominion*.

The function of the Castle Model is to declare and secure existing boundaries and then to presume that access is not authorized unless an express license grants access. A residential homeowner invites guests for short periods of time, and the license is understood to be entirely contingent on the homeowner's forbearance. Meanwhile, everyone who was not invited has a duty to stay out.

The Castle Model is roughly the approach taken by courts which allow an allegation of wrongdoing to constitute a cause of action even if the only harm alleged is harm to the computer network owner's right of exclusive possession⁸⁴ or the potential of future damage if the action is tolerated.⁸⁵ Though inconsistent with trespass to *chattels* doctrine, it is akin to the rules governing trespass to land, and is appropriate for inherently-rivalrous resources such as computer systems and domain names.⁸⁶ It is also fitting for intranet resources and other cyber systems that are meant to remain closed to outsiders.

The focal meaning of the Castle Model is the idea that the duty to exclude oneself from private residences and other exclusive resources is categorical; only strict necessity for a very weighty reason, such as to save a human life, can justify unlicensed entry. The normative purposes for which people developed the duty of self-exclusion are many: privacy, personal autonomy, personal self-constitution, republican virtue, basic goods such as health and knowledge, and the well-being of the family.

At the other end of the spectrum, the general public has a right to ride on a common carrier, which may not exclude except on generally applicable rules. Call this the Carrier Model. It can draw upon more than two centuries of precedents governing railroads, roadside inns, public utilities, and other enterprises that are both open to the public and enjoy either a public franchise or a monopoly market position.

Between the extremes of the Castle and the Carrier, the focal meaning is a public accommodations license. The central case is a commercial business. A business establishment is presumed to be open to the public, but not all the time and not for all purposes or uses. For example, a barbershop is not presumed to be open for use at night as a lodging house, though it is presumed open during business hours to those who want a haircut. Similarly, access to resources on the Internet can be presumed to be open for some purposes and not for others, and on certain conditions. A personal services provider, such as a lawyer or artist, is held to the terms of the contract—express or implied—without more.⁸⁷ Call this the Accommodations Model.⁸⁸

⁸⁴ State Analysis, Inc. v. American Financial Services Assoc., 621 F. Supp. 2d 309, 320 (E.D. Va. 2009).

⁸⁵ Compuserve, Inc. v. Cyber Promotions, Inc., 962 F. Supp. 1015 (S.D. Ohio 1997); eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

⁸⁶ Epstein, *supra* note 36, at 80–84.

⁸⁷ James Stoner, *Cake, Controversy, and the Common Law*, LAW & LIBERTY (June 13, 2018), <https://lawliberty.org/cake-controversy-and-common-law/> [<https://perma.cc/WF4H-JSCL>].

⁸⁸ See Bradley Allan Areheart & Michael Ashley Stein, *Integrating the Internet*, 83 GEO. WASH. L. REV. 449 (2015); Blake E. Reid, *Internet Architecture and Disability*, 95 IND. L.J. 591, 596–602 (2020).

In the Accommodations Model, the presumption switches against exclusion in a place of general accommodation, but the owner may terminate the license for any reason that a jury finds validly connected to the purposes of the business. Yet, having established the purposes of the license, the owner may not discriminate on grounds that are irrelevant to the license's purposes, such as race or ethnicity.

CONCLUSION

Settling and specifying the rules and judgments governing use of the Internet, access to networks, and data privacy is difficult. The law requires norms that account for the complexity of the Internet and its relation to both intangible data and tangible computer and switching systems. The law must also declare just relations between those who have interests in all of those resources. Property law has solved similar problems before with respect to real and personal property law, and the legal artifacts that resulted include many ready-made concepts that can be, and are being, put to new uses. Understanding those concepts better would enable us to better tailor legal doctrines to the problems that they might help us solve.