

SELF-HELP AND THE NATURE OF PROPERTY

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I. INTRODUCTION

Self-help and the law's response to it lie at the center of a system of property rights. This has become all the more apparent as questions of property – and whether to employ property law at all – have arisen in the digital world. In this Article, I argue that self-help comes in different varieties corresponding to different strategies for delineating entitlements. Like property entitlements more generally, the law does not regulate self-help in as detailed a fashion as it could if delineation were costless. Both property entitlements and self-help show far less symmetry and a far lesser degree of tailoring than we would expect in a world in which we did not face delineation costs of devising, describing, communicating, and enforcing the content of rights and privileges to use resources.

Part II of this Article sets the stage for an analysis of self-help by showing how the law-and-economics treatment of entitlements leads one to expect greater symmetry in entitlements than is to be found in the law. In the commentary, rights to be free from pollution are paired conceptually with so-called rights to pollute, but the law does not provide for free standing rights – as opposed to occasional privileges – to pollute. Part III shows how these apparent anomalies receive an explanation on a theory of entitlement delineation that accounts broadly for costs as well as benefits. Roughly speaking, the law faces a choice among strategies for delineating entitlements, and in the choice among these strategies, the benefits of multiple uses of resources must be traded off against the costs of delineation and enforcement. On the one hand, one can delineate entitlements using very rough signals that protect uses indirectly but do not refer to uses specifically, which I call an exclusion strategy. The right to exclude from Blackacre is the prototypical example. Or one can tailor entitlements to important uses in order to capture the benefits of multiple uses, but at a higher delineation cost. This I call a governance strategy, and various off-the-rack nuisance rules and land use regulations as well as privately negotiated easements and covenants would be examples. Normatively, the law should provide off-the-rack governance schemes only when the stakes are high and more cost-effective tailored governance rules cannot be expected to emerge from private parties themselves. More positively, much of the costs of delineation identified here are internalized to those who are called upon to devise and enforce property entitlements. Part IV demonstrates that the law's approach to self-help is

intertwined with and reflects the same cost-benefit considerations as the general system of entitlements. Part V turns to self-help in the digital arena and shows how controversies over trespass to websites, digital rights management, and copyright fair use reflect the place of self-help within a system of entitlement determination that mixes elements of exclusion and governance. Part VI concludes.

II. THE MISUSES OF SYMMETRY IN THE LAW AND ECONOMICS OF PROPERTY RIGHTS

Like many a would-be science, law and economics has always sought out symmetry as a source of explanation. In law and economics, many of these symmetries are supposed to characterize the shape of entitlements. To take the classic illustrative example, the “entitlement” to pollute can be located in the polluter or the victim. The symmetry of entitlement placement reflects what legal economists, following Coase, see as the reciprocal – symmetric – nature of causation.¹ Indeed the polluter or the victim can equally easily be regarded as the cause of the conflict. In the area of self-help, this would lead us to say that either the one engaging in self-help or the one acted upon can be regarded as the cause of the interaction. Taken to the extreme, someone acting in self-defense would be the cause of conflict just as much as the original threatener. But this is an unintuitive and unattractive feature of the reciprocal view of causation: in an everyday sense we do not say that the owners of noses cause punches as much as the owners of the fists that impact them. The policies for placing liability suggested in the law and economics literature, such as lowering bargaining costs or choosing cheapest cost avoiders for liability, do not fully explain our assignment of liability to those who cross boundaries. Or at least, so I will argue.

Like many of the symmetries in physics that hold only at high energies, many of the symmetries that law and economics is built upon only hold in a world of vanishingly low transaction costs. Once positive transaction costs come into the picture, there is a ready explanation for why entitlements – and those entitlements typically labeled “property” in particular – do not show the degree of symmetry expected of them. While on one level scholars realize that the world of zero transaction costs is a theoretical construct meant to illustrate the importance of transaction costs in the real world, this lesson has not been carried over

¹ Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 2, 8-15, 35 (1960).

sufficiently into the question of the shape and delineation of entitlements, the core questions in the theory of property.² I will argue that once certain types of (positive) transaction costs are taken into account, we can explain why property is so radically non-symmetric in that there are invaders and victims, and in that boundary crossings are crucial to liability.

Property law has been surprisingly neglected in law and economics. In one sense, of course, this is untrue. Law and economics is all about “property rights” and “entitlements.” But these have little to do with the traditional subject matter of property, and if anything the thrust of law-and-economics analysis calls into question some of the core notions built into actual property law – rights to exclude and invasions based on who did what where.³

One of Coase’s contributions along these lines was to challenge the notion that in resource conflicts we can identify who caused the harm. Where cattle are trampling corn, we can say that cattle and corn are competing for the same space and that the corn is in the way of the cattle as much as (conventionally we tend to say) the cattle are damaging the corn. If a farmer has a right to be free from trampling damage, then the farmer is causing the rancher harm just as much as if the rancher’s cattle could destroy the farmer’s crop without liability. Or to take another famous example, if a confectioner builds a grinding machine on a party wall on the other side of which a medical doctor has his examining room, we might tend to say that the confectioner is harming the doctor because he is causing the noise.⁴ But the doctor’s need for quiet causes the confectioner harm in equal measure, according to Coase.⁵ Where it is not wealth-maximizing for cattle and crops or medical exams and candy-making to occur simultaneously, the source of the conflict is equally in each of the parties.

Coase pointed out that in a world of zero transaction costs the parties would bargain to the wealth-maximizing solution to the resource conflict regardless of who had the initial

² Coase was very clear that in the analysis of actual situations positive transaction costs are key. *Id.* at 15-19; see also RONALD H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 15 (1988). I will be arguing that by not taking the transaction cost implications of his realist bundle-of-rights assumptions about property seriously enough, Coase did not apply the lessons of positive transaction costs broadly enough.

³ See, e.g., Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 *YALE L.J.* 357 (2001); Henry E. Smith, *Exclusion and Property Rules in the Law of Nuisance*, 90 *VA. L. REV.* 965 (2004).

⁴ Coase, *supra* note 1, at 8-10 (discussing *Sturges v. Bridgman*, 11 Ch. D. 852 (1879), involving a confectioner and a doctor).

⁵ *Id.* at 9-10.

entitlement.⁶ The potential payment to cease activity is as much a cost as any other, and in the zero-transaction-cost world there is no impediment for these offers to be made and accepted. But Coase went further. In a world of positive transaction costs, the goal should be to take into account the effect of decisions on the value of production and, in that sense, to mimic the zero-transaction-cost world.⁷ Because transaction costs are a barrier to the making and acceptance of side payments, the initial location of the entitlement can matter. But when he moves to the actual positive-transaction-cost world, Coase does not give up entirely on the type of symmetry he identified in the zero-transaction-cost world. Because either of the parties to a resource conflict can equally be said to be causing the conflict, there is no reason to favor the one or the other with the initial entitlement – other than policy considerations like maximizing the value of production. The question becomes whether cattle or crops are more suited to a given location – or candy-making or medical exams, or whatever. There is no *a priori* reason to think that crops or medical exams should be regarded as victims and ranchers and confectioners as injurers.

This type of symmetry argument is deeply engrained in law-and-economics thinking, but let me raise an initial question about it. Notice that there is some asymmetry built into these interactions, an asymmetry reflected in everyday notions of causation and harm. If the activity of the farmer or the doctor is going to survive, either liability must be placed on the other party or the person in the position of the farmer or doctor must take some form of self-help. This self-help can be passive as in building a fence or in soundproofing a party wall, or more active, as in shooting the cattle or smashing the noisy pestle. By contrast, the rancher and the confectioner tend to do better in the state of nature. Putting aside the possibility of “active” self-help on the part of the other party, a situation of no liability would suit the rancher or the confectioner just fine. Cattle will win the competition with crops, and noisy activities like candy-making will win out over medical exams. The entitlement needed to protect these more robust activities is more minimal than the one needed to protect the more vulnerable ones. Thus, there is already an asymmetry in terms of the entitlement needed to protect the conflicting activities in order for them to prevail.

⁶ *Id.* at 2-15. How this proposition needs to be qualified has been controversial. On wealth effects, see, for example, Harold Demsetz, *When Does the Rule of Liability Matter?*, 1 J. LEGAL STUD. 13 (1972); Stewart Schwab, *Coase Defends Coase: Why Lawyers Listen and Economists Do Not*, 87 MICH. L. REV. 1171, 1178-84 (1989) (book review of RONALD H. COASE, *THE FIRM THE MARKET AND THE LAW*); but compare COASE, *supra* note 2, at 170-74. On strategic behavior, see, for example, Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1 (1982), for a comparison of the Coase theorem and the “Hobbes Theorem.”

⁷ Coase, *supra* note 1, at 19.

Furthermore, another related source of asymmetry reflected in everyday notions of causation centers on location. When activity moves physical objects across a boundary or leads to collisions we tend to say that the activity caused the harm that results. Thus, if someone showers pellets on someone else's land or sends in odors, we tend to say that person is a trespasser or the creator of a nuisance rather than the other way around.⁸ Even more obviously, when A punches B in the nose, A is usually regarded as causing the harm, not B (or B's nose). By contrast, in the zero-transaction-cost world, Coase is right that location is irrelevant. We could assign liability for pellets, odors, and punches to A or B – or to any C – for that matter.⁹ Bargaining would take care of the rest.

But in the world of positive transaction costs, I argue, boundaries and protected objects are a more economical way to delineate entitlements than specifying all the activities holding between all pairs of people in society and assigning entitlements on that highly atomized basis. Positive transaction costs systematically favor one set of entitlements over another, leading to the asymmetry we observe in real world entitlements. Once again, law and economics, following Coase, simply assumes that more of the symmetry rightly identified in the zero-transaction-cost world carries over into our own world of positive transaction costs.

This overextension of symmetry to situations of positive transaction costs is also characteristic of Guido Calabresi and A. Douglas Melamed's famous "Cathedral" framework of property rules and liability rules.¹⁰ Following Coase, Calabresi and Melamed (C&M) noted that an entitlement could be located in either the "injurer" or the "victim." To use their primary example of air pollution, the entitlement to be free from pollution could be given to the Resident, or the entitlement to pollute could be given to the Polluter.¹¹ Just as the costly interaction can be characterized as involving reciprocal causation, the entitlement can be given to either party: the possibilities for assigning entitlements are symmetrical as well. C&M then noted that two methods of protection could be afforded this entitlement.¹² In one method, the entitlement could

⁸ On the distinction between trespass and nuisance, see, for example, Thomas W. Merrill, *Trespass, Nuisance, and the Costs of Determining Property Rights*, 14 J. LEGAL STUD. 13 (1985); Smith, *supra* note 3, at 992-96.

⁹ For an explicit recognition that liability could be assigned to an apparently unrelated party and an argument that this would make sense if that person were the cheapest cost avoider, see GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* 68-69, 136 (1970).

¹⁰ Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

¹¹ *Id.* at 1090.

¹² *Id.* at 1092.

be protected with robust remedies such as injunctions and punitive damages so that a would-be violator must negotiate a consensual transfer from the present holder. C&M called this a “property rule.” Or, on another method, the would-be taker could be permitted to violate the entitlement as long as it pays compensatory damages, in what C&M called a “liability rule.” Having identified two cross-cutting distinctions they argued that there should be four types of rules.¹³ In Rule 1, the resident is protected from pollution through a property rule; the resident can get an injunction to force the factory to stop polluting. In Rule 2, the resident still has the entitlement, but is only protected by a liability rule. The resident can sue the polluter, and the polluter will be allowed to continue to pollute but will have to pay compensatory damages to the resident. In some sense, the entitlement in the Rule 2 scenario is split in this case between the factory owner and the resident.

C&M then claim that by symmetry, the “entitlement” to pollute can be in the factory and protected by a property rule, which is Rule 3. As we will see, the details of this scenario are often left unclear, but at the least the resident cannot force the factory to stop polluting and the factory will enjoy the ability to pollute without having to pay anything to the resident. In C&M’s words:

Third, Taney [the polluter] may pollute at will and can only be stopped by Marshall [the resident] if Marshall pays him off (Taney’s pollution is not held to be a nuisance to Marshall). . . . Rule three (no nuisance) is instead an entitlement to Taney protected by a property rule, for only by buying Taney out at Taney’s price can Marshall end the pollution.¹⁴

This formulation betrays some uneasiness about the content of the supposed property rule protection for the polluter. I will argue that the law is in fact radically asymmetric in C&M’s Rule 1 and Rule 3 scenarios, which supposedly give property rule protection for “the” entitlement in the resident and the polluter, respectively.¹⁵ This leaves one more cell, and C&M deduced the possibility of a new Rule 4, under which the factory would have the entitlement but

¹³ *Id.* at 1115-16.

¹⁴ *Id.* at 1116.

¹⁵ See Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719 (2004); see also Jeanne L. Schroeder, *Three’s a Crowd: A Feminist Critique of Calabresi and Melamed’s One View of the Cathedral*, 84 CORNELL L. REV. 394, 412-17 (1999) (providing feminist critique of view that liability rules and property rules are alternate methods of protecting same entitlement).

only protected by damages.¹⁶ In other words, the resident could get an injunction to abate or shut down the pollution but would have to pay the factory's costs of doing so. Dramatically, at around the same time, the decision in the coming-to-the-nuisance case of *Spur Industries, Inc. v. Del E. Webb Development Co.*¹⁷ seemed to adopt something like Rule 4, although Rule 4 has never been used in a nuisance case since.¹⁸

The problem in this elegant picture actually begins when C&M look for a symmetric entitlement in the polluter as in the victim. What does it mean for the polluter to have “the” entitlement? When the victim has the entitlement, the victim is vindicating its interest in the use and enjoyment of its property as defined by the boundaries around the resident's parcel.¹⁹ What about the polluter? The usual assumption – to the extent it is made clear – is that if the polluter has the entitlement, a suit by the resident will be dismissed; no nuisance will be found, as C&M put it.²⁰ But this is *not* symmetry in any meaningful sense. True symmetry would require that the polluter have not merely a privilege to pollute – “Taney may pollute at will” – but a *right* to do so, backed up by the possibility of an injunction. In the Hohfeldian scheme a right (or claim) is an entitlement that corresponds to a duty in another: if the resident has a right to be free of pollution, there is a corresponding duty in the polluter not to pollute.²¹ Flipping things around, if the polluter has a similar entitlement, a right to pollute, then the resident has a *duty* to accept pollution and possibly a duty not to interfere with the passage of pollution from the factory onto her land. The polluter would be entitled to an injunction if the resident built fans or walls that impeded the flow of the air pollution onto the resident's land and away from the polluter. Such an entitlement does exist: it is called an easement. Unlike the resident's entitlement in the Rule 1 and Rule 2 scenarios, though, easements are *not* part of the default package of rights in land but only arise as special rights in the lands of another (along with real covenants).²² These special

¹⁶ Calabresi & Melamed, *supra* note 10, at 1115-16.

¹⁷ *Spur Indus. Inc. v. Del E. Webb Dev. Co.*, 494 P.2d 700, 708 (Ariz. 1972) (en banc).

¹⁸ For a discussion of the popularity of Rule 4 in commentary on nuisance law and an argument against use of Rule 4, see Smith, *supra* note 3, at 1107-21.

¹⁹ For more detail on how the boundary is defined see *infra* note 26 and accompanying text.

²⁰ For an unusually careful statement of Rule 3, see KENNETH S. ABRAHAM, *THE FORMS AND FUNCTIONS OF TORT LAW* 176-77 (2d ed. 2002).

²¹ WESLEY NEWCOMB HOHFELD, *FUNDAMENTAL LEGAL CONCEPTIONS AS APPLIED IN JUDICIAL REASONING AND OTHER LEGAL ESSAYS* 23-64 (Walter Wheeler Cook, ed., Yale Univ. Press 1923), reprinting Wesley Newcomb Hohfeld, *Some Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 23 *YALE L.J.* 16 (1913).

²² See Smith, *supra* note 3, at 1001-02, 1017.

rights are usually separately bargained for between the neighboring landowners.²³ The closest that the default package of rights comes to containing an “entitlement” to pollute is in the *privilege* to pollute that a landowner might have as long as neighboring landowners have no entitlement to be free of pollution.

The difference between an off-the-rack package and these special rights can be illustrated by considering adverse possession. Adversely possessing Blackacre will give the default package of rights in the fee simple, including the right to be free of trespasses and nuisances (Rule 1 and, sometimes Rule 2 protection). The adverse possessor may also acquire a *privilege* to pollute but will not have a right to pollute unless a special easement to commit what would be an actionable nuisance has been acquired through prescription, the analogue of adverse possession for use-rights.²⁴ In a zero-transaction-cost world, this distinction between what rights are to be found in the default packages of rights and which are special or stand alone rights would, of course, be irrelevant. But in our world, such considerations are of the greatest importance.

If we ignore easements for the moment and focus on these default, off-the-rack packages, a right to pollute is decidedly *not* the type of “entitlement” that the law grants polluters in the “Rule 3” situation. Rather, as the writers in the liability rule literature seem usually to assume – when they are clear on this point at all – in Rule 3, the factory owner has a *privilege* to pollute, not a right. In a Hohfeldian privilege to do X, the holder has freedom to do X and no one else has a right to invoke the law to stop it.²⁵ That is, if A has a privilege to do X vis-à-vis another actor B, this means that B has no right (or in Hohfeld’s neologism a “no-right”) to invoke the law to stop A from doing X. Just as a duty is the correlative of a right, a no-right is the correlative of a privilege.

The possibility of the entitlement being in the resident or the polluter is not symmetric. The resident might have the entitlement as part of her basic default package of rights. But in the case of the polluter, this is not so,. In their default package of rights, polluters have at most a

²³ Easements and closely related covenants are sometimes placed in all the deeds in a development by developers. Again, this creates special rights through contract, not as an off-the-rack default set of legal entitlements.

²⁴ Note that in some of the nuisance cases considered by Coase, including the famous case of *Sturges v. Bridgman*, 11 Ch. D. 852 (1879), the question was framed in terms of whether a prescriptive easement had been acquired. As one might expect, Coase was baffled by and rather hostile to this mode of thinking. See Coase, *supra* note 1, at 15 (“In deciding this question, the ‘doctrine of lost grant’ is about as relevant as the colour of the judge’s eyes.”); see Smith, *supra* note 3, at 965, 998.

²⁵ See HOHFELD, *supra* note 21, at 38-50.

privilege – not a right – to pollute. Polluters do not have the right to pollute unless they have acquired an easement – an addition to the package of rights in land. Thus, there is no symmetry, because when the victim has the entitlement, it is a claim-right that tracks its basic package of rights in land. When the polluter has an entitlement to pollute, it is either a privilege and not a right, or it is a separately acquired easement – a right in the lands of another. Either way, something asymmetric is going on here.

III. ASYMMETRIC DELINEATION COSTS AND THE NATURE OF PROPERTY

The asymmetry of entitlements in property law is, I argue, a result of positive delineation costs. Some methods of delineating rights are less costly than others, and the less costly methods typically lead to “lumpy” entitlements of the asymmetric kind.

Consider first what delineation of legal relations would be like in a zero-transaction-cost world. In such a world, it would not matter at all what form entitlements took. To take two examples, A could have something like fee simple ownership of Blackacre, with the right to exclude the rest of the world from a column of space around the land as defined by the *ad coelum* rule.²⁶ Or, A could have an equivalent package of rights built from the ground up. That is, the right and privileges A has by virtue of fee simple ownership could instead be spelled out in terms of all the conceivable uses of Blackacre and all the possible competitors for those uses. A could have the right to use Blackacre for growing crops as against B (and C and D, etc.), have the right to parks cars on it as against B, C, etc., and so on. A would have the full fee simple package if these elaborately spelled out legal relations covered a relatively complete set of uses and duty holders. Both the list of use rights and the list of duty holders would be immense. Of course, looked at in this atomized way, A could just as well have a different bundle with only some uses and as against only some enumerated others. This ability to break notions like property down into their constituent parts leads one to wonder why the bundle A has could not be any other – usually smaller – bundle, as long as splitting the bundle in this way serves any

²⁶ The full statement of the maxim is *cujus est solum, ejus est usque ad coelum et ad inferos* (he who owns the soil owns also to the sky and to the depths). The maxim is routinely followed in resolving issues about ownership of air rights, building encroachments, overhanging tree limbs, mineral rights, and so forth, and is subject to certain limited exceptions such as for airplane overflights. See *Brown v. United States*, 73 F.3d 1100, 1103 (Fed. Cir. 1996); see Merrill, *supra* note 8, at 35-45 (discussing airplane overflights and other exceptions to *ad coelum* rule).

beneficial end.²⁷ Thus, if B is someone who would like to enter Blackacre to deliver a mobile home, why not give the mobile-home-dragging-right to B and avoid transaction costs?²⁸ The atomized bundle-of-rights picture of property makes the bundles the law provides look arbitrary and makes reengineering the bundle seem attractive. And tailoring entitlements to capture any benefit not exhausted by transactions would make sense if the tailoring could be effected at little or no cost.

In a world of zero transaction costs, specifying A's rights as a right to exclude versus this articulated, atomized, "bottom-up" package (and its close relatives) would cost the same – nothing. If so, then there is no reason not to define property rights in the articulated extreme bundle-of-rights way. On the other hand, in the world of zero transaction costs there is no reason to define property rights in any particular way; in the zero-transaction-cost world the parties will bargain to the efficient result anyway. In this fictional world, there would be no need for a distinction between property and contract: all "property" could be the result of bilateral bargaining between all conceivable competitors for the ability to perform any action whatsoever.²⁹

In the positive transaction cost world, some shortcuts are in order. And one of the main methods of economizing on transaction costs is to avoid specifying legal relations in the Hohfeldian bottom-up manner. Delineating a right to use Blackacre for growing crops as against B is costly to delineate. By giving A the right to exclude, one can economize along several margins. First, the right to exclude need not refer to any specific use.³⁰ By giving A the right to

²⁷ See, e.g., Arthur Linton Corbin, *Taxation of Seats on the Stock Exchange*, 31 YALE L.J. 429, 429 (1922) ("Our concept of property has shifted . . . '[P]roperty' has ceased to describe any *res*, or object of sense, at all, and has become merely a bundle of legal relations—rights, powers, privileges, and immunities."); See generally THOMAS C. GREY, *The Disintegration of Property*, in *Property*, in NOMOS XXII 69 (J. Roland Pennock & John W. Chapman, eds., 1980); see also Merrill & Smith, *supra* note 3, at 365 (discussing this elaboration of the bundle-of-rights view).

²⁸ See *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154 (Wis. 1997) (upholding a verdict of punitive damages of \$100,000 on compensatory damages of \$1 where the defendants moved a trailer home across the plaintiff's land and plaintiff refused all defendant's offers at least partly out of the mistaken belief that prescription might result).

²⁹ See Steven N.S. Cheung, *The Transaction Costs Paradigm*, 36 ECON. INQUIRY 514, 518-20 (1998) (arguing that in the zero transaction cost world there would not even be a need for property rights). Coase has agreed in principle with this observation. See RONALD H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 14-15 (1990). At bottom, of course, this is simply a debate about the proper domain of the concept of "transaction costs." See Douglas W. Allen, *What Are Transaction Costs?*, 14 RES. L. & ECON. 1 (1991) (arguing that transaction costs are better defined as the costs of establishing property rights, in the economist's sense of a de facto ability to derive utility from an action, rather than narrowly as the costs of exchange).

³⁰ In a conceptual analysis, James Penner argues that in property exclusion (or gatekeeping) is fundamental to the right, and that the right protects the interest of people in using things. See generally J.E. PENNER, *THE IDEA OF PROPERTY IN LAW* (1997). I am suggesting here that like many concepts, the concept of property is a mental short cut and that one functional explanation for the concept is the large information cost savings of using the short cut as

exclude an unspecified group of others – all the rest of the world – A’s interest in a wide range of uses, including growing crops, parking cars, etc. is protected without the need for the one delineating the right to know anything about – or even the existence of – these uses. Moreover, those who have to respect the right – the duty holders – need not know anything about these uses or about features of A.³¹ The duty holder need only know to keep off. Finally, the one delineating the right need not know much about or even the identity of the duty holders; the right is to exclude the rest of the world. It is *in rem*. Of course from this baseline A might license B to enter Blackacre or even contract with B to exempt B from the general duty. But the baseline right to exclude with an exception for B is more economical than specifying all the right-duty pairs between A and all others individually.

In a sense, property law delegates to the owner both the choice among a wide range of (unspecified) uses and also the choice of possible modifications to the legal structure of rights and privileges over the owned asset. The degree of this delegation can be measured by how much the right to exclude serves as a shortcut over the full Hohfeldian bottom-up method of delineating legal relations. In particular, consider the owner as a chooser among the possible uses of Blackacre. As already discussed, the right to exclude makes no reference to these uses, but, by installing the owner as a gatekeeper over the asset, the owner’s interest in these uses is protected. The degree of delegation can be measured by the size of the “mismatch” between the right (to exclude) and the privileges of use that it indirectly protects. The greater the set of such use privileges implicitly protected by the right to exclude the greater the owner’s range of discretion. Conversely, if the law makes detailed reference to uses and seeks to solve use conflicts between the owner and various neighbors or even between the owner and strangers, then the delegation is a lesser one; the law has removed from the owner some of the choice over uses and the choice over modifications of legal relations pertaining to those uses.

Thus, an *in rem* right, good against the world, is more than an arbitrary bundle among many other similar bundles. It is a key shorthand method of delineating rights that saves on the

opposed to the direct Hohfeldian approach top protecting interests in use. Cf. JOHN LOCKE, AN ESSAY CONCERNING HUMAN UNDERSTANDING Bk. 3 Ch. 3 (Alexander C. Fraser ed., Dover Publ’n (1972) (1689) (arguing that only particulars exist but that having idea and word for every particular is beyond human capacity and would be useless even if it were possible).

³¹ See PENNER, *supra* note 30, at 29; see Henry E. Smith, *The Language of Property: Form, Context, and Audience*, 55 STAN. L. REV. 1105, 1150-51 (2003).

transaction costs of delineating and processing information about rights in terms of uses and users. Thus, positive transaction costs help explain why we have property at all instead of an elaborate system of contracting over much more specific use rights to resources and activities. It is because of positive transaction costs that we think in terms of things and especially in terms of *in rem* rights to exclude others from them – i.e. those rights known as *property*.

Shortcuts do have their costs. If rights are defined with very little reference to particulars like uses and users, benefits may be foregone. For example, Blackacre may be suited to having multiple people cultivating the crops or might be subjected to multiple uses as long as the two uses are constrained from conflicting too much. For example, some growing of crops and watching of (non-crop-eating) birds would be compatible as long as the birdwatchers took care not to trample crops and the farmers did not cut down too many trees. More precision in terms of who can do what when can be cost-effective in such cases: the benefits of adding precision beyond that in the basic right to exclude would pay the costs of the extra delineation and processing needed for the more elaborate rules. I call these more use-oriented rules examples of a governance strategy, as opposed to the basic exclusion strategy.³² These governance rules come in many varieties. An off-the-rack legal version would be like some nuisance law and pollution regulation, in which a government actor determines the proper use, and enforces these rules on conflicting users. But governance schemes can and very often do arise through private contracting, as where neighbors or developers institute interlocking covenants, such as for the color of houses, residential use, etc. Or, proper use can be ensured through non-legal norms that are more detailed than the basic right to exclude.³³ Under what circumstances a neighbor is permitted to retrieve an errant child, pet, or toy is likely to be governed by norms rather than by formal law.³⁴ Consider too the elaborate but technically illegal system of norms governing the “entitlement” to a parking space that one has shoveled out after a snowstorm in many Chicago neighborhoods.³⁵ In such situations, the enforcement may be extralegal or even illegal, but the

³² See Henry E. Smith, *Exclusion versus Governance: Two Strategies for Delineating Property Rights*, 31 J. LEGAL STUD. S453, S454-56, S467-78 (2002).

³³ See generally, ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991); see generally ELINOR OSTROM, *GOVERNING THE COMMONS* (1990).

³⁴ See generally ELLICKSON, *supra* note 33.

³⁵ See, e.g., Richard A. Epstein, *The Allocation of the Commons: Parking on Public Roads*, 31 J. LEGAL STUD. S515, S528-34 (2002); see John Kass, *Snowstorm's Charm Can't Stand Up to Law of Street*, CHI. TRIB., Jan. 5, 1999, at 3.

familiarity of a close-knit community will make the extra detail easier to achieve than in the case of formal legal governance regimes.

Returning to the notion of delegation, governance schemes involve some loss of discretion in the owner over the wide range of uses protected by the right to exclude. Judicial and other off-the-rack legal governance regimes represent a direct withdrawal of the discretion from the owner.³⁶ By contrast, schemes of covenants or norms tend to involve a consensual surrender by owners of some of their discretion over the use of the owned asset, often in return for a similar surrender by other owners, to the mutual benefit of all. In agreeing to these use-restrictions, the owner exercises second-order discretion to transfer some (or all) of his rights and privileges to others.

IV. SELF-HELP AND THE DELINEATION OF PROPERTY RIGHTS

Self-help can be any one of a variety of rights or privileges. The choice between these different entitlements tracks closely the varieties of legal entitlements. Entitlements to self-help, like entitlements more generally, tend to rely on low-cost privileges and to piggyback on clumpy rights to exclude. Only in high stakes situations of great urgency do self-help rules become free standing rights.

A. Varieties of Self-Help

Consider first the distinction between self-help as a right and self-help as a privilege in the context of self-defense in the criminal law.³⁷ If A unlawfully attacks B and B therefore has a privilege of self-defense against A, this means that A has no right against B that B not take reasonable self-help actions. B might have the privilege of hitting A, and A would not have the usual right not to be hit. This could come about in more than one way. For example, the aggressor A might have a general right to bodily integrity, but the law of self-defense remove s

³⁶ See Smith, *supra* note 3, at 1021-24.

³⁷ See, e.g., MODEL PENAL CODE § 3.04(1) (1962) (justifying use of force “when the actor believes that such force is immediately necessary for the purpose of protecting himself against the use of unlawful force by such other person on the present occasion”); see WAYNE R. LAFAVE & AUSTIN W. SCOTT, CRIMINAL LAW § 5.7 (2d. ed 1986) (discussing traditional approach to self-defense including requirement of imminence).

this right, at least partially, as against B. Thus, when B hits A, B is not violating A's rights. The privilege of self-defense arises because B has a general privilege to act as long as it does not violate others' rights and the law of self-defense withdraws A's right against being hit by B. The general default privilege in B to act reasserts itself. Moreover, the original aggressor A has no privilege to act in self-defense against B (unless B's exceeds the allowed level of force), because B's self-defense attack on A is not unlawful as would be required for A to be allowed to exercise self-defense. On the view that self-defense is a privilege that is carved out of A's rights, B's general rights to bodily security avail without exception against A. If B uses excessive force, as when A pushes B and B draws a knife, A may then have some privilege to act in self-defense.³⁸ The law then makes an exception to B's rights of bodily security.

Another way for a privilege of self-defense to arise is for B to exercise the privilege of acting which is in turn protected by a right of exclusion. In self-defense, this would mean that if A invaded a physical space over which the law gives B the right to exclude, B could take a variety of actions within the space that harm A. However, because people's exclusion rights are routinely circumscribed by the rights of others not to be assaulted or killed no matter where they are, this way of thinking about self-defense does not add much in the case of violence.³⁹ But in the matter of lesser self-help actions, the fact that the privilege is one that is implicitly protected by a right to exclude can matter very much. Thus, if someone uses locks (but not spring guns) to defend property, the privilege of doing so is one of a great many that the owner can exercise behind the veil of the right to exclude.⁴⁰ There is no separately delineated "privilege to install locks;" it is a wholly implicit privilege protected by the right to exclude. The ability to provide for such a privilege implicitly saves on information and other delineation and enforcement costs. Conversely, the exercise of this and similar self-help privileges is not a precondition for the ability to vindicate the right to exclude. There is no requirement that one lock one's house or car in order to sue trespassers and thieves.

³⁸ See *Id.* § 5.7(e).

³⁹ At least these days. There was a time when actions taken to protect one's dwelling, including use of lethal force, were judged by a lenient standard; these days the tendency is to be less lenient to those engaged in self-defense within a dwelling (requiring a substantial risk to the defender), but still would not require the defender to flee. See *Id.* § 5.9; see also *Id.* § 5.7(f).

⁴⁰ To be entitled to use force, the defender must reasonably believe that there is an immediate danger of unlawful entry or trespass (trespass or asportation in the case of personal property) and that it is necessary to use force to avoid the danger. *Id.* § 5.9(a).

By contrast, if B has the *right* to self-defense, this means that A has a corresponding duty of noninterference with B's exercise of his self-defense right. Thus, if B hits A in self-defense, A might have a duty not to ward off the blow, etc. Or, less likely, it could be that A must submit to being hit. But the duty does not normally extend that far. Indeed in such situations, A may withdraw and is encouraged to do so.⁴¹

Is the entitlement to engage in self-help a right or a privilege? One might think that it is a right, based on the fact that A is not allowed to respond to B's self-help with fresh violence of A's own. In self-defense, the original aggressor A has a duty not to use violence against self-helper B. But the source of this duty might be B's general right against violence against others in general, including A – rather than a special right of self-defense in B.⁴² A probably does not have a duty to suffer the violence; if possible, A is allowed to (and would be well advised to) withdraw. A's lack of entitlement to respond to B's self-help with force could simply stem from B's general rights to be free from violence. Either way – B has a right to engage in self-help or B's general rights back up B's exercise of the privilege of self-help – there are limits to B's entitlement. If B exceeds the level of reasonably necessary force against A, then A can respond with force if necessary to prevent the excessive harm to A. This limit on self-help is consistent with a right or a privilege of self-help. If self-help is a right, B's right is so limited to reasonably necessary force, or the privilege of self-help in B is limited and then A's general rights to be free from physical harm kick in.

Another type of self-help, the law of necessity, features prominently in property law. Like self-defense, the law of necessity responds to situations of high urgency. Unlike self-defense, the law of necessity often centers on the entitlement of the one facing the necessity to have access and to use property in ways that would otherwise constitute a trespass or

⁴¹ An aggressor who withdraws and communicates the withdrawal to the victim, "is restored to his right of self-defense." *Id.* § 5.7(e), at 460. On the view of self-help as a privilege, the original aggressor who withdraws is restored to his full right of bodily security and if the original victim further attacks him, the law makes an exception to the original victim's security rights, giving the original (withdrawn) aggressor a privilege of self-defense.

⁴² Telling the two methods of establishing the right in B would not be straightforward. Consider a case in which B defending himself against A and A holds up a steel pipe in the path of B's fist. Probably A would be liable to B. Is this because B has a right of self help? Or is it that B in swinging his fist is acting in a way he is privileged to do – because of the absence of a right in A to be free from self-help violence – and for A to act in such a way as to cause B harm is tortious? Placing the steel pipe in the way of B's fist would be a legal cause of B's injury because B had an entitlement – privilege or right – to act. Compare someone who trips a pedestrian walking on the street with a steel bar.

conversion.⁴³ In the classic situation of necessity, one facing imminent harm, particularly to health or safety, is entitled to enter or use property of another. This self-help is sometimes referred to as an “incomplete privilege” because a private party in necessity may have to pay for any damage to the property.⁴⁴ In the famous case of *Vincent v. Lake Erie Transportation Company*,⁴⁵ the person in need was a ship-owner facing a danger in a storm. After discharging cargo at a dock the ship-owner decided not to unmoor because of a gathering storm. When the storm arrived, the ship was impelled against the dock and suffered damage. The court held that in light of the necessity the ship-owner acted reasonably and justifiably, but had to pay for the damage to the dock.⁴⁶ In the Calabresi and Melamed framework the dock is usually viewed protected by a property rule most of the time, but in situations of necessity the protection drops to that of a liability rule.⁴⁷ The one in peril can take and pay, but after the peril passes the property rule reasserts itself. Controversy in the liability rule literature has revolved around what kind of entitlement protection is afforded to the one facing necessity, here the ship-owner. In another leading case on the subject, *Ploof v. Putnam*,⁴⁸ a dock owner’s servant unmoored a ship whose crew was trying to avoid a storm and as might be expected the ship was driven on the shore and the people and cargo on board were tossed into the water. The court held that the ship-owner had stated a case in trespass,⁴⁹ and I have argued elsewhere that this shows that the ship-owner had a right rather than a mere privilege to use the dock.⁵⁰

Commentators have differed over the strength and scope of this right, with some arguing that the entitlement of the one facing the necessity (the ship-owner) is in turn protected by only a

⁴³ See, e.g., LAFAVE & SCOTT, CRIMINAL LAW § 5.4; see also W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 24, at 145-48 (5th ed. 1984).

⁴⁴ See RESTATEMENT (SECOND) OF TORTS §§ 262 cmt. d, 263 cmt. e (1965) (noting that obligation to pay for damage arises in case of private but not public necessity); see RESTATEMENT OF RESTITUTION § 122 (1937) (describing “a duty of restitution for the amount of harm done” in one who derives benefits from an “incomplete privilege”); see Francis H. Bohlen, *Incomplete Privilege to Inflict Intentional Invasion of Interests of Property and Personality*, 39 Harv. L. Rev. 307, 312-313 (1926); see generally Daniel Friedmann, *Restitution of Benefits Obtained Through the Appropriation of Property or the Commission of a Wrong*, 80 COLUM. L. REV. 504 (1980).

⁴⁵ 124 N.W. 221 (Minn. 1910).

⁴⁶ 124 N.W. at 222.

⁴⁷ See, e.g., Ian Ayres & J.M. Balkin, *Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond*, 106 Yale L.J. 703, 710 (1996).

⁴⁸ 71 A. 188 (Vt. 1908).

⁴⁹ 71 A. at 189.

⁵⁰ I argued that because the right here correlates with a duty in the dock owner to allow the crew to moor, this is a true claim-right in the Hohfeldian sense, as opposed to a mere privilege. Smith, *Property Rules*; see also WESLEY NEWCOMB HOHFELD, *FUNDAMENTAL LEGAL CONCEPTIONS AS APPLIED IN JUDICIAL REASONING* 36-38, 71-72 (Walter Wheeler Cook ed., Greenwood Press, Inc. 1978 (1919)).

second-order liability rule, under which the dock owner could “retake” the entitlement to the dock but would have to pay damages to the ship owner.⁵¹ Richard Epstein argues that during the peril, if the dock owner tried to unmoor the ship, the crew could defend with deadly force and the dock owner might be liable in trespass. If so, the ship’s crew has the entitlement to the dock protected by a property rule, not a liability rule.⁵²

But notice that this right, if it is a right, may not be a special right to the dock, but rather, the general right against unwanted contact. The ship-owner, being privileged to be on the dock, can use his general rights to be free from trespass to enforce his right to the dock. Or, it might be that the ship-owner has taken temporary possession of the dock and the right against trespasses is the right of a possessor against wrongful invasion. On this view, if the ship were not tied up and the dock owner put an obstacle in the way of the ship-owner from mooring, there would be no liability. Or, the ship-owner might have a right under which it could use some degree of force to barge in and take possession of the dock despite the owner’s efforts. Thus, the ship-owner has some right, but it could be any of these three: (i) the right to be free from unwanted touchings by the dock owner, which is useful in helping the ship-owner exercise its privilege of using the dock; (ii) the right to use the dock, such that the ship owner has a duty to not to interfere (one variant on this would be that the right to use the dock arises once the ship-owner has gained possession of the dock but the ship-owner has no right, just a privilege, to gain possession of the dock); (iii) the right to use the dock with corresponding duties in the landowner to facilitate the use.

Whether actual possession by the one in necessity strengthens that person’s claim to a resource, it does seem to be the case that the law of self-help does piggyback to a certain extent on notions of possession. This happens in two ways. One, which we have already discussed, is that possession gives a right to exclude (although one more contingent and less durable than the right to exclude conferred on full owners).⁵³ This right to exclude indirectly protects self-help measures taken by possessors to prevent invasions, such as erecting fences, installing locks,

⁵¹ See Ayres & Balkin, *supra* note 47, at 710.

⁵² Richard A. Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2108-09 (1997). As Epstein points out, the owner could not “retake” the entitlement, but rather the property rule protection temporarily shifts to the boat owner because protecting life is more important than a refined “auction” of the dock.

⁵³ The law provides for a rebuttable presumption that one in possession has a property right in it. *See, e.g.*, *Russell v. Hill*, 34 S.E. 640 (N.C. 1899). Making out a case of trespass requires that the plaintiff show she has possession; no showing of title is required. *Id.* at 640.

hiring guards, etc. Possession also limits the self-help privileges of others. In the context of docks and ships, the ship-owner is in possession of the ship and possibly the dock. Unmooring the ship would violate right of possessors to exclude.

That possession is important in helping to define the scope of entitlements to self-help also helps explain why self-help repossession has been such a thorny issue in the law. The law has become more hostile to efforts at self-help repossession, particularly in real property.⁵⁴ In the landlord tenant context, both tenants and landlords have aspects of the right to exclude.⁵⁵ The tenant has the present right to exclude third parties and limited rights to exclude the landlord. In landlord-tenant situations, the owner has delegated the right to exclude for a limited period of time to the tenant. To the rest of the world the tenant appears, like owners, to be exercising the right to exclude. The landlord has the future right to exclude third parties, and usually has limited privileges to enter for purposes of repairs and to show the premises to prospective tenants.⁵⁶ Tenants have a wide range of use privileges protected by the right to exclude, and many of these include self-help to impede invasions. When a landlord tries to repossess, tenants can be expected to resist. Instead of delineating the boundaries of the tenant's privilege to resist, the modern trend is to force the problem into a judicial forum, where the respective rights of the parties can be determined.⁵⁷ The deference to self-help is heavily based on exclusion, and when possession and ownership are separated, the law is less deferential to the owner's right to exclude.

The lesser degree of deference to self-help by owners not in possession can be interpreted in several ways, all of which are consistent with the information-cost theory. First, information costs are lowered by deferring to efforts by those in possession – usually but not always owners – to keep the gate over the asset in question. Second, in the bailment and landlord-tenant situations, there are multiple parties with some piece of the right to exclude. This leads to conflict and complication. The law can either side with one or the other, or it can regulate the conflict in the interest of third parties. Where self-help tends to a breach of the peace, the law

⁵⁴ See Douglas Ivor Brandon et al., Special Project, *Self-Help: Extrajudicial Rights, Privileges and Remedies in Contemporary American Society*, 37 VAND. L. REV. 845, 950-53 (1984).

⁵⁵ See 2 Richard R. Powell, POWELL ON REAL PROPERTY § 16B.02[2] (Michael Allan Wolf, ed., 1949) (“Once initial possession is established . . . it is clearly the tenant’s responsibility to ward off trespasses.”); see also Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 831-32 (2001).

⁵⁶ See 1 MILTON R. FRIEDMAN, FRIEDMAN ON LEASES § 4.202, at 95-100 (4th ed. 1997). An attempt to override this feature of leases and give the landlord unlimited privileges of access would probably be held to contradict the nature of a lease. 3 *id.* § 29.303, at 1658.

⁵⁷ See, e.g., *Berg v. Wiley*, 264 N.W.2d 145 (Minn. 1978); WILLIAM B. STOEBOCK & DALE A. WHITMAN, THE LAW OF PROPERTY § 6.80 (3d ed. 2000).

increasingly steps in and requires owners not in possession to use legal process. This is increasingly true in the context of real property (landlord-tenant), but courts are still somewhat deferential to self-help repossession in the case of personal property.⁵⁸ As long as the exercise of the privilege of self-help to repossess personal property does not tend to breach of the peace, the courts will generally allow it. Notice that in the case of personal property self-help is pursued pursuant to a privilege rather than a right.⁵⁹ One who owns a car subject to a lien that secures a loan in default would be liable to repossession and may have no right to exclude, but such a person has no duty to allow the repossession either. Thus, if the possessor of the car locks the car in her garage, the repossession has no right to break in. In some cases, courts will not allow the repossession if the possessor of the car merely objects;⁶⁰ the thought is that if the repossession proceeds beyond this point, there is a heightened risk of violence or other breach of the peace.

B. Self-Help and Degrees of Delegation

The law's various approaches to self-help reflect the costs and benefits of delineating entitlements. In this section, I outline a simple theory of delineation cost and draw out some implications for self-help.

As already mentioned, entitlements do vary more than expected on the symmetry-based, conventional law and economics approach. Entitlements vary systematically in a way that reflects some very basic costs and benefits of delineation. These costs and benefits, although often overlooked in the search for Coasean symmetry, are important and widespread, and are at least partially internalized to those actors – private parties, lawmakers, and judges – who have to set up the rights and enforce them.

⁵⁸ See Revised U.C.C. §§ 9-609, 9-602 (2003); 2 GRANT GILMORE, SECURITY INTERESTS IN PERSONAL PROPERTY § 44.1, at 1212 (1965). Importantly the U.S. Supreme Court has held that repossessions under the Uniform Commercial Code do not trigger due process. *Flagg Brothers, Inc. v. Brooks*, 436 U.S. 149 (1978). This means that creditors have preferred to use security interests rather than actions like replevin that do implicate due process, and thus owners of personal property subject to liens are less protected under the U.S. Constitution in situations involving repossession, in which creditors have more discretion than under statutory remedies like replevin and garnishment.

⁵⁹ This is often overlooked. Despite being called a “right” of self-help, decisions that allow for self-help only as long as there is no objection from the debtor set up a privilege, not a right, of self-help. See *Hester v. Bandy*, 627 So. 2d 833 (Miss. 1993); Curtis Nyquist, *Teaching Wesley Hohfeld's Theory of Legal Relations*, 52 J. Legal Educ. 238, 241-42 (2002).

⁶⁰ See, e.g., *Williams v. Ford Motor Credit Company*, 674 F.2d 717 (8th Cir. 1982).

Consider again the so-called entitlements to pollute. When victims have the right to be free from pollution, they are vindicating the right to exclude from boundaries as defined by the *ad coelum* rule.⁶¹ The resource conflict is assimilated to a package of rights defined by the exclusion strategy; the signal for whether the right has been violated is largely a matter of boundary crossings by physical objects.⁶² The exclusion strategy is low cost but also low precision. It is the cost effective strategy for prevention of gross invasions and allows the owner to act as gatekeeper. Exclusion effects a delegation to the owner and is reflected in the radical mismatch – the lack of precision – in the signal used to delineate the right and the uses of the resource that the right protects. This, in the case of the owner of Blackacre, the owner’s right is protected by common-law actions like trespass that rely on the signal of boundary crossing; this signal is typically over-inclusive when regarded in the light of the uses that it is protecting. Not everyone who has crossed the boundary and is present on Blackacre is harming uses like the growing of crops.

Further precision requires signals more narrowly tailored to use, in what I call a governance strategy. A wide variety of actors and institutions can supply entitlement structures using a governance strategy. First, the owner as gatekeeper might contract with others over the use of the resource. If this is done, then free-standing rights like easements to pollute can be drawn up by the parties and enforced. Second, the law can provide these governance rules directly in centralized fashion, employing off-the-rack tailored signals of use. Some nuisance law and much of zoning law do exactly this: rules for proper use are imposed on owners, either as defaults or mandatory rules. The signal or trigger for liability tracks notions of proper use more closely than signals based on boundary crossings. Consider a rule permitting some level of noise or odors but nothing in excess of that level, or a rule that allows a given use as long as it is valuable enough. The rules of nuisance can themselves, transaction costs permitting, be altered through negotiation between affected parties; anti-pollution environmental laws cannot. Finally, it should be noted that norms may supplement the basic exclusion regime with rules of proper use based on tailored signals. The governance strategy achieves the benefits of higher precision, which usually involve use by multiple parties with access (conditioned on proper use), but this extra precision is achieved at higher cost.

⁶¹ See *supra* note 26 and accompanying text.

⁶² This is the approach taken in trespass law and in a great deal of nuisance law. See Smith, *supra* note 3.

Two issues present themselves as to which strategy is best in a given situation. First, we have to ask where the collection of marginal cost curves of delineation intersects the marginal benefits of delineation.⁶³ But ideally, marginal cost here is the cost of adding precision to entitlements using the least cost method of delineation.⁶⁴ At low levels of precision, this is likely to be exclusion, but at higher levels of precision this is likely to be governance.⁶⁵ On top of this basic picture, there are different suppliers of the two strategies, particularly in the case of governance. If optimality is to be achieved, the law should not supply rules of proper use unless (a) the benefits cover the costs, and marginal benefit equals marginal cost (total net benefits are maximized), (b) exclusion would not be more cost-effective, and (c) no other supplier can achieve this result at lower cost. Normatively speaking, this leaves a narrow band for off-the-rack governance rules.

Furthermore, this simple framework also provides some normative and, under certain assumptions, positive perspective on changes in property rights systems. Movements of either the marginal benefit curve or the marginal cost curve (or its component curves) for the various entitlement delineation strategies can have effects at the margin. At the most macro level, increases (decreases) in marginal benefits of precision or decreases (increases) in marginal cost of delineation will lead to more (less) delineation of entitlements. This is the basic Demsetzian story that property rights will emerge to internalize externalities.⁶⁶ With some modification, we can accommodate a more pessimistic version in which the actors deciding whether to engage in property rights activity face benefits and costs that so do not coincide with social benefit and cost.⁶⁷

The framework also allows us to derive some propositions about the relative reliance on exclusion and governance. For example, governance rules rely more than do exclusion rules on personal information and face-to-face interaction. So an increase in the costs of face-to-face negotiation will cause a greater increase in cost for the governance strategies than for the

⁶³ Smith, *supra* note 32, at S474-78.

⁶⁴ *Id.* at S476-77.

⁶⁵ *Id.* at S474-77.

⁶⁶ Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. PAP. & PROC. 347 (1967).. Increased delineation of entitlements can take the form of more and stricter governance rules, not just more exclusion. See Smith, *supra* note 32, at S470-83.

⁶⁷ See, e.g., Stuart Banner, *Transitions between Property Regimes*, 31 J. LEGAL STUD. S359 (2002); Saul Levmore, *Two Stories about the Evolution of Property Rights*, 31 J. LEGAL STUD. S421 (2002).

exclusion strategies. Thus, in these situations we would expect a shift from reliance on governance to a reliance on judicially determined governance or even exclusion.

The costs of delineation will also increase when the uses to which an asset might be put become more multiplex, more uncertain, and generally harder to measure.⁶⁸ If the benefits of delineation did not also increase – more on this in a moment – then we would expect one or both of the following: a decrease in property rights activity and a shift in emphasis from governance to exclusion, at least as far as off-the-rack law goes. For example, one argument for broad rights in intellectual property is that the difficulty in developing information about particular uses of information points towards the functionally broad rights typical of patent law.⁶⁹

The problem in many dynamic settings is that uses become more multiplex and uncertain *for the same reasons* that they become more valuable and so more appropriate as the subject of entitlements. In other words, the marginal cost and marginal benefit of delineation and enforcement activity shift outward. Which curve (marginal benefit or marginal cost) shifts out more will determine the direction of change. Thus, if the possibility of multiplex uses makes a resource more valuable and raises the marginal benefit of entitlement supply more than the associated increase in the marginal cost of contracting, then there will be a tendency to contract for precise rights over the uses of the resource. Increases in intellectual property licensing may be an example. Likewise, if contracting is very costly but additional off-the-rack rights definition is cost-effective, we may get, for similar reasons (MB shifts greater than MC) additional articulation of the legally defined bundle of rights. Much depends on the extent to which officials designing and implementing entitlements respond to considerations of cost and benefit. This could be either because judges or other actors face information costs similar to those facing duty holders, or in some cases those who benefit from the greater articulation of rights would be organized enough to have their way in the legislative arena. An optimistic view would hold that some compulsory licenses in copyright fit this description.⁷⁰

⁶⁸ See Henry E. Smith, *Intellectual Property as Property: An Information Cost Approach* (Feb. 7, 2004) (unpublished draft, on file with author).

⁶⁹ *Id.*

⁷⁰ *Id.* A more obvious example would be the history of the law's response to owner's claims to exclude airplane overflights. See, e.g., PROSSER & KEETON ON TORTS, *supra* note 43, § 13, at 79-82; Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man's Land*, 56 J. AIR L. & COM. 157 (1990).

My thesis is that much of recent controversy in intellectual property, and especially where intellectual property and self-help meet, is the result of simultaneous increases in the marginal benefits and in the marginal costs of entitlement delineation facing officials. It is much less clear that private parties face increased costs of delineation; technological change is at the same time lowering the cost of contracting and of using digital self-help, to which I return below, and is also lowering the costs for intruders. Nevertheless, within the set of strategies used by the law to delineate entitlements, if uses are more costly to delineate but private contracting on the base of the exclusion strategy is still viable, we should expect an emphasis on exclusion in the law as technology advances.

Ultimately, of course, the size of these various effects is an empirical question, but I will argue that some of the grossest types of costs and benefits cause the law's approach to self-help to reflect, in a rough way, the economization of delineation costs – even when self-help seems to be at odds with the basic entitlement structure. More tentatively, I argue that recent developments reflect changes in the costs and benefits of using the exclusion and governance strategies in delineating entitlements – including entitlements to self-help.

The law's approach to self-help depends in part on the degree of delegation to owners of choices over uses, and the extent of this delegation in turn depends on delineation cost. First, the difficulty of separating out and measuring uses points toward exclusion rather than governance (as long as having some entitlement is appropriate in the first place). When it comes to self-help, the boundaries used in the exclusion strategy reflect delegation to owners and the law of self-help tends to track this choice. Thus, the law pays great deference to activities taken by owners, such as fencing, that are exercises of a privilege to act in a wide and unspecified set of ways. Conversely, self-help that requires the one engaging in it to cross boundaries, will receive much less deference. Thus, the common-law privilege to abate a nuisance on another's land is hedged about with many qualifications. Self-help abatement of a nuisance is only allowed after notice is given to the nuisance-causing landowner, the one abating the nuisance may use no more than reasonably necessary force, and the need to remove the nuisance must be urgent.⁷¹

Second, the higher the stakes involved in a given use, the more likely that a narrowly carved out privilege or even a standalone right will be cost-effective. Thus, as the benefits

⁷¹ See PROSSER & KEETON ON TORTS, *supra* note 43, § 89, at 641-43. There are many parallels here to the law of necessity and of self-defense.

increase, it makes more sense to carve out a privilege (for example, to emit some odors), or even more expensively, to create a stand alone right (like an easement). Consider the carving out of privileges of self-help. Here someone has a right to exclude, but the law partially withdraws this right by allowing someone else to exercise a privilege (which would have been a violation of the pre-carving right). For example, the owner of Blackacre has a right to exclude trespassers and thieves, but in situations of necessity, the owner has a Hohfeldian “no right” that corresponds to a privilege, held by certain others in danger, to enter and use the resource.

If the situation involves high enough stakes it may make sense to incur even greater delineation costs. One way would be to delineate a standalone right to engage in self-help. This would be something like an easement to engage in self-help, under which the other party would have a duty not to interfere with the self-help, or in the most costly version would have a duty to facilitate the self-help. The right of one facing necessity would be an example, although the scope of this right is often unclear.

It should be said that the law contains very few positive duties to act, and even fewer duties to act affirmatively are cast on the world at large.⁷² In the property context, only doctrines of lateral support and party walls prominently exhibit these positive duties. Note that, unlike with the classic *in rem* property rights, the parties in these situations of lateral support and common walls are few and readily identifiable, and the message to these parties is relatively simple.⁷³ Likewise, returning to the law of necessity, the relation between the one in necessity and a given owner is a special one and does not require affirmative acts on the part of the owner. Situations of legally sufficient necessity are rare.

All sorts of other standalone rights to engage in activities do exist, but these tend to be privately negotiated easements and covenants. And, the more these interests impact third parties the less information the law allows to be packed in them: the set of easements, which are rights *in rem*, is more standardized than contracts between two parties (and possibly their successors).⁷⁴

⁷² See, e.g., A.M. Honoré, *Rights of Exclusion and Immunities Against Divesting*, 34 TUL. L. REV. 453, 459 (1960) (“[T]here appears to be no instance, either in the Anglo-American or continental lists, of a right protected by a claim that persons generally should perform something.”); Merrill & Smith, *supra* note 55, at 788-89.

⁷³ See Charles E. Clark, *Real Covenants and Other Interests Which “Run With The Land”* 144-69 (2d ed. 1947); Merrill & Smith, *supra* note 55, at 789 & n.53.

⁷⁴ See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 16-17 (2000).

What we do not find are bundles of judicially created easements to capture the benefits of tailored use, as one might expect on the Coasean approach.

When the law does supply precision in entitlements, including those regarding self-help, it tends to carve out privileges from others' pre-existing rights or, more rarely, creates narrow stand-alone rights. "Carving out" privileges, especially creating stand-alone rights, reflects less deference to owners and a shift from exclusion to governance. We should only expect this where the stakes are high and private parties cannot supply governance more cost-effectively themselves. Another method of withdrawing deference is by conditioning the exclusion strategy on self-help acts by owners. In the case of physical property, we find little use of this procedure, but it forms the basis for trade secret law. Or, the law can forbid certain self-help actions; this may or may not require much separate delineation if the right of another to be free from self-help is closely related to general regulations against use of violence, etc.

In summary, varieties of self-help and their place in the scheme of entitlement delineation can be thought of as a system of increasingly specific and costly rules, where more specific rules displace more general rules:

1. Basic background: Presumptive privilege to act.
2. Rights to exclude (exclusion strategy), which implicitly protect a wide range of interests in use (privileges) without the need for these to be spelled out.
3. Exceptions to the right to exclude, allowing (stage 1) privileges to reassert themselves. (Obvious cases include airplane overflights, *de minimis* non-trespassory invasions, necessity, and the more borderline cases in nuisance).
4. Freestanding narrow rights (rarely off-the-rack, virtually never casting affirmative duties on the world at large; sometimes separately negotiated as with easements and other servitudes).

Privileges indirectly protected by broad rights are the least costly but least tailored, and reflect the greatest degree of delegation to owners. Privileges of self-help are indirectly protected by the right to exclude, and the law very deferentially regulates only the limits of this kind of self-help, in the way that tort law regulates people's activities in general. Other less deferential approaches are used in higher stakes situations. A common method for dealing specifically with self-help is to define privileges of self-help directly by carving out an exception to another's rights. If so,

general privileges to act reassert themselves *without any more need for delineation*. The most fundamental baseline is the right of people to engage in an activity unless otherwise prohibited. So, most liberties need not be separately defined. The price is that such privileges of self-help are weak in the sense that there is no legal guarantee that the self-help won't be defeated by the actions of others pursuing their own liberty. If the stakes are high enough – as they often are in situations of necessity – we should expect some shift toward more regulatory, less deferential but more costly approaches involving setting up special rights of self-help. Thus, an entitlement to self-help can be a stand alone right of varying strengths; it might require another party to refrain from interfering with the self-help. Stronger rights would add more parties (making the right of self-help more of an *in rem* right) and would require more specific affirmative actions on the part of the duty holders.

V. DIGITAL SELF-HELP

Controversies surrounding self-help in the digital arena, including trespass to websites, digital rights management, and copyright fair use, raise questions of entitlement delineation. Most of the recent commentary on this issue has been very hostile to importing notions from the law of tangible property.⁷⁵ It is said that these notions reflect absolutist and hyper-formal notions of property and wooden applications of inappropriate analogies.⁷⁶

I will argue that, like the realist critiques of traditional property law, this new conventional wisdom in the law of information goods gets the picture half right. The exclusion

⁷⁵ See, e.g., LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 161 (2001) (contending that enclosure propertizing information by media and software companies is stifling innovation in the New Economy); SIVA VAIDHYANATHAN, *COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY* (2001); Tom G. Palmer, *Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects*, 13 HARV. J.L. & PUB. POL'Y 817 (1990) (arguing for a private property system that does not recognize copyrights or patents); Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 386-412 (1999) (arguing against expanding copyright at the expense of the public domain); James Boyle, *The Public Domain: The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33 (2003) (arguing against increased propertization of intellectual property law at the expense of the public domain); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEXAS L. REV. 873, 985-904 (1997) (criticizing trend of propertization of intellectual property law, including the coinage of the phrase "intellectual property"); Jessica Litman, *Breakfast with Batman: The Public Interest in the Advertising Age*, 108 YALE L.J. 1717, 1725 (1999) (lamenting inexorable pressure to treat things of value as property).

⁷⁶ See, e.g., Dan Hunter, *Cyberspace as Place and the Tragedy of the Digital Anticommons*, 91 CAL. L. REV. 439 (2003); Mark A. Lemley, *Place and Cyberspace*, 91 CAL. L. REV. 521 (2003); Dan L. Burk, *The Trouble with Trespass*, 4 J. SMALL & EMERGING BUS. L. 27 (2000).

strategy is not perfect: it is crude and its hallmark is its lack of tailored fit to the particular uses to which a given resource might be put. As in the context of tangible property, additional, more tailored governance rules might be adopted, either through the efforts of private parties, or through official provision of off-the-rack rules and regulations of proper use. Like the realists in the realm of tangible property, the new commentators are skeptical that private parties can do much to supplement exclusion in desirable ways.

What the realist critique in tangible property and the new commentary in intellectual property both leave out is the flip-side of the foregone benefits in the exclusion strategy, namely the costs of various ways of setting up legal entitlements. If rights are justified in the first place, the question is their shape and extent. Much of the recent commentary in intellectual property does not advocate eliminating rights in intellectual property, but does propose much weaker and narrower rights than in current law; the controversy is a matter of degree.

One facet of the inquiry, then, has to be which strategy for defining rights is most appropriate. If the choice for exclusion versus governance is based primarily on benefits, the choice is clear: governance looks better because it can capture the benefits of multiple uses. For example, if delineating rights were costless, A could have rights to farm Blackacre and B could have rights to hunt there, or perhaps even grow vegetables in certain areas. Any combination of uses could be managed at zero cost. Exclusion rules, without more, do not do this. Likewise with information goods, the non-rival nature of information makes the costliness of exclusion in foregone benefits quite salient.⁷⁷ Even if information goods are non-rival, the inputs to creating and commercializing information products are rival,⁷⁸ and here, as in the case of tangible property, tailored governance rules, if they were costless, would do the job better. At the very least, rules of use could involve charges for different users, or the government could provide public subsidies for the “proper” use of inputs for creation and commercialization of information-based products, again at no cost.⁷⁹ Exclusion could do not better and would

⁷⁷ See the sources cited in *supra* note 75.

⁷⁸ See, e.g., Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 275-76 (1977) (“There is, however, a scarcity of resources that may be employed to use information, and it is that scarcity which generates the need for a system of property rights in information.”).

⁷⁹ Many proposals to replace intellectual property with prizes or to employ liability rules have this flavor. On prizes, see Steven Shavell & Tanguy Van Ypersele, *Rewards Versus Intellectual Property Rights*, 44 J.L. & ECON. 525 (2001); Michael Abramowicz, *Perfecting Patent Prizes*, 56 VAND. L. REV. 115 (2003). For other tailored entitlement proposals, see, e.g., Ian Ayres & Paul Klemperer, *Limiting Patentees’ Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985 (1999); Michael Kremer, *Patent Buyouts: A Mechanism for Encouraging Innovation*, 113 Q.J. ECON. 1137 (1998).

probably do worse if there is even one value-increasing transaction that does not occur under exclusion.

But one of the main advantages of exclusion is its low cost, and its cheapness is inseparable from its lack of fit with notions of proper use. By using a signal that defines a right that only indirectly protects a wide range of unspecified use privileges, the exclusion strategy achieves two things at low cost. It protects the owner's expectations and allows the owner to coordinate with others on proper use. The well-known downside of rights to exclude – that owners might use their holdout power or transaction costs might impede valuable uses – must be compared with the advantages of exclusion strategies in terms of saved delineation costs, especially information costs. Before an official scheme of entitlements based on proper use – an off-the-rack governance strategy – can make sense, it must be the case both that the problems of foregone multiple use are worth the trouble *and* that a combination of exclusion and privately instituted governance cannot do better. To go back to an analogy to real estate, much of the commentary on information entitlements assumes that something like nuisance and zoning is preferable to trespass. It might be, but the cost question has to be answered first. This cost question is an empirical one, and my main point in the following is to point out that we cannot conclude that the exclusion strategy is inappropriate until we can answer – even at the level of guesswork – the question of costs as well as benefits. Because the cost side has been so neglected, I suspect that the best guess given the current state of our knowledge is that exclusion is more warranted than conventional realist-style wisdom would have it. But these latter conclusions are more tentative and I will also point out places where an information-cost theory suggests suspicion of the increased propertization in intellectual property and related areas.

A. Digital Trespass

Perhaps the sharpest controversy over the application of what I am calling the exclusion strategy to cyberspace is the question of trespass to websites. Even the notion that cyberspace is a place is said to reflect unfortunate and unwarranted analogies to physical space.⁸⁰ On this view, because of the non-rival nature of information and the low costs of communication and interconnection in cyberspace, notions from property law that seem to presuppose a place over

⁸⁰ See *supra* note 76.

which rights can be defined are inherently counterproductive. Many intellectual property commentators draw the conclusion that exclusion does more harm than good, and, for them, notions of trespass are Exhibit A.

Without claiming that there are no new issues here, I should point out that this whole question can be framed in a way that makes it sound very much like controversies that arise in the law of tangible property. One of the central issues in property law is to what extent exceptions should be made to rights to exclude. Should they be softened in favor of those who would like to use the property out of necessity, convenience, or to further some other social policy? In other words, if giving the owner a right to exclude others from a resource delegates to that owner a choice among uses of the resource, then various exceptions to the right to exclude reflect a partial withdrawal of that delegation.⁸¹ If exceptions are made, how much does an owner have to stay out of the user's way or even to facilitate others' use?

One view in the digital arena is that rights to exclude should be very minimal indeed. One could say that by connecting up a computer or a network to the larger Internet, one has joined a large commons.⁸² Then the question is how some central actor, either through standard setting organizations or the government, or some more spontaneous evolution of norms, or technological fixes, can prevent resource conflicts within this overall commons. Others point out that scarcity still governs some aspects of cyberspace and that it is run on equipment that is subject to the law of personal property.⁸³

In actual cases that have arisen so far, the issue is usually defined more narrowly. When someone sends unwanted e-mail or accesses a website in a manner forbidden by the owners of the website (the owners or authorized users of the home computers hosting the website), should this count as a trespass at all, or should it be treated as a potential trespass to chattels (personal property)? And if there is a potential trespass, what counts as the harm to the chattel? Or should

⁸¹ See Smith, *supra* note 3, at 1021-45.

⁸² See, e.g., Burk, *supra* note 76, at 48 ("But at the same time, the act of joining a local network to the great 'network of networks' that comprises the Internet indicates a desire to take advantage of the positive network externalities of the digital commons."); see also Lessig, *supra* note 75.

⁸³ See, e.g., Daphne Keller, *A Gaudier Future That Almost Blinds the Eye*, 52 DUKE L.J. 273 (2002) ("The ambiguity regarding property rights in the Internet's physical . . . is rooted in one of the most confounding questions Lessig raises: how can a single, coherent property regime be tailored to account both for the Internet's value as a communicative platform for potentially endless cultural, political, and technical innovation and as a finite, exhaustible set of physical objects created by human investment?"); James B. Speta, *A Vision of Internet Openness by Government Fiat*, 96 NW. U. L. REV. 1553, 1562-67 (2002) (discussing advantages of private property in the physical infrastructure of the internet).

a trespass to a website not require substantial harm but merely a tangible invasion, as in trespass to real estate?⁸⁴ From one point of view, the answer is obvious; computers are personal property not real estate. But contrasted to this external point of view is an internal point of view in which the user feels as if she were “visiting” a website.⁸⁵ The website has a fixed location – an “address” – and is relatively stationary and easy to locate.

A number of recent cases have dealt with the problem of unwanted e-mail. In most of these, there was an allegation that the unwanted e-mail overloaded or slowed down the network.⁸⁶ In these cases, courts have allowed the plaintiff to proceed on a theory of trespass. One might view the trespass as a trespass to chattels – the overloaded computers and disk space. Some authority (notably the Second Restatement) requires for trespass to chattels that the defendant cause harm by interfering with the owner’s use.⁸⁷ By contrast, trespass to real estate does not require a showing of actual harm. But the cases involving large quantities of e-mail have found the requisite harm, making a trespass to chattels claim available on any theory.

One recent case raised the issue of the difference between the two approaches to trespass. In *Intel Corp. v. Hamidi*,⁸⁸ a disgruntled former employee sent several e-mails to a long list of current Intel employees criticizing the company. Hamidi informed the individual employees that he would stop sending messages to any employee who objected. After asking Hamidi to stop and taking unavailing self-help measures to stop Hamidi’s e-mail, Intel sought an injunction on a trespass theory.⁸⁹ The majority treated this as a trespass to chattels case and required actual harm. There was no evidence that the quantity of Hamidi’s e-mails caused Intel’s network any problems, and the majority held that there was no trespass.⁹⁰ The majority rejected an application of a real estate style trespass under which actual harm would not be required. Commentators as *amici* lined up as one might expect.⁹¹ Those who believe we have too much

⁸⁴ See Richard A. Epstein, *Cybertrespass*, 70 U. CHI. L. REV. 73 (2003).

⁸⁵ See Orin S. Kerr, *The Problem of Perspective in Internet Law*, 91 GEO. L.J. 357 (2003).

⁸⁶ See, e.g., *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1060-63 (N.D. Cal 2000); *America Online, Inc. v. IMS*, 24 F. Supp. 2d 548, 550 (E.D. Va 1998); *CompuServe, Inc. v. Cyber Promotions, Inc.*, 962 F.Supp. 1015 (S.D. Ohio 1997).

⁸⁷ See RESTATEMENT (SECOND) OF TORTS § 218 (1965).

⁸⁸ 71 P.3d 296 (Cal. 2003).

⁸⁹ Hamidi originally plead nuisance as well, but voluntarily dropped the claim when the district court was about to grant it summary judgment. *Intel Corp. v. Hamidi*, 71 P.3d at 301-02. For a discussion of how nuisance might apply, Adam Mossoff, *Spam—Oy, What a Nuisance!*, 19 BERKELEY TECH. L.J. 625, 646 (2004).

⁹⁰ 71 P.3d at 311.

⁹¹ *Id.* at 309-11 (contrasting views of Richard Epstein on the one hand and those of Mark Lemley, Dan Hunter, Lawrence Lessig and other law professors).

intellectual property and that property is an illegitimate source of analogies were in favor of finding no trespass (or at least requiring actual harm), and those more pro-property commentators were in favor of a real estate analogy.

In the *Hamidi* case, it is worthwhile to notice how the entitlement structure that the majority chooses illustrates the hidden asymmetries I discussed earlier. As Justice Mosk pointed out in dissent, Intel did use self-help against Hamidi's e-mails, and the majority found that permissible; Hamidi therefore had no *right* to have the e-mails reach the employees through Intel's system.⁹² Thus, Hamidi is like the polluter in Calabresi and Melamed's Rule 3 scenario; the victim is denied an injunction but the injurer has no right to an injunction to force the victim to accept the unwanted pollution or e-mail.⁹³ Again, the potential entitlements in the two parties are not symmetric. The reason they are not is that delineation cost is saved by simply allowing general privileges to kick in where the victim's right to exclude peters out. The victim's own privileges to act in self-help (here Intel's technical countermeasures) may or may not be effective in countering the injurer's exercise of privilege, but none of this is an occasion for legal intervention.

In the case of real property, the law of trespass is particularly simple. Non-accidentally causing a physical object to cross a boundary into the column of space surrounding land, as defined by the *ad coelum* rule, is a trespass.⁹⁴ More ethereal invasions by odors or sounds are nuisances if they are legally redressable at all. Trespass to chattels is also a bright line rule but in some formulations does differ in terms of what harm is required. Trespass to chattels is sometimes said to require that the trespasser cause some actual damage, but there can be disagreement (as there was in *Hamidi* between the majority and the dissents) as to what type of harm is required: is physical damage to the chattel (or some related chattel) required or harm to a related interest of the owner?⁹⁵

In terms of the information cost theory, one can make some sense of this difference between trespass to land and trespass to chattels. First of all, in terms of which signals to use to define entitlements, in the case of land the boundary is one that can be crossed. The crossing of

⁹² *Id.* at 331 ("By upholding Intel's right to exercise self-help to restrict Hamidi's bulk e-mails, they concede that he did not have a right to send them through Intel's proprietary system.").

⁹³ See Calabresi & Melamed, *supra* note 10, at 1116; see also *supra* notes 19-23 and accompanying text.

⁹⁴ See *supra* note 26.

⁹⁵ *Intel Corp. v. Hamidi*, 71 P.3d at 302-08; *Id.* at 322-25 (Brown, J., dissenting); *Id.* at 326-29 (Mosk, J., dissenting).

a boundary is a low-cost signal that sweeps in a wide variety of uses into its protective fold. In the case of things (other than real property), this is less clear because the problem with someone violating property rights is usually not the object has been punctured. What is the “boundary” here that is analogous to the boundary in the *ad coelum* rule? One might say that there is some region of space around the object but this is likely to vary by object and by context. And a flat rule that no one can touch another’s owned object is likely to be vastly over-inclusive; imagine someone trying to fetch his umbrella out of an umbrella stand at a restaurant without touching any of the others. We are forced to recognize that most such touchings would be *de minimis*. What is not *de minimis* is a touching or other use that inflicts some damage to the owner as user. It is not that we have suddenly left the exclusion strategy and have decided, governance-style, to prescribe proper use of chattels through the law of trespass; on the contrary the actual harm is functioning as the low-cost signal for the violation (i.e. a trigger for liability) of a gatekeeper right. It is simply the nature of the resource here that forces the use of a different signal than in the case of real property.

To this can be added that, traditionally, it was thought that the uses of land were particularly hard for outsiders to evaluate, making a “deferential” signal all the more important in the case of land. The *ad coelum* rule, by making essentially no reference to use whatsoever, achieves a high degree of deference to owners in their actual and planned uses of real estate. No harm need even be shown.

How does all this richer theory of entitlement delineation apply to controversies over resources in cyberspace? It suggests factors that have received less than due attention. We have to decide the degree of delegation to owners and which informational signal achieves this degree of deference at reasonable information cost, not least the costs to third parties in deciphering the entitlements. Thus, if we are worried that websites can be put to many uses, and we do not want owners to have to justify their decisions to outsiders, a more deferential signal, perhaps even the *ad coelum*-style approach not requiring actual harm, is in order. Part of what determines information cost would be the nature of the resource. How difficult would it be to define a spatial-type signal of boundary crossing in the case of websites? Or would such a signal lead to the over-inclusion of *de minimis* intrusions? I will suggest that much depends on the costs of furnishing notice to duty holders.

These third-party information costs of different strategies for delineating and enforcing entitlements depend in part on the nature of the resource in question. In the case of land or chattels, sending a message to potential intruders is rather difficult. Signs and written notices are the main devices, but these are costly to provide. In the case of websites, one can easily provide for a page of terms that condition further access on agreement to those terms. The greater problem is ensuring that users read such notices and that they are not too ambiguous. The problem becomes essentially a contractual one. I take up the question in the next section. In the case of unwanted e-mail it is difficult for someone contemplating sending a message to know whether the e-mail might be unwanted. The situation is somewhat like an unwanted telephone call.

It should be noted that even in the case of real estate, the exclusion strategy does allow some invasions to count as *de minimis*. As already mentioned, airplane overflights are not trespasses. Nor is using the electromagnetic spectrum to send signals over land a violation of the *ad coelum* rule. Nor is sending electricity to a toaster “trespass to toasters.”⁹⁶ It is thought that such invasions are too insignificant and mutually beneficial to count as trespasses. On the other hand, by adopting an internal perspective, the impact of an e-mail is more than the physical impact of electrons. One can point to analogies in physical property that would support treating unwanted e-mail as a trespass or no trespass at all. The real question is the degree we wish to delegate to owners or not. There is nothing illogical about deciding to include e-mails with invasions that fall within the exclusion strategy but not other electronic invasions that cause only (humanly imperceptible) physical effects.

One possible solution with precedents in the law of physical – even real – property is to adopt the exclusion approach but with a default implied license to enter until notice is given otherwise. In the world of real property, there are some uses that are so widespread and valuable in certain areas that the presumption that they are trespasses if engaged in is reversed. In many areas of the country, there has long been a default rule that one could hunt on uncultivated land unless it were posted with no hunting signs.⁹⁷ In other words, the law recognized a norm of licenses for hunting, which owners could withdraw if they were sufficiently specific.

⁹⁶ Burk, *supra* note 76, at 34. For a criticism of this argument, see David McGowan, this volume.

⁹⁷ The rule in the United States is that hunters trespass only if the land is under cultivation, is enclosed, or is posted (with a no trespassing sign). *McKee v. Gratz*, 260 U.S. 127, 136 (1922) (Holmes, J.) (“[There is a] common understanding with regard to the large expanses of unenclosed and uncultivated land in many parts at least of this

Likewise, in some areas cattle are so much more prevalent than crops that the rule is for fencing out rather than fencing in: that is, in those areas, farmers must fence their land in order to be eligible for damages by straying cattle.⁹⁸ But the theory here suggests two limits on this principle. First, the choice between fencing in and fencing out is not, as it is sometimes portrayed, a pure cost-benefit test of the type that Coase envisioned for nuisance disputes. The question is not simply whether crops or cattle are more valuable or which is the cheapest cost avoider. To see why not, consider how costly it would be if this cost-benefit test were to occur at the level of individual parcels. If it did, then a drover of cattle would have to do the cost-benefit analysis each time he encountered a new parcel. Instead, what is usually assumed is that the rule will be set for a given district – even though it is not mentioned that individual parcels in that district might benefit from a more fine-grained exception in the other direction. But now consider a district that wants to have a rule of fencing out. This is an exception to the general *ad coelum* rule that people – especially newcomers and third parties – would be familiar with from more general contexts. So, on the information cost theory we should expect some presumption against fencing out that has to be overcome by some significant positive benefits from fencing out over fencing in. We should expect less fencing out than a district-by-district cost-benefit analysis would predict. What little evidence exists on this question suggests that this is so: fencing in, as the pattern consistent with the general *ad coelum* rule is surprisingly prevalent even in areas where cattle-raising is important.⁹⁹

country. Over these it is customary to wander, shoot and fish at will until the owner sees fit to prohibit it. A license may be implied from the habits of the country.”); *see also, e.g.*, *Payne v. Gould*, 52 A. 421, 421 (Vt. 1902) (noting that Vermont constitution provides that citizens “shall have the liberty in seasonable times to hunt and fowl on the lands they hold, and on other lands not enclosed”); Ellickson, *supra* note 33, at 1383. Pastureland and orchards are usually not considered cropland, but note that in a state such as Florida with important orchard industry, orchards need not be posted. *See Fla.Stat. § 810.011(6)* (“Cultivated land” is that land which has been cleared of its natural vegetation and is presently planted with a crop, orchard, grove, pasture, or trees or is fallow land as part of a crop rotation.”); *Cf. Robert C. Ellickson & Charles Dia. Thorland, Ancient Land Law: Mesopotamia, Egypt, Israel*, 71 CHI.-KENT L. REV. 321, 342 (1995) (noting in Mesopotamian laws a strict liability for entering cropland and intent-to-steal requirement for trespass in orchards and arguing that this reflects the importance of investment in cropland).

⁹⁸ ROBERT C. ELICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES 52-81 (1991).

⁹⁹ *See Merrill & Smith, supra* note 3, at 388-91. Another aspect of the fencing in versus fencing out choice that is consistent with the information cost theory is that in cases of intentional trespass the rule is fencing in. That is, even in areas in which farmers have to fence out cattle – by exercising their privilege to fence – a cattle driver who intentionally drives his cattle onto unfenced land is nonetheless liable. *Cf. Light v. United States*, 220 U.S. 523, 537 (1911). The exception to the *ad coelum* rule and the farmers’ exclusion rights is a narrow one that does not extend to intentional damage. If the exception did extend to intentional harms, the possibilities for strategic behavior would be much increased.

Such solutions, in some sense, have been applied in a more limited way for telephones, where someone is privileged to call but an owner can opt out by signing up for a do-not-call registry (although the exclusion strategy here is not implemented through trespass).¹⁰⁰ Alternatively, one can “fence” one’s phone by screening calls and not listing one’s number in a directory. In the case of websites and e-mail, one might have a rule that entry is privileged unless the owner “posts” otherwise. And since posting is not difficult for the one doing the posting, the costs of doing this are far less than in the case of hunting.

The one remaining question is the processing costs to users. A notice on a website that entry is conditional on not using the information in certain ways can raise problems. If the warning is not clear, it may overburden users, and the costs would not be internalized to the owner of the website – absent legal intervention or at least withdrawal of legal enforcement.¹⁰¹ Questions of unconscionability would arise, but in a way similar to those involved in mass contracts. Commentators critical of clickwrap licenses need to be more specific about the information problem. A registry has the virtues of a standardized format that the relevant actors would know about. A registry is property-like in furnishing information to the world at large. Or one might imagine a standardized click-through agreement page that would lower processing costs for viewers, again in a somewhat property-like fashion. The more difficult question is to what extent notice can be furnished individually and idiosyncratically. Nevertheless, general laws enforcing exclusion have more severe notice problems, if individual users may or may not know the law and their interaction with the website does not present the information. For example, if anti-spamming legislation made it illegal to send an e-mail to anyone that turned out not to want it, such a law would lead to severe problems of notice.

Many recent commentators have been very critical of the use of trespass in the digital context. They claim that this reflects a false analogy to property and real property in particular. They further contend that the analogy is an undesirable one because property concepts get in the way of exploiting the non-rival nature of information and the flexibility and interconnectedness of the internet. As with many arguments about the contours of property rights, the foregone

¹⁰⁰ 15 U.S.C. § 7708(a). In addition to the national do-not-call registry, many states have their own similar schemes.

¹⁰¹ For a general theory of legal intervention to keep down the costs of processing legal relations by third parties, see Smith, *supra* note 31.

benefits of coarse-grained trespass-like rights are more salient than the costs of departing from the basic exclusionary approach. What are the advantages, if any, of the exclusion strategy? Under that approach the delegation to the owner and her sovereignty over the asset allow her to choose among a wide range of uses of the asset without having to justify that use to the outside world.

All this is not to say that the delineation cost advantages of the trespass-like approach outweigh the benefits of more fine-grained regulation. Nor does it mean that the trespass-like approach is as economizing in the context of the Internet as it is in the world of real property. It does suggest that the benefits of exclusion in saving on delineation cost have been underappreciated. And some of the traditional solutions to the foregone benefits of multiple uses – like a default license with the opt-out of “posting” – suggest ways around the major problems that commentators have identified with using the low-cost trespass-like exclusion approach in cyberspace.

B. Digital Rights Management

The possibility of digital rights management has also generated a great deal of controversy recently. Opponents claim that actors can achieve greater control over content than they could achieve through copyright.¹⁰² One form that digital rights management takes is shrink-wrap licenses, or more recently clickwrap licenses, in which a user is asked to agree to terms before using software. Other forms of digital rights management are built in software that automatically terminates access after a number of uses or after a set period of time. Opponents claim that these actions “propertize” information despite its non-rival nature and should be banned.

Digital rights management is not all that different from self-help measures that owners of ordinary property might take. A prudent owner usually does not rely solely on his right to invoke the law to exclude intruders. Owners use locks and fences to keep intruders out and set conditions on the access of those they let in. But owners’ self-help measures do not end there.

¹⁰² See, e.g., Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575 (2003); Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J. L. & TECH. 41 (2001); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 BERKELEY TECH. L.J. 519 (1999).

Owners also sometimes take actions that make the asset less attractive to potential invaders.¹⁰³ At first, this might seem paradoxical or problematic, but it should be recalled that fences and locks consume resources too. So it is not so surprising that owners might consume part of an asset in order to protect the (rest of) that asset from invaders.

The sense in which copyright law is like property law is that in both, the right to exclude implicitly vindicates privileges of use. And these privileges in turn include privileges to take actions that make access by others less attractive. Even with respect to information in which no owner has rights, certain actors might be able to use the information while keeping it secret. They can use their other rights – rights to keep intruders off their land and rights to bodily integrity – to protect indirectly the privilege to use the information exclusively.¹⁰⁴ They may supplement these efforts at secrecy with confidentiality agreements.

Thus, in digital rights management, holders of information and those they deal with are bargaining against the backdrop of privileges, some of which are implicitly protected through legal rights to exclude. Even the non-owners – the potential other users of the information – are just exercising their general privileges and contracting over them with others who would like the holders of content not to exercise the privilege to exclude. Contracts of this sort are no more problematic than other mass contracts.¹⁰⁵ Claims of lack of bargaining power have to be examined carefully, and it is often the case that lack of bargaining power is not well defined. Asymmetric information and the ability to take advantage of unsophisticated customers would be a better justification for intervention than the mere existence of unsophisticated customers.¹⁰⁶ But if a seller faces sophisticated marginal consumers and cannot tell the two types of customers

¹⁰³ Douglas W. Allen, *The Rhino's Horn: Incomplete Property Rights and the Optimal Value of an Asset*, 31 J. LEGAL STUD. 339 (2002).

¹⁰⁴ Many of the “property rights” of which economists speak are of this character. See John Umbeck, *Might Makes Rights: A Theory of the Formation and Initial Distribution of Property Rights*, 19 ECON. INQUIRY 38, 39 (1981) (giving example of someone who acquires property rights in coconuts because he is the only one who can climb a tree or one who has rights to fish because of special knowledge of where they are located).

¹⁰⁵ David Friedman, *In Defense of Private Orderings: Comments on Julie Cohen's “Copyright and the Jurisprudence of Self-Help”*, 13 BERKELEY TECH. L.J. 1151, 1167-68 (1998).

¹⁰⁶ See, e.g., Richard Hynes & Eric A. Posner, *The Law and Economics of Consumer Finance*, 4 AM. L. & ECON. REV. 162, 170-77 (2002); Alan Schwartz & Louis L. Wilde, *Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests*, 69 VA. L. REV. 1387, 1401-29 (1983); Alan Schwartz & Louis L. Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630, 646-48 (1979).

apart, unsophisticated consumers are not readily exploited. These problems are familiar ones. The grounds for regulation are no different from those in other standard form contract settings.

In terms of the strategies for entitlement determination, an often overlooked reason to allow digital rights management is that it does not require any additional definition of entitlements. The holder of valuable information has a certain set of rights and can combine these with an exercise of general privileges (which do not require separate delineation) to achieve protection of valuable information.

The one area of digital rights management that is most amenable to regulation would be schemes that might violate privacy. Those who oppose digital rights management might find an invasion of privacy in software that automatically stops working if the user does not purchase a new code to feed to it, but not all would agree.¹⁰⁷ Certainly, digital self-help by copyright owners and other holders of rights in information threaten privacy more when they send a message to users' computers or even take control of a user's computer. But notice here that the one engaging in self-help has crossed a boundary and, at least under an expansive view that was rejected in *Hamidi*, is committing a trespass.¹⁰⁸ Very little needs to be added to the existing system of entitlements to give users a right not to be subjected to these forms of self-help.

The contracts used in digital rights management and other mass contracts, again, both present third-party information costs, but perhaps to different degrees.¹⁰⁹ Notice of the information-holder's claims and the terms of access are very low cost to furnish but may not be low cost for people to process. But as in the rest of contract law, doctrines like unconscionability can be used to police problems like misleading fine print. And, as long as a notice will not be found unless it is effective, furnishers of notice will have some desire to standardize notice. Finally, in competitive markets the incentive to manipulate the process of notice-giving will be constrained somewhat by the bad reputation one would acquire. The contracts and notice-giving that occur in digital rights management might present informational problems but they do not

¹⁰⁷ Compare Cohen, *supra* note 102, at 580-88 (arguing that such DRM threatens privacy); with Friedman, *supra* note 105, at 1164-67 (arguing that this type of DRM does not threaten privacy).

¹⁰⁸ Notice that in the criminal context, Orin Kerr describes (and suggests improved interpretations of) a basic structure of access and authorization that corresponds roughly to the exclusion and governance strategies, respectively. See Orin S. Kerr, *Cybercrime's Scope: Interpreting "Access" and "Authorization" in Computer Misuse Statutes*, 78 N.Y.U. L. REV. 1596 (2003).

¹⁰⁹ See Merrill & Smith, *supra* note 55, at 803-08, 825-31 (discussing mass contracting, and some landlord-tenant relations in particular, as presenting information problems at the property/contract interface).

differ in kind from other situations at the property/contract interface and they do not call for solutions that differ in kind from those already familiar from the non-digital world.

C. Fair Use in Copyright Law

Opponents of digital rights management often claim that owners' efforts interfere with traditional fair use and that this is a reason to curtail those activities.¹¹⁰ Part of the disagreement centers around the nature of the entitlement in users under the traditional fair use doctrine. Recently, technological change has driven a wedge between these different conceptions of fair use. In this part, I will argue that fair use is best regarded as a set of privileges defined by carving out exceptions to the rights granted to copyright owners.¹¹¹ If so, fair use is like nuisance and many of the other exceptions to exclusion rights in property law in that the exception to the exclusion right allows room for the public's more general privileges to act to come into play. No further specific delineation of these privileges is required.

Different positions on fair use reflect different degrees of withdrawal of owner sovereignty. On the theory sketched above, recent technological developments point in opposite directions. First, as new ways of communicating emerge, the value of multiple uses of information increases. Normatively, this points in the direction of a wider and more robust public domain, and a torrent of scholarship and advocacy reflects this point of view.¹¹² At the same time, the multiple and multiplex nature of uses of information and their lack of foreseeability raises the costs of the delineation of legal entitlements. If so, then rights of exclusion protecting implicit privileges of use become more attractive as a way to secure the return on inputs into creation and commercialization of works. Finally, technological change both lowers the costs of contracting and of digital self-help by owners, as discussed earlier, as

¹¹⁰See, e.g., Burk & Cohen, *supra* note 102; Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539 (2003); Samuelson, *supra* note 102. Fair use is codified at 17 U.S.C. § 107. The statute defines fair use in terms of purposes – “purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research” – and calls for evaluation of the use on the basis of mainly use-based factors, which include “(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.”

¹¹¹For an insightful application of Hohfeldian analysis and the analysis of different conceptions of fair use as clusters of rights and privileges, see Wendy J. Gordon, *An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory*, 41 STAN. L. REV. 1343, 1365-78 (1989).

¹¹²See, e.g., *supra* note 75.

well as lowering the costs to appropriators of circumventing barriers to information. For more fine-grained legal intervention in this area to make sense, the stakes have to be high enough to make fine-grained delineation of use-privileges or use-rights worthwhile, and off-the-rack rules have to be superior to private efforts at contracting and self-help. This is likely to be a narrow window of situations, although wider than that in patent law.¹¹³

At the very least, the costs of delineating rights should make us more receptive to owner contracting and self-help and less receptive to special pleas for extraordinary super property rights, including both super robust notions of the public domain and elaborate private anti-circumvention rights. To what extent these measures are warranted exceeds the scope of this Article, but the present framework does highlight an often overlooked cost of such legislation. The more such legislation casts complicated duties on the world, the more we have to worry about whether the information costs they impose on these third parties is worthwhile.¹¹⁴ This raises information costs if a non-specialist can wind up violating the prohibition and would have a lot of inquiry to do. Particularly if merely speaking about anti-circumvention devices is criminalized, it is doubtful that such duties are consistent with the level of cost one would want in a system of *in rem* rights.¹¹⁵ At the least, criminal provisions against circumvention need to have stiff *scienter* requirements in order to help steer clear of these problems. In general, specially tailored rights against circumvention and circumvention-related activity partake more of high-information-cost tort law than traditional protections for the right to exclude.

Traditionally, fair use was like nuisance law in that it made exceptions to the basic right of an owner to exclude. Non-owners could avail themselves of the resource through exercise of their general privileges to act because there was not much that an owner without a legal right could do to prevent the use. In terms of property rules, this was like the Rule 3 situation in which the would-be user (polluter in the nuisance context, fair use user in the copyright context) had the “entitlement” to the resource. But the “entitlement” is a privilege resulting from an exception to a right to exclude in the other party, not a free standing right. If so, then actions by the owner (the resident or the copyright holder) to prevent the use are also fair game; they merely interfere with a privilege not a right.

¹¹³ See Smith, *supra* note 68.

¹¹⁴ See Smith, *supra* note 31.

¹¹⁵ The anti-circumvention provisions of the Digital Millennium Copyright Act, 17 U.S.C. § 1201 (2000), are complex and include criminal liability.

The would-be user could have a right along the lines of easements and covenants in real property. But in both these latter contexts, rights have traditionally come about through a negotiation resulting in a special right to engage in the use, not as an off-the-rack legal right. The law could employ off-the-rack rights of fair use, but it would involve more costly delineation.

In a sense, both advocates of the public domain and proponents of strengthened copyright are arguing from a shift from fair use as a privilege to some form of off-the-rack claim-right. The proponents of robust fair use would like to replace the fair use privilege with a right to use under which content owners would be under some kind of corresponding duty. This could be a duty to refrain from actions that defeat fair use or it could even be an affirmative duty to promote fair use. The latter would be the most costly to delineate and enforce. As mentioned earlier, affirmative duties in property law are few and far between, and this helps minimize the cost of delineating, enforcing, and obeying the law's duties. Likewise, the extra mandatory protections that content property owners would like go beyond traditional exclusion rights in copyright law. Instead of setting up a low-cost signal for a metaphorical boundary crossing, such schemes set up free standing rights that regulate activity at large.

VI. CONCLUSION

Except in the state of nature, entitlements to self-help require some delineation. Strategies for delineating differ in terms of how closely the signals they rely upon are tied to any particular uses of the resources in question. Where these signals are very loosely tied to use, we have something closer to an exclusion strategy in which a right to exclude implicitly protects the owner's interests and privileges in a wide but unspecified group of uses. Such rules tend to be over-inclusive and, if transaction costs prevent further contracting for access by others, can lead to less use than would be ideal. In order to capture the benefits of multiple uses, further delineation employing signals more directly tied to use will be necessary but will also be more costly. To the extent that such a governance strategy is pursued it should be done at least cost. Normatively, off-the-rack governance rules are only warranted when they both are worth the extra cost of delineation and private governance schemes would not be more cost-effective.

Self-help interacts with the scheme of entitlement determination in several ways. What is called self-help can be either a right or a privilege and can be a by-product of an entitlement structure or specifically regulated. In terms of the framework presented here, privileges of self-help – like a wide range of other privileges – can be implicitly supported by the broad but indirect rights of exclusion. Where stakes are higher, self-help can be provided for as an exception to rights of exclusion, as illustrated clearly in the law of necessity. Only in the most high-stakes situations that involve high transaction costs should the law move towards free standing rights of self-help. The law of self-help, like the law of entitlements more generally, does not show the type of symmetry one would expect on the hyperrealist view that resource conflicts are free standing and that officials are called upon to engage in balancing in an unconstrained fine-grained way. For the same reason that governance looks more attractive on paper than in reality, the more costly ways of providing for self-help look deceptively attractive.

The law's approach to self-help is part and parcel of the general scheme for delineating entitlements and so is subject to the same considerations of cost and benefit. This goes a long way towards explaining the content and contours of self-help in cyberspace. From controversies over trespass to websites, digital rights management, and copyright fair use, the hostility to property analogies stems from the same sources as the advocacy of off-the-rack governance regimes in the legal literature on tangible property. The correct balance between different strategies for delineating legal entitlements – including entitlements to engage in self-help – is ultimately an empirical question. But in the inevitable guess work involved in striking the right balance, the costs of delineating entitlements suggest a light hand in devising detailed regimes to protect owners and non-owner users.