
APPROPRIABILITY AND PROPERTY

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TABLE OF CONTENTS

Introduction.....	1418
I. On Appropriability and Property Rights.....	1421
A. Appropriability and Private Property—The Basics.....	1421
B. Appropriability in Property Analysis.....	1424
II. The Meaning and Role of Appropriability.....	1429
A. Two Kinds of Appropriability.....	1429
B. Appropriability as a Boundary Rule	1432
C. Interim Conclusion	1435
III. Appropriability, Numerosity, and the Spatial Dimension of Property.....	1436
A. The Coasean Shift in Property.....	1436
B. Appropriability and Numerosity.....	1438
C. Appropriability and “Thingness”	1443
IV. Appropriability and Servitudes	1447
A. The Law of Servitudes	1447
B. Property and Contract: Two Levels of Property Rules...1449	
C. The Case of Real Property	1451
V. Appropriability and Takings	1456
A. Current Supreme Court Law	1457
B. The Role of Appropriability in Takings	1460
C. A Comment on Harms and Benefits	1464

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D. Alternative Property Analyses in the Takings Context ..	1466
1. Richard Epstein.....	1467
2. Joseph Sax	1472
3. Frank I. Michelman	1474
Conclusion	1475

INTRODUCTION

The thing that hath been, it is that which shall be; and that which is done is that which shall be done: and there is no new thing under the sun.

Ecclesiastes 1:9

In recent decades, property notions have become increasingly amorphous. Centuries-old doctrines that centered on the relationship between individuals and assets—doctrines that have allowed courts to develop relatively quick, workable rules of decision that apply to a vast majority of property cases—have been replaced by the notion of property as an undetermined “bundle of rights” that are, by and large, interpersonal and serve only one major purpose—as a basis for contract.¹ These bundles of use rights, as shaped by courts and analyzed in academia, have gradually become much more malleable and much more susceptible to private ordering—indeed, much more reminiscent of bilateral contractual rights—than any traditional concept of property rights.

The growing malleability of property rights and their increasing susceptibility to private ordering can be traced back to the introduction of the Law and Economics movement into the property law field, and specifically to the paradigm shift brought about by Ronald Coase’s analysis of the laws of nuisance in his seminal work *The Problem of Social Cost*.² Coase’s focus on bilateral disputes over use rights, coupled with his suggestion (which is itself based on a bilateral analysis) that the initial allocation of property rights is typically

1. In speaking about a “bundle of rights” in this paper, I refer specifically to the notion that property is simply a label that can be placed on any given set of rights that can be the basis for contract, and not the much older notion that complete ownership of a well-specified “thing” can be fragmented among multiple people (e.g., where one person holds a life estate and another holds a remainder estate, the aggregate of which would create a fee simple). See, e.g., Joan Williams, *The Rhetoric of Property*, 83 IOWA L. REV. 277, 297 (1998) (“Labeling something as property does not predetermine what rights an owner does or does not have in it.”).

2. Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960); see Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357, 359–60 (2001) (attributing to Coase’s article the shift in the conception of property away from a traditional view to one where property is thought of as a list of use rights).

dependent on ad hoc relationships between neighbors (or, in the absence of prohibitive transaction costs, simply immaterial) led many to conclude that property rights have neither a set “core,” or “baseline,” nor a clear outer limit.³ According to this view, property rights are shaped and re-shaped seriatim by parties to bilateral transactions in a manner that is almost indistinguishable from that of contractual rights.⁴

The bundle of rights model offers a deficient account of property rights for several reasons. First, it offers a poor account of the “thingness” of property—i.e., the connection between property rights and the “thing” that is owned—without any clear explanation as to why this notion is wrong or how it remained intact through several centuries of property jurisprudence. Second, it is predicated first and foremost on a bilateral model that is far removed from traditional property analysis. A third and related problem is that the bundle of rights metaphor has a tenuous connection, at best, to the basic problems that property regimes are intended to solve; although clearly defined property rights are a necessary predicate to contractual negotiations, the ability to contract is not the basic problem property regimes seek to address.

3. See BRUCE A. ACKERMAN, PRIVATE PROPERTY AND THE CONSTITUTION 26-29, 97-100 (1977) (noting that while a “Layman” may cling to traditional notions of property as well-defined rights to things, the “Scientific” view of property as a bundle of relational rights is so pervasive that “even the dimmest law student can be counted upon to parrot the ritual phrases on command”); Thomas C. Grey, *The Disintegration of Property*, in 22 NOMOS: Property 69, 69 (J. Roland Pennock & John W. Chapman eds., 1980) (noting the disintegration of traditional notions of property among “specialists,” such as lawyers and economists); Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 737-39 (1998) (discussing the current predominance of the “bundle of rights” conception of property). It should be noted that although Coase’s work may have dealt the final death blow to any “fixed” notion of property, the initial shift in the concept of property—from a right in things towards a set of interpersonal relationships—predates Coase, and is usually attributed to Hohfeld’s seminal works dealing more generally with legal relationships. See, e.g., Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L.J. 710 (1917); Wesley Newcomb Hohfeld, *The Relations Between Equity and Law*, 11 MICH. L. REV. 537 (1913); see also, e.g., Williams, *supra* note 1, at 297 (“Hohfeld argued that property rights do not define absolute dominion of people over things, but instead define shifting relationships among people.”); Kenneth J. Vandeveld, *The New Property of the Nineteenth Century: The Development of the Modern Concept of Property*, 29 BUFF. L. REV. 325, 330 (1980) (noting that the Hohfeldian analysis defined property as “a set of legal relations among persons,” the meaning of which varied from case to case). For a recent and slightly more attenuated account of the indeterminability of property rights, see Hanoch Dagan, *Exclusion and Inclusion in Property* (Tel Aviv Univ. Legal Working Paper Series, Paper No. 109, 2009), available at <http://law.bepress.com/taulwps/fp/art109>.

4. See Merrill & Smith, *supra* note 2, at 359-60 (“Coase implied that property has no function other than to serve as the baseline for contracting . . .”).

In fact, in their simplest form, property regimes are aimed at attaining, ensuring, and enforcing the ability of owners to appropriate the benefits that flow from their assets. It is therefore appropriability, and not any ability to contract, that should inform our judgment concerning the optimal scope of property rights. Once this rationale for—and purpose of—property rights is realized, the fallacy of any bilateral analysis of property rights becomes clear: because property rights are intended to ensure the security of owners against a threat emanating from an undefined class of putative poachers—a class that is comprised of numerous potential members—property rights must be analyzed in a multilateral model. The shift to such a multilateral analysis demonstrates the shortcomings of the “bundle of rights” model and requires the development of a more complete theory about what must be the “core” or “baseline” of property rights. In addition, this shift allows us to better evaluate the relationship between such “core” or “baseline” rights and other types of rights—namely, (1) additional rights that have historically been granted to owners under the guise of property rights, (2) contractual rights vis-à-vis third parties, or (3) rights against the public at large.

This Article offers a first glimpse at the implications of an appropriability-based analysis of property rights. Parts I and II define the appropriability problem and offer an overview of the role of appropriability, as defined in property law. Parts III through V then demonstrate the implications of the appropriability analysis in three discrete areas of property law. Part III demonstrates how the appropriability analysis and its resulting multilateral model undermine the indeterminacy of the “bundle of rights” model and require a baseline notion of property that is intricately tied to the “thing” that is owned. Part IV demonstrates how the appropriability analysis accounts for the distinction between property and contractual rights. Specifically, Part IV focuses on the law of servitudes and the appropriability-based justification for the common law distinction between servitudes on land and servitudes on other types of assets. Finally, Part V demonstrates the implications of the appropriability analysis on the law of takings, and specifically on the distinction between compensable and noncompensable governmental takings.

I. ON APPROPRIABILITY AND PROPERTY RIGHTS

A. *Appropriability and Private Property—The Basics*

Property rights are generally thought of (in economic terms) as legal instruments that are used to incentivize efficient use of scarce resources.⁵ Their incentivizing mechanism works by aligning usage of resources with its resulting costs and benefits; property rights ensure that users of resources will both enjoy (i.e., appropriate) as large a share as possible of the benefits that flow from such use, and bear as much as possible of the costs that are associated with such use. This, in turn, prevents over-usage or under-usage of resources by bringing the relevant costs and benefits associated with a given use to bear on the user's decision-making processes. In economic parlance, we usually say that property rights help internalize externalities that arise when benefits associated with the efficient use of resources—or costs associated with the inefficient use thereof—are not captured (or borne) by the actual user of the resource, but are instead captured by neighbors, strangers, or the public at large. Externalities, therefore,

5. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 32 (6th ed. 2003) (“[L]egal protection of property rights creates incentives to exploit resources efficiently.”); Harold Demsetz, *Toward a Theory of Property Rights*, 57 *AM. ECON. REV.* 347, 348 (1967) (“A primary function of property rights is that of guiding incentives to achieve a greater internalization of externalities.”).

The proposition that property is essentially an economic institution is itself not trivial; in fact, many argue that it is an oversimplification of the reasons for, and justifications of, property rights. The debate over the viability and exclusivity of economic justifications for property rights generally, and for private property regimes specifically, goes well beyond the scope of this paper. See, e.g., Harold Demsetz, *Professor Michelman's Unnecessary and Futile Search for the Philosopher's Touchstone*, in *NOMOS XXIV: ETHICS, ECONOMICS, AND THE LAW* 41, 45 (J. Roland Pennock & John W. Chapman eds., 1982) (arguing that “[p]rivate property allows the market to weigh and compare the beneficial and harmful effects . . . and to filter out actions that would yield a net loss”); Frank I. Michelman, *Ethics, Economics, and the Law of Property*, in *ETHICS, ECONOMICS, AND THE LAW*, *supra*, at 3, 3 (arguing that “not even a presumptive preference for the rudiments of private property . . . is obtainable by economic reason”); JEREMY WALDRON, *THE RIGHT TO PRIVATE PROPERTY* 102–05 (1988) (arguing for a rights-based justification for private property regimes under a Hegelian approach); Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 *HARV. L. REV.* 621, 624 (1998) (warning against the possibility that resources will be underused when rights to scarce resources are fragmented under private property regimes); Andrei Shleifer, *State Versus Private Ownership*, 12 *J. ECON. PERSP.* 133, 135–36 (1998) (advocating for the benefits of private property over state ownership from an economic perspective).

Whatever the philosophical rationales for property may be, as a matter of positive law, under United States law, at least, intellectual property rights have to be justified in welfare terms because Congress's power to grant exclusive rights in “Writings and Discoveries” may be used for only one purpose: “To promote the Progress of Science and useful Arts.” U.S. CONST. art. I, § 8, cl. 8.

distort the cost-benefit analysis of the actual user regarding the optimal level of usage.⁶

Under-usage, as opposed to over-usage,⁷ can usually be explained in terms of an appropriability problem. Consider, for example, the case of a farmer who puts time and money into raising cattle. The farmer seeks out the best grazing grounds, breeds the best possible cattle, and erects fences to fend off predators that threaten her herd. The farmer finds, however, that the cattle she raised are taken away by her neighbors before she can either market them or use them herself. Absent property rights, this phenomenon would not be considered “stealing” or “poaching,” and the farmer would arguably have no legal redress. Under these circumstances, and assuming this pattern of conduct by the farmer’s neighbors was recurring, the farmer would likely cease raising cattle altogether, regardless of the fact that the milk and meat she produced were far more valuable than her investment in producing them (thereby making her investment efficient). Instead, the farmer would probably channel the resources she can utilize to some other, less efficient use, such as growing a crop which is less susceptible to taking by her neighbors. An efficient use of resources (land, expert labor, etc.) would thus be hindered due to the farmer’s inability to appropriate the benefits of such use, giving rise to what is customarily referred to as an appropriability problem.

Private property regimes seek to prevent such under-usage of resources by employing multiple legal protections (manifested as specific prohibitions under tort and criminal law) that, in the aggregate, award users of resources some approximation of Blackstone’s idea regarding “that sole and despotic dominion which one man claims and exercises over the external things of the world,

6. Demsetz, *Toward a Theory of Property Rights*, *supra* note 5, at 348. I use the term “externalities” in the limited sense just mentioned, i.e., in reference to relevant considerations that are external to the decision-making process, regardless of any judgment as to who should ultimately bear such costs or enjoy such benefits. Spillovers of benefits are referred to as “positive externalities”; spillovers of costs are referred to as “negative externalities.” These, of course, are relative terms; here, I use them relative to the ultimate decision maker regarding a specific use.

7. Over-usage is usually attributed to “tragedy of the commons” situations, where joint users of scarce resources bear the costs associated with their use jointly but enjoy the benefits of their use individually. In such situations, “[e]ach man is locked into a system that compels him to increase his [usage of the joint resource] without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest” Garrett Hardin, *The Tragedy of the Commons*, 162 *Sci.* 1243, 1244 (1968); see also Demsetz, *Toward a Theory of Property Rights*, *supra* note 5, at 351–53 (offering an externalities-based explanation for the emergence of private property regimes that superseded common ownership of hunting grounds in certain Native American communities).

in total exclusion of the right of any other individual in the universe.”⁸ Under private property regimes, resources are parceled out and allocated to individual owners, legal barriers are erected between the parcels, and the power of the state is harnessed to ensure that owners have exclusive access to benefits flowing from their assets—in other words, that they have the ability to appropriate the fruits of these assets.⁹ When resources are parceled out in this way, owners have a clear incentive to maximize the benefits that flow from them, because they stand to enjoy those increased benefits themselves.

Going back to the example, our hypothetical farmer would be willing to put considerable investment into her privately-owned cattle ranch. This is exactly where appropriability comes into play: under a private property regime, the farmer would be able to appropriate the milk or meat that she produces, and therefore, as long as she expects

8. 2 WILLIAM BLACKSTONE, COMMENTARIES *2. The notion of absolute exclusive powers vested in the owner of property is obviously false, nor was it ever considered completely true—even by Blackstone himself. See Carol M. Rose, *Canons of Property Talk, or, Blackstone's Anxiety*, 108 YALE L.J. 601, 602 (1998) (noting that “the famous definition was only a point of departure” from which the notion of property as exclusive dominion was discussed, deconstructed, and attenuated). Recent commentators have offered more refined definitions. See, e.g., YORAM BARZEL, ECONOMIC ANALYSIS OF PROPERTY RIGHTS 3 (1997) (offering an economic perspective, by which property rights are defined by “the individual’s ability, in expected terms, to consume the good (or the services of the asset) directly or to consume it indirectly through exchange”) (emphasis in original); WALDRON, *supra* note 5, at 39 (defining a private property system as one in which “[t]he owner of a resource is simply the individual whose determination as to the use of the resource is taken as final”); Michelman, *supra* note 5, at 5 (arguing that property rights must, at a minimum, “allow that at least some objects of utility or desire can be fully owned by just one person,” and that full ownership would ensure “complete and exclusive rights and privileges over” that object, as well as the power to transfer it to another) (emphasis in original). However these differ, they still rely heavily on the same notion advocated by Blackstone. See, e.g., Michael A. Heller, *Three Faces of Private Property*, 79 OR. L. REV. 417, 419 (2000) (noting that suggested definitions by the likes of Michelman and Waldron do little more than “partake of and help keep current Blackstone’s endlessly repeated definition”). In the following pages I will show that the actual protection of the right is very far from the Blackstonian ideal.

9. It should be noted that the erection and enforcement of legal barriers is itself costly. Therefore, private property regimes never ensure appropriability of *all* the benefits that flow from an asset. Consider, for example, the benefits flowing from the erection of a house which is an architectural masterpiece. While the owner of the house would derive most of the benefits flowing from it, some residual benefits may be enjoyed by passers-by, as well as by owners of adjacent properties. Nevertheless, legal systems would generally not allow the owner to charge passers-by, nor owners of adjacent properties, on the reasonable assumption that a legal rule requiring everyone to pay for their relative enjoyment of every architectural piece would be prohibitively expensive to administer. The legal regime would, however, allow the property owner to erect a fence around her house, and then charge passers-by who would like to enter the property to enjoy the sights. Thus, the expected under-investment in architecture would be limited to the lesser of two factors: the benefit to passers-by, or the cost of erecting a physical barrier.

value of the products to be higher than the value of her investment, she would invest in raising cattle. Thus, once appropriability is ensured, the farmer would not put her assets to alternative uses unless she expects these alternative uses to reduce costs or increase revenues; in the absence of negative externalities, which would generally have to be dealt with by other mechanisms,¹⁰ this would be the case only if the alternative uses were more efficient. Similarly, inefficient transfers of resources between owners would be prevented, because the farmer would not transfer her assets for a price that is lower than the present value of the expected return on her most lucrative investment. This price would necessarily be higher than the price that a less efficient user of the assets would be willing to pay (again assuming the absence of negative externalities). Property regimes thus ensure appropriability, thereby allowing the market to properly incentivize the efficient use of resources.

At this juncture, it should already be noted that the preceding overview, although very basic, demonstrates both what appropriability is and what it is not (the importance of the latter will be discussed more fully below). The appropriability problem revolves around the ability of investors to reap the rewards of their investment *without it being taken by others who have not invested*; it is security against “poaching” that is central to the problem. By contrast, the appropriability problem has very little to do with the *type* of use that an owner can make of her assets; appropriability is geared towards the appropriation of benefits that flow from any use that persons or entities decide to undertake, regardless of the nature of the use. As a result, where appropriability is ensured, only one side of the externalities conundrum is solved: *positive* externalities—i.e., benefits—are internalized. To the extent that certain inefficient uses of resources create *negative* externalities—i.e., costs—that result in over-usage of resources, these are internalized by other means.

B. *Appropriability in Property Analysis*

As my reference to Blackstone suggests, the foregoing analysis of property and appropriability is far from novel. Appropriability was recognized as a rationale for private property rights and for their legal protection (through tort and criminal law) for centuries, at least

10. Some negative externalities—most notably, those that have an adverse effect on neighboring privately held property—are dealt with by tort law doctrines such as trespass and nuisance. Others—especially those that affect resources that are held in common—are dealt with through governmental regulation in the form of environmental laws, zoning laws, etc.

since the days of Blackstone, Hume, and Bentham.¹¹ Nevertheless, in recent years appropriability has attracted relatively little attention in the analysis of property, for three interrelated reasons.

First, and rather prosaically, is the unremarkable nature of the appropriability analysis; in a nutshell, it lacks the novelty which attracts commentators.

A second reason, which I briefly touched upon in the introduction and which will be dealt with in more depth in the following sections, is the post-Coasean shift in the focus of economic analysis of property rights. This shift is best described by Thomas W. Merrill and Henry E. Smith in a seminal article in which they argue that property law has shifted its focus from an understanding of property rights as rights in things that are good against the world at large toward an understanding of property rights as a bundle of personal, contract-like use rights that are paradigmatically examined in the context of the relations between two parties.¹² This view of property, as Merrill and Smith note, focuses on the role of property as a baseline for contractual transactions.¹³ Under this Coasean view, in the absence of prohibitive transaction costs, the initial allocation of property rights is immaterial because it can be easily readjusted by the parties according to market forces.¹⁴ Alternatively, where significant transaction costs are present, the initial allocation of property rights should replicate would-be contractual exchanges in an attempt to minimize the need for costly adjustments.¹⁵ Under either view, the

11. Thus, older accounts of property give a central role to the notion of appropriability. For example, according to Jeremy Bentham's account of property as a basis for expectations:

The idea of property consists in an established expectation; in the persuasion of being able to draw such or such an advantage from the thing possessed It is only through the protection of law that I am able to inclose a field, and to give myself up to its cultivation with the sure though distant hope of harvest.

JEREMY BENTHAM, *THE THEORY OF LEGISLATION* 110–12 (Richard Hildreth trans., 1908).

12. See Merrill & Smith, *supra* note 2, at 357–58 (“By and large, this view has become conventional wisdom among legal scholars: Property is a composite of legal relations that holds between persons and only secondarily or incidentally involves a ‘thing.’”); see also Michael A. Heller, *The Boundaries of Private Property*, 108 *YALE L.J.* 1163, 1193–94 (1999) (suggesting that the legal realists’ “bundle of rights” metaphor, which received such a boost by the Coasean analysis, “is losing its place in property theory”); Carol M. Rose, *The Shadow of the Cathedral*, 106 *YALE L.J.* 2175, 2188 (1997) (highlighting instances in legal scholarship where contract rights are discussed in relation to property).

13. Merrill & Smith, *supra* note 2, at 359–60 (“Coase implied that property has no function other than to serve as a baseline for contracting or for collectively imposing use rights in resources . . .”).

14. *Id.* at 368–69.

15. *Id.* at 369.

analysis of property rights does not revolve around, and is not driven by, an imminent threat of misappropriation from the world at large—the very threat that serves as the foundation of the appropriability problem.¹⁶

Finally, a third reason for the omission of appropriability from modern property analysis deals with the paradigmatic subject matter of property analysis: tangible goods and, most specifically, real property. Where tangible property is concerned, the appropriability “problem” is relatively modest, because the famous adage holds true: possession really is nine-tenths of the law. The legal barriers that surround tangible goods are typically either a mere reflection of physical barriers that exist regardless of any legal regime, or are amenable to replication by real world barriers.¹⁷ These physical barriers enable anyone with possession of an asset to exercise considerable control over it, including control over its use and any benefits that flow from it. Exclusivity of access to physical objects can be attained by physical force, even where no property regime is in place; our hypothetical farmer could fight potential cattle poachers with fences and guards, even if she had no recognized legal right to the meat and milk that is produced. In the context of tangible property, the main contribution of private property regimes is thus not in *attaining* appropriability, but in reducing the social costs associated with forceful protection of one’s endeavors, as well as in the development of the remaining one-tenth of the law—namely the separation of ownership from possession.¹⁸

By contrast, the role of private property rights in the context of intangible goods—i.e., information—is much more meaningful. Intangible goods typically possess all the characteristics of “public goods”—goods that are not excludable by physical means (at least not at a reasonable cost) and that are nonrivalrous, i.e., do not

16. Merrill and Smith suggest that the reason for this trend is that the problem of social order, by and large, had been solved by the time the law and economics movement emerged, and thus commentators were interested in more novel problems, such as the maximization of welfare once order had been achieved. *Id.* at 398.

17. See, e.g., ACKERMAN, *supra* note 3, at 98–100 (explaining the socialization process through which individuals come to understand basic concepts of property ownership based on use rights).

18. This may very well be yet another explanation for the trend described by Merrill and Smith: in the realm of real property, the question of A keeping B out of Blackacre is simply not very interesting. See *supra* note 2 and accompanying text (explaining the shift in the conception of property rights from a view of rights attached to “things” toward a view of property that is contract-based).

diminish through consumption.¹⁹ The combination of these two characteristics creates severe appropriability problems.

Nonexcludability directly hinders appropriability because it allows—indeed, incentivizes—uncompensated use of the fruits that are borne from the efforts of those who develop information. Such uncompensated use is tantamount to “poaching” of the revenues that flow from such efforts.²⁰ In the context of technological ideas, many uses (though not all) will disclose the ideas to individuals who have not paid for them.²¹ Such disclosure will allow these individuals to use the ideas for their own benefit, in direct competition with the originators of the ideas. In the context of expression that is fixed in tangible form, most distributions of copies will enable distributees to create further copies, usually at a fraction of the price of developing the underlying expression.²² In both cases, copiers will enjoy a

19. See William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 326 (1989) (highlighting the “public good” aspect as a distinguishing characteristic of intellectual property).

20. It should be noted that the term “poaching” is not as clear in the context of information as it is with respect to tangible property, because the “fences” around information are themselves intangible and, in many instances, amorphous. This problem, however, does not alter the fact that the idea of poaching, and protection therefrom, is as central to intellectual property law as it is to any other property regime, if not more so.

21. There are a number of fields where information can be used commercially without being disclosed or exposed to the public. The quintessential example for such use is that of the Coca-Cola Company’s secret formula, which has been used for well over a century in the mass production of the company’s beverages. Clearly, where information can be used while its secrecy is maintained, its originator does not face the appropriability problem discussed in this paper, and therefore does not require—and usually will not seek—statutory intellectual property rights (which require disclosure and are limited in time). Furthermore, even when the use of information does expose it to potential free riders, originators would still be able to appropriate much of the sales of the information due to the competitive advantage they would enjoy over free riders in terms of lead time to enter the market. These advantages would be particularly substantial—and, as a result, would ensure considerable appropriability—in industries characterized by slow learning curves, strong brand recognition, network effects, or short turnaround time. Unlike the case of secrecy, originators in these industries may still seek intellectual property-type protection to supplement their competitive advantage in the market and bolster the appropriability of their innovation. For data about the preference of specific industries for one form of protection or another, see generally Richard C. Levin et al., *Appropriating the Returns from Industrial Research and Development*, 18 BROOKINGS PAPERS ON ECON. ACTIVITY 783 (1987).

22. This problem is most acute—and its analysis most straightforward—in connection with mass-produced works such as books, movies, recorded music, or software, where “origin” is of no consequence. By contrast, unique works of visual art introduce a new wrinkle into the analysis, because copies usually have no effect over the appropriability of the original works (assuming they are not presented as originals); they do, however, prevent the originator from appropriating derivative works. It should be noted further that nonexcludability is not only a legal and economic problem, but many times may also be a technological problem. Thus, in some instances, technological “fences” can be erected around intangible assets, and may be enforced through property regimes. See 17 U.S.C. § 1201 (2006) (prohibiting

competitive advantage over the originator of the information because they do not incur the sunk costs associated with developing the information in the first place.²³ Thus, whereas originators have to charge a price that is higher than their marginal cost of production (in most cases, substantially higher) in order to recoup their investment, copiers make an overall profit even when selling at the marginal cost of production.

Non-rivalry in consumption further exacerbates the appropriability problem in the context of intangible goods. Non-rivalry enables fast dispersion of information; even if the initial number of copiers is minimal, each can use and re-use—i.e., copy and re-copy—the information perpetually. Information therefore tends to be exposed and disseminated in ever-increasing circles to an ever-increasing number of potential free riders, each one joining—rather than replacing—existing copiers.

Modern-day law and economics scholars are by no means the first to recognize these typical characteristics of intangible goods, or the severe appropriability problem that they create. In an oft-quoted passage, Thomas Jefferson articulated these notions as early as 1813:

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it.²⁴

It is therefore not surprising that the appropriability problem has taken a much more central role in the analyses of intellectual property rights than in the analyses of property rights in general. In fact, some form of the appropriability problem has been traditionally recognized as the very cornerstone of intellectual property regimes; with few exceptions, some guise of the appropriability problem is considered by commentators and courts alike to be the *raison d'être* for the creation of such regimes in the first place.²⁵

the circumvention of technological measures that control access to copyrighted works); Lawrence Lessig, *Intellectual Property and Code*, 11 ST. JOHN'S J. LEGAL COMMENT. 635, 636–37 (1996) (discussing the concept of zoning in cyberspace).

23. By “copiers” I mean users of information developed by another, regardless of whether the use concerned implicates actual “copying” of a tangible object.

24. Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in 13 THE WRITINGS OF THOMAS JEFFERSON 326, 333–34 (Thomas Jefferson Memorial Ass'n ed., 1853) (1904).

25. See Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 247 (1994) (noting that the appropriability problem is “the primary

Even in the context of intangible goods, however, discussions of appropriability—the nature of the problem and what it entails—are both scarce and rudimentary; the problem is acknowledged, but not much more. In the following section I give a more nuanced account of the contours of appropriability and the role it plays in property regimes.

II. THE MEANING AND ROLE OF APPROPRIABILITY

A. *Two Kinds of Appropriability*

As noted, private property regimes give owners some approximation of a “sole and despotic dominion” over their assets.²⁶ The scope of that dominion is determined by the type and extent of legal protection given by the State to the owners’ property rights. To understand the role of appropriability in this framework, we must therefore understand the kind of protection that owners require specifically to ensure appropriability.

Before we turn to the protection of appropriability, we must begin by distinguishing two closely related definitions of the concept, only one of which is relevant to the discussion here.²⁷ This is necessary to avoid any definitional confusion when talking about appropriability.

problem that the patent system solves”); Landes & Posner, *supra* note 19, at 328 (explaining that in the absence of copyright protection “[t]he market price of the book will eventually be bid down to the marginal cost of copying, with the unfortunate result that the book probably will not be produced in the first place”); Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 993 (1997) (“Intellectual property is fundamentally about incentives to invent and create. While there are a number of noneconomic theories offered to explain both copyright and patent law, both the United States Constitution and judicial decisions seem to acknowledge the primacy of incentive theory in justifying intellectual property.”); *id.* at 995–96 (“[G]overnment has created intellectual property rights in an effort to give authors and inventors control over the use and distribution of their ideas, and therefore encourage them to invest efficiently in the production of new ideas and works of authorship.”). *But see* Tom G. Palmer, *Intellectual Property: A Non-Posnerian Law and Economics Approach*, 12 HAMLINE L. REV. 261, 263 (1989) (advocating for an approach to intellectual property rights founded upon law and economics theories that are “more mainstream” than the “wealth maximization” approach adopted by Posner).

26. BLACKSTONE, *supra* note 8, at *2.

27. It should be noted that the appropriability problem does not in and of itself suggest that private property rights are better than competing mechanisms, operating under competing property regimes, that incentivize efficient exploitation of resources. In fact, any one of the traditional “holy trinity” of property regimes—state, common, and private—could provide some sort of mechanism that would ensure return on certain investments. Whether appropriability—a private property, market-driven mechanism—is the best possible mechanism is a question which has to do with our confidence in, and preference for, a free market economy, and not necessarily with appropriability as such. This feature of appropriability sets it apart from its counterpart property problem, the tragedy of the commons. Although both property problems seek to internalize externalities—external benefits in the case of

In economic parlance, appropriability often refers simply to the ability of owners to derive revenues—in any way whatsoever—from an asset.²⁸ In this sense, which I shall refer to as “economic appropriability,” appropriability is nothing more than a measure of how lucrative an asset can be, i.e., a measure of the market value of its fruits.²⁹ Economic appropriability is thus a function, first and foremost, of the qualities of the underlying asset.³⁰

Economic appropriability should be distinguished from another notion of appropriability, which I shall refer to as “legal appropriability.” Legal appropriability is a narrow, nuanced subset of economic appropriability. Whereas economic appropriability is focused on the ability of owners to derive revenues from assets in general, legal appropriability is focused only on the ability to derive revenues without fearing that such revenues could be taken by others. This type of appropriability has nothing to do with other issues that affect the value of an asset.

To make the distinction clearer, assume asset X exists under two legal regimes, A and B. Under legal regime A, the most lucrative use of the asset would produce an overall social utility of fifty “units,” and legal regime A enables an owner to appropriate forty-five such units for herself (assuming that the other five units are enjoyed by third parties). Under legal regime B, the most lucrative use of the asset would produce an overall social utility of one hundred units, ninety of which could be appropriated by the owner. In this example, a move from legal regime A to legal regime B would clearly increase the economic appropriability for the owner of asset X by increasing her returns. However, her legal appropriability would remain unchanged (both legal regimes enable the appropriation of ninety percent of the fruits flowing from asset X).

I mention economic appropriability here mainly as a caveat. Economic appropriability has very little to do with the appropriability problem discussed earlier. Moreover, it is not, and cannot be,

appropriability problems, external costs in the case of tragedies of the commons—tragedies of the commons generate a specific argument against common ownership (and, to an extent, state ownership) and in favor of private property.

28. See BARZEL, *supra* note 8, at 3 (emphasizing the value of exchange in defining economic property rights).

29. Much of the economics-oriented literature about intellectual property refers to appropriability in this sense—as a measure of the incentives to create or invent intangible property. See, e.g., Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 14 (2005) (noting that “[f]or the appropriability story to hold, patents must be shown to be an effective means of capturing value.”).

30. However, economic appropriability may also be affected by regulatory schemes relating to uses of the asset, such as zoning regulations.

a meaningful concept in determining the scope of protections afforded by property rights. Economic appropriability is a completely open-ended concept; all it does is measure value. If we were to use economic appropriability to guide us in shaping the rights of property owners, the only principle that could guide us would be “more is better”; arguably, the more protection an owner enjoys, the higher her returns. A legal regime, however, clearly cannot—and should not—assure absolute protection (or any approximation thereof) to every owner at any point in time; not only would such a regime be prohibitively costly, but it would also break down where uses are incompatible.

Moreover, maximization of benefits to owners is only loosely tied to maximization of overall value. If property owners were shielded from certain costs associated with the use of their assets (as they would be if such use was protected as an exercise of their property right), inefficient uses would often be protected and rewarded at the expense of society as a whole.

Legal appropriability, by contrast, lies at the very heart of property regimes.³¹ Legal appropriability is related to the protection that a legal system affords owners in the face of the appropriability problem I presented in the previous pages, a problem that revolves around the fact that “[m]en universally desire to enjoy speedily—to enjoy without labour,”³² and the problem’s resulting danger (of under-usage of resources). The appropriability problem has nothing to do with questions of maximization of revenues to owners; rather, it is concerned only with the ability of owners to appropriate those revenues that actually flow from their assets and are the result of allowed uses thereof. In this respect, legal appropriability bears a clear relation to such Benthamian notions as security and expectation.³³ As Bentham explained, when speaking of security as the principal object of legal regimes:

Law does not say to man, *Labour, and I will reward you*; but it says: *Labour, and I will assure to you the enjoyment of the fruits of your labour—that natural and sufficient recompense which without me you cannot*

31. I do not suggest that this notion is “legal” in the sense that it is a cognizable legal right, or that there is anything inherently “legalistic” about it. I suggest only that it is the form of appropriability that legal systems should—and do—seek to attain.

32. BENTHAM, *supra* note 11, at 114.

33. See *id.* at 109 (“We come now to the principal object of law,—the care of security.”); *id.* at 111 (“Property is nothing but a basis of expectation . . .”).

*preserve; I will insure it by arresting the hand which may seek to ravish it from you.*³⁴

Similarly, legal appropriability is satisfied when “the hand which may seek to ravish” is arrested and “poaching” is prevented; that, and nothing more.

B. Appropriability as a Boundary Rule

The traditional legal solution to the appropriability problem is to grant to individuals the right to exclude others from certain assets (manifested through tort actions and the like), declaring those individuals as the assets’ “owners.” Exclusionary rights promote exclusive use of assets and prevent tragedies of the commons. Such rights also ensure that those exploiting the assets are free from the threat of poachers, thereby enabling transactions with others for access to the fruits of their labor. Thus, it is not surprising that Blackstone, Bentham, and many subsequent commentators have identified the right to exclude as *the* central right at the core of property regimes.³⁵ These commentaries, however, typically suffer from two notable failures.

First, many commentators have failed to note that exclusionary rights only serve as a crude proxy, a means to an end.³⁶ Describing ownership simply as a “right to exclude” gives us a poor account of the actual scope of owners’ rights, the rationales that should guide courts in determining that scope, and the goals that these rights—and incidents thereof—are intended to achieve. These questions must be addressed in terms of the underlying problems that property regimes seek to solve, not in terms of the exclusionary rights themselves. The problem of tragedies of the commons, one of the two underlying problems that exclusive rights are intended to solve, provides very limited guidance on these issues: it clearly requires exclusivity of use—i.e., privatization of resources—but does not call for any specific allocation of exclusive use rights. It is therefore legal appropriability that must define the scope of property rights; legal appropriability requires that these rights address the appropriability problem as it arises in connection with specific types of assets. Property rights, therefore, are not simply exclusionary rights as such; they are best understood as a set of exclusionary rights that apply to

34. *Id.* at 110.

35. For an excellent modern overview of this approach, and the opposition thereto, see Merrill, *supra* note 3.

36. See, e.g., Merrill, *supra* note 3, at 730 (“[T]he right to exclude others is more than just ‘one of the most essential’ constituents of property—it is the *sine qua non*.”).

assets, the exclusive exploitation of which (in certain ways) is deemed by the legal system to be worthy of protection from interference by third parties.

Second, due to their focus on exclusionary rights, former commentaries have failed to recognize the problems of the tragedy of the commons and appropriability as the only systemic problems underlying private property regimes—i.e., the only problems that *every* private property regime must address.³⁷ To fully appreciate this idea, we must bear in mind our initial understanding of the role of the property regime as a legal doctrine that governs the allocation of scarce resources, and which is intended to ensure (or at least incentivize) efficient exploitation thereof.

Tragedies of the commons suggest that this allocation is most efficient when it is done through the parceling of resources which are then assigned to private individuals, each with an exclusive right to use the resources in certain ways.³⁸ The appropriability problem adds another layer to this notion by requiring that the return on exclusive uses be secured against poaching so that investments and rewards are aligned. No other set of economic problems in and of itself requires parceling of resources or assignment thereof in such a way—i.e., the assignment of exclusive use rights and the creation of exclusionary rights that are good against the world. More importantly, no other set of economic problems is so pervasive: only *these* problems apply to virtually *every type of resource* and underlie the exploitation of practically any type of asset, whether immovable or movable, tangible or intangible.

The extent of these problems may differ from case to case, and the rights of owners may be tailored idiosyncratically to address these differences, but the general contours of the underlying problems remain constant. Thus, as a baseline rule, property rights must ensure exclusive use (to prevent tragedies of the commons) and freedom from poaching of the fruits of such use (to prevent an appropriability problem). Absent some other pervasive problem underlying every allocation of resources, property rights do not need

37. Even when former analyses did focus on attempts to delineate the boundaries of property, they typically revolved around an actual legal manifestation—such as the right to exclude—and not on the underlying rationales for exclusion, such as the need for appropriability. See, e.g., *id.* at 754 (arguing that property “means the right to exclude others from valued resources, no more and no less”).

38. This holds true as long as the parcels are not so small as to give rise to the problem of “anticommons”—the need for excessive (and costly) cooperation between owners before any parcel can be used. See Heller, *supra* note 5, at 665 n.201 (“[E]xcess partition . . . of land can create an anticommons as parcels become uneconomically small after successive partitions.”).

to ensure anything else. Legal appropriability, therefore, should generally serve as the boundary that delimits the scope of property rights; as a general rule, owners of exclusive use rights should be protected only against poaching.

This proposition, it must be stressed, concerns only a baseline rule of property. Deviations from that baseline are common. Exclusionary rights are a somewhat crude proxy for attaining appropriability, and their administration comes at a cost. Therefore, property rights never ensure perfect appropriability, nor do they ensure only appropriability; they are over-inclusive in some respects, and under-inclusive in others. Moreover, once property regimes have been set up as legal institutions with unique features, these features may sometimes be used to solve idiosyncratic problems. Thus, a given legal system may tweak the scope of property rights, extending or curtailing the rights of some or all owners to a level above or below the call of the problems underlying the baseline rule. These streamlining efforts would usually be tied to idiosyncratic situations where the type of resources involved, or some characteristic of the market, requires unique adaptation; they do not, however, affect the baseline notion of property.

Consider, for example, “open range” laws enacted in a number of states, which require farmers to “fence out” cattle.³⁹ Such laws tweak the traditional rule of trespass by demanding that farmers erect fences that meet certain minimum standards before they can hold ranchers liable for damages to their crops caused by cattle physically invading the farmers’ land.⁴⁰ These laws address a specific, idiosyncratic problem that arises in areas populated by many ranchers (and cattle heads) whose land is devoted to grazing rather than farming. In such areas, it is arguably more efficient for the few farmers to fence their fields than for the cattle to be constantly guarded or “fenced in.” These laws therefore attempt to streamline property rules by requiring farmers to shoulder the burden of erecting physical barriers as a precondition to the erection of legal

39. A typical “open range” law states: “An owner or occupant of land is not entitled to recover for damage resulting from the trespass of animals unless the land is enclosed within a lawful fence” ARIZ. REV. STAT. ANN. § 3-1427 (2009).

40. One might argue that the traditional rule of trespass assures more than mere appropriability because it gives farmers a right against poachers and non-poachers alike. Some further discussion of this rule will be undertaken in the following sections. For present purposes, we may nevertheless note that to the extent trespass rules exceed the call of appropriability, such extension is aimed at assuring exclusivity of use of the farmers’ land—i.e., at avoiding tragedies of the commons.

fences that would protect them against one particular poaching-like threat—namely, cattle.

This streamlining effort affects the allocation of respective use rights; in an open range territory, a rancher can be said to have a right to “use” the farmer’s land in certain circumstances. However, the adjusted rules do not undermine legal appropriability as such, since they do not allow poaching of any kind.⁴¹ Ultimately, “open range” laws do not create a unique property paradigm; at most, they offer a nuance to an existing paradigm. The baseline rule remains largely unchanged; use rights are still generally exclusive (even if their allocation is somewhat nontraditional), and owners have a legal right to appropriate the fruits of their exploitation.

C. *Interim Conclusion*

Appropriability is a defining concept of private property regimes. It is not just one of many problems underlying private property; rather, it is *the* systemic problem that underlies property regimes, defines them, and should serve as the measuring stick by which they should be assessed.

In the pages above, I offered an overview of the contours of legal appropriability in the abstract. Against this backdrop, I shall now turn to examine more practical aspects of legal appropriability, namely the application of legal appropriability as evidenced in familiar property doctrine. In particular, I shall focus on three dimensions of property law in which legal appropriability comes into play. In Part III, I examine how legal appropriability, when analyzed in a multilateral context (i.e., where parties are numerous), gives substance to a “baseline” allocation of exclusionary rights that ties into the notion of the “thingness” of property—a notion prevalent in traditional property analysis but largely missing from the current “bundle of rights” analysis.

In Part IV, I turn to examine the role of appropriability in the law of servitudes. In that context, I argue that servitudes are best understood as an extension of property law beyond the core dictated by the call of legal appropriability. As such, servitudes are justifiable only in certain limited contexts, as an extension of property law into the realms of contract law in situations where the latter is susceptible to a systemic breakdown. As an example, I show why servitudes would

41. “Open range” rules assume accidental invasion of farmed land. The rules do not allow ranchers to deliberately lead their cattle onto the farmed land; they certainly do not allow a rancher to *harvest* another’s farmland and feed the crops to her cattle, regardless of whether the farmland was fenced.

generally be justified in the context of real property, but not in the context of chattels and intellectual property-based goods.

Finally, in Part V, I examine the role of appropriability in the constitutional context of takings law—the law concerning governmental taking of private property for public use under the Fifth Amendment of the U.S. Constitution.⁴² In this context, I review the prevailing takings jurisprudence of the Supreme Court, examine the analyses of several notable academics, and demonstrate how the Supreme Court’s notion of “property,” for purposes of its takings jurisprudence, is best understood as an application of legal appropriability.

III. APPROPRIABILITY, NUMEROSITY, AND THE SPATIAL DIMENSION OF PROPERTY

A. *The Coasean Shift in Property*

The operation of the appropriability analysis in property law is perhaps best seen in an area of property law that was severely undermined by the Coasean analysis, namely the “default” or “baseline” spatial allocation of property rights. The “open range” example discussed in the previous section, which is essentially identical to Coase’s paradigmatic rancher-farmer example, ties us back to Coase and the “bundle of rights” metaphor. In light of the foregoing appropriability analysis, a reassessment of that Coasean view and its effects on property theory is therefore appropriate.

In the first part of his classic article, *The Problem of Social Cost*,⁴³ Coase uses the bilateral rancher-farmer example to suggest that in the absence of transaction costs (and, more precisely, in the absence of prohibitive transaction costs), the initial allocation of property rights is immaterial because parties would transact to achieve the most efficient uses of resources regardless of that allocation.⁴⁴ All that matters, according to Coase, is that the initial allocation be “well-defined,” so that it can serve as a baseline for contracting.⁴⁵ By contrast, where transaction costs are significant and might prevent certain efficient realignment of rights, the default rules should

42. See U.S. CONST. amend. V (forbidding the taking of “private property . . . without just compensation”).

43. Coase, *supra* note 2.

44. See *id.* at 2–6.

45. See *id.* at 19 (“[I]f market transactions were costless, all that matters (questions of equity apart) is that the rights of the various parties should be well-defined and the results of legal actions easy to forecast.”).

attempt to replicate the results of would-be transactions.⁴⁶ In either case, the allocation of property rights under the Coasean view is either completely or partially malleable, and almost invariably should be done on a rather ad hoc basis, as between given competing uses (subject only to the need to maintain some certainty of judicial outcomes); ultimately, the substance and initial allocation of property rights is immaterial, so long as parties are allowed to transact.

As a result, the Coasean allocation of rights does not necessarily have anything to do with the physical properties of any object to which property rights traditionally attach. Indeed, Coase's point about the "reciprocity" of the problem of competing uses flatly contradicts the proposition that the farmer has any priority in her right to use "her" land vis-à-vis the right of the rancher.⁴⁷ The use rights of each are either immaterial (in the absence of transaction costs) or, more likely, should aim to replicate whatever use of the farmer's land the farmer and the rancher would have transacted for but for the inevitable existence of transaction costs.⁴⁸ Thus, the Coasean approach shifts property analysis away from its traditional focus on "things"; if property is comprised of a bundle of use rights, then it is these use rights—and not the underlying "things" or assets—that must be parceled and allocated to individuals. Accordingly, when Coase turns to examine the rancher-farmer situation, the question he really examines does not concern rights to the land as such, but rather whether the owner or a neighboring rancher has (or should have) the rights to use a piece of farmland for storage of a certain number of runaway cattle heads.⁴⁹ In this sense, Coase offers a real paradigm shift from the traditional notion of "sole

46. See, e.g., *id.* ("It would therefore seem desirable that the courts should understand the economic consequences of their decisions and should, insofar as this is possible without creating too much uncertainty about the legal position itself, take these consequences into account when making their decisions."). Although Coase discusses rules of decision in this excerpt, default rules should give clear guidance as to judicial outcomes if "certainty" is to be attained.

47. See *id.* at 2 (discussing the "reciprocal" nature of the problem of competing uses).

48. See, e.g., *id.* at 5–6 (demonstrating the transaction by which the farmer and rancher determine how to allocate use of the farmland).

49. See *id.* at 2 ("The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A?"); see also Ronald H. Coase, *The Federal Communications Commission*, 2 J.L. & ECON. 1, 34 (1959) ("[W]hether we have the right to shoot over another man's land has been thought of as depending on who owns the airspace over the land. It would be simpler to discuss what we should be allowed to do with a gun."). Coase's position is that where transaction costs are low, the question of ownership of the land is immaterial because the farmer and the rancher would transact for an optimal allocation, with the rancher buying some trampling rights from the farmer (for actual use), or selling some of them to the farmer (for non-use), as the case may be.

and despotic dominion,⁵⁰ as well as from well-established property doctrines such as *ad coelum*.⁵¹

The Coasean analysis is incomplete, I believe, in two respects. First, Coase's analysis is focused on bilateral instances of competing uses and, as such, does not expressly account for the fact that appropriability is a prerequisite of any "well-defined" property rights, at least once we understand the multilateral nature of the problem. Presumably, Coase assumed that any right to use includes a corresponding right to appropriate the returns from an allowed use; the bilateral focus of his analysis has allowed others, however, to use a Coasean-like analysis to suggest that use rights and appropriation rights may diverge.⁵² Second, and more importantly, because Coase does not directly address the issues of appropriability and numerosity, his account of the "thingness" of property is deficient. Both of these shortcomings will be taken up in the following sections.

B. Appropriability and Numerosity

As noted above, Coase suggests that absent transaction costs, the initial allocation of property rights is immaterial, because parties would freely transact to an optimally efficient allocation.⁵³ To the extent that proposition pertains only to the allocation of exclusive use-rights (which stand at the heart of the Coasean analysis), I have no fundamental quarrel with it. However, I believe the proposition to be incomplete, as exclusive use rights solve the tragedy of the commons problem but not the appropriability problem.⁵⁴

Indeed, Coase is careful in framing his examples, limiting them to instances of competition between two generally efficient uses that are

50. BLACKSTONE, *supra* note 8, at *2.

51. See, e.g., Eric Claeys, *Jefferson Meets Coase: Land-Use Torts, Law and Economics, and Natural Property Rights* (George Mason Law & Econ. Research, Working Paper No. 08-20, 2008), available at <http://ssrn.com/abstract=1117999> (arguing that a Coasean approach to land-use torts departs from well established boundary rules, such as *ad coelum*, thereby making tort doctrine less determinate and more costly to administer); Merrill & Smith, *supra* note 2, at 389, 394–95 (noting that there is an information-cost advantage to retaining boundary rules such as *ad coelum*, despite the Coasean critique of such rules).

52. Duncan Kennedy and Frank I. Michelman have taken up the issue of theft; specifically, they argue that absent transaction costs, "there will be no theft." Duncan Kennedy & Frank I. Michelman, *Are Property and Contract Efficient?*, 8 HOFSTRA L. REV. 711, 720–22 (1980). For my discussion of why I believe this argument to be fundamentally flawed, see *infra* Part III.B.

53. Coase, *supra* note 2, at 19 ("[I]f market transactions were costless, all that matters (questions of equity apart) is that the rights of the various parties should be well-defined and the results of legal actions easy to forecast.")

54. See *id.* at 1 ("This paper is concerned with those actions of business firms which have harmful effects on others.")

conflicting yet mutually independent.⁵⁵ For instance, Coase focuses his analysis on the damage caused by cattle *trampling* the crops on a farmer's land.⁵⁶ By contrast, his analysis makes no room for the possibility that a rancher's cattle *graze* a farmer's land, i.e., that a rancher derives a benefit from a farmer's crops—a benefit that essentially requires continued cultivation of the farmer's land.⁵⁷ Similarly, Coase recognizes the possibility that the rancher may have a right to trample the crop (which may or may not trump the farmer's own use rights in her land).⁵⁸ By contrast, Coase does not recognize the viability of a property regime wherein the rancher has a right to *use* the farmer's crops for grazing, or a right to *harvest* those crops and feed them to her cattle.⁵⁹ Thus, Coase's examples clearly deal with only negative externalities; they do not address positive externalities, which are the only externalities that legal appropriability addresses.

Moreover, Coase's examples do not suggest a separation between the right to use and the right to appropriate. In all the examples, the owner of a use right invariably also has the corresponding right to appropriate the returns flowing from that use, with the farmer appropriating the returns from farming (if there are any returns left) and the rancher appropriating the returns from cattle-raising.⁶⁰ To the extent that uses are incompatible, as is the case with farming and ranching, it is the right of use that is curtailed by competing use rights, not the right to appropriate the returns from such use.⁶¹

Nonetheless, because Coase does not explicitly deal with the issue of appropriability, and because his examples are given in the bilateral

55. *See id.* at 2 (observing the conflicting interests of a confectioner's noisy machinery and a doctor's disturbed practice; a rancher's straying cattle and a farmer's destroyed crops; and a business's emission of contaminants and a stream's polluted fish supply).

56. *See id.* at 2–4 (utilizing the straying cattle example in evaluating the pricing system and liability for damages).

57. *See id.* at 4 (assuming that the parties would bargain for non-cultivation of the farmland in order to minimize the damages caused by the invading cattle; the possibility that leaving the land barren would also decrease the rancher's profits is never discussed).

58. *See id.* at 2 (arguing that competing interests in use rights should be resolved not simply by restraining the non-owner, but by determining which harm inflicted is greater and then by avoiding that harm).

59. *See supra* text accompanying note 55.

60. *See id.*

61. Note that this echoes the distinction between economic and legal appropriability. If a rancher has the right to raise cattle and trample a farmer's crop, this would arguably diminish the farmer's economic appropriability, i.e., reduce the farmer's revenue stream. However, as long as the farmer has an exclusive right to appropriate the returns from the crop that is left intact (as well as the right to prevent trampling by erecting a fence, for instance), her legal appropriability remains unaffected.

context, Coase fails to outright reject the proposition that a wedge can be driven between the right to use and the right to appropriate. Hence, he also rejects the proposition that a private property regime may viably exist where, as a default rule, investment and rewards are completely separated and therefore require parties to transact for the purpose of realigning them. Thus, Duncan Kennedy and Frank Michelman, in a seminal article targeting the incentivizing effects of private property, rely on a Coasean-like analysis to assert that even theft is not necessarily inefficient, because:

If there are no transaction costs, there will be no theft, even without the coercive legal institution of property [i.e., without any assurance of appropriability], unless the property is worth more to the thief than to the victim [in which case the theft would arguably be efficient]. Otherwise, the possessor will offer the thief some sum to go away, they will negotiate, and strike a bargain⁶²

This argument is an extreme yet illustrative example of the misguided use that can be made of the Coasean analysis due to its bilateral framing. In a poaching-type situation, however, the competition is not between different *uses*, as in Coase's examples,⁶³ but rather between different *users*, with each user seeking to make the very same use of the underlying resource. In this type of situation, as Kennedy and Michelman suggest, the initial allocation of property rights may be immaterial as between parties that are proximate enough to transact, such as is typically the case in Coase's (and Kennedy's and Michelman's) two-party examples.⁶⁴ For example, a farmer could easily live with a rule that allows her neighbor's cattle to graze her land. After all, it is easy enough to imagine a situation where the farmer would contract with a rancher, or even with several ranchers, for this type of arrangement, charging the rancher(s) a per capita fee. By contrast, it is not trivial to assume that farmers—as a class—could adjust to a rule that allows ranchers—as a class—to intentionally allow cattle to graze the farmers' lands. What is immaterial in the two-party situation gains a whole new meaning vis-à-vis the world at large; the sheer numerosity of putative poachers

62. Kennedy & Michelman, *supra* note 52, at 720.

63. See Coase, *supra* note 2, at 2 (differentiating between uses of various hypothetical users).

64. See Kennedy & Michelman, *supra* note 52, at 720–22 (purporting that negotiation between an owner and a non-owner will occur to prevent theft, regardless of original property rights, if such a transaction will promote efficiency and cut down on transaction costs); see also Coase, *supra* note 2, at 2 (providing examples of two-party conflicts that create incentives to bargain for use rights).

makes a great deal of difference in the analysis, even in the absence of transaction costs.

Consider, for present purposes, the following two problems posed by the numerosity factor. First, in order to achieve an optimal allocation between multiple individuals, a situation with numerous participants would require not only frictionless transacting, but also perfect information and frictionless coordination between all putative poachers. Without meeting these requirements, each poacher would not be able to place a correct value on the crop, because she would not be able to evaluate her competition, and, as a result, her chances of actually seizing the crop (or parts thereof). Assume, for example, that a farmer values the crop at ten units, and three potential poachers each value it at nine units. Unless each poacher *knows* that the two other poachers are competing, one poacher would not be able to place a true value on her utility function of poaching the crop—say, for instance, a utility of three units (assuming that each poacher has an equal probability of one-third that he or she will poach the entire crop). Absent such information, the transaction between the thief and the farmer would readily break down, even if this bilateral transaction were in and of itself costless to execute.

This problem is further exacerbated when a temporal aspect enters the negotiations. In a nutshell, deals between the farmer and potential thieves cannot be struck over time, even absent transaction costs, because each poacher would reevaluate her position following each deal struck between the farmer and another poacher. *Ex post*, the farmer would have no hope of settling with the entire class of poachers at a profitable price, but would instead have to recur ever-increasing sunk costs (in the form of past settlements).⁶⁵ *Ex ante*, a farmer would not undertake to grow the crop absent any hope of reaching effective settlement with the putative class of poachers.⁶⁶

65. In a market with perfect information, the first poacher would be willing to settle for any price above three units. However, once the farmer settled with the first poacher, the remaining two poachers would re-evaluate their positions, and would each place a utility of 4.5 (a probability of 1/2 of attaining 9 units worth of crops) on their poaching efforts, due to the decreased competition resulting from the first poacher's settlement. If one more poacher would settle, the remaining poacher would not settle for anything below nine units. All in all, a farmer settling with the poachers over time would have to pay them over 16.5 units to prevent poaching altogether—well above the utility value of the crop to either the farmer or the poachers.

66. These problems would usually not arise in connection with competing uses because the effects of competing uses are generally cumulative. Thus, a farmer's potential damages would be D_1, D_2, \dots, D_n , with each amount of damage corresponding to the *total* number of cattle heads raised by the farmer's neighbors. Invariably, the identity of the owner of the X_n cattle head is immaterial under these

If these problems sound familiar, this should not come as a surprise. With the removal of protection against poaching, a problem which is not dissimilar to the familiar tragedy of the commons arises, only this time the tragedy occurs at the level of the right to appropriate returns, rather than the right to use the underlying resources. The crux of the problem remains the same: the grant of the right to a single stream of revenue (the farmer's crops) to a class of numerous individuals.

The second problem caused by the numerosity factor deals with the fact that in a nearly infinite class of putative poachers all competing for appropriation of the very same commodity, we witness the breakdown of another implied Coasean assumption that Michelman and Kennedy rely upon: different people place different values on competing uses.⁶⁷ Indeed, in the Coasean two-party model, we could safely assume that the two parties would place different values on each use, thus enabling the transfer of the right to the highest bidder.⁶⁸ However, as the number of parties increases, with each party vying for the same exact use, we would arguably have more parties with very similar preferences. Ultimately, if we were to assume an *infinite* number of putative poachers, we would also have to assume that some members of the class would have preferences that are indistinguishable from those of the owner, i.e., that those members would place the same value on crops as the farmer.⁶⁹ As between the farmer and these putative poachers, the negotiating mechanism breaks down. Neither will settle for anything less than the entire value of the crop, even if the negotiation itself was not costly. In a world where the right to use and the right to appropriate are aligned, this would not pose a problem: the equilibrium would be the status quo, e.g., the farmer would retain both the right to sow and the right to reap. However, where these rights are separated, the *ex ante* realization that a settlement that leaves *any* value in the hands of the farmer is most likely impossible would prevent the farmer from

circumstances. Of course, numerosity of ranchers and/or farmers would probably create problems where transaction costs are consequential.

67. See Kennedy & Michelman, *supra* note 52, at 720–21 (presuming that each victim and thief will be willing to exchange different monetary values for the object in question, depending on their desired uses of the object).

68. This is a fundamentally sound assumption in typical situations, where competing uses are not mutually exclusive. For example, one cow would probably not destroy a whole field (and would be unlikely to escape in the first place). The rancher and farmer would thus not negotiate for ranching *or* farming, but rather for a mutually beneficial (and overall efficient) level of *both* uses.

69. Indeed, where numerous participants are involved, we can assume that a market would develop; in that case, we can assume that every putative poacher would place the market value on the crop, as would the farmer.

taking on the entire endeavor. Indeed, an appropriability problem would arise.⁷⁰

C. Appropriability and “Thingness”

The shift away from a bilateral analysis of property rights to an analysis predicated on the relationships between numerous parties has implications that go far beyond disproving Kennedy’s and Michelman’s nihilistic proposition about theft. In fact, it goes a long way in disproving the more modest nihilistic notions that have plagued the property field in the wake of the Coase theorem, namely the idea that property is just a label one can place on any given set of use rights. The analysis above should make clear that Coase’s requirement of “well-defined” property rights is not as empty a shell as one would initially think.⁷¹ In fact, the numerosity-based analysis demonstrates that protection against poaching and free riding—protection of legal appropriability *against the world at large*—is a prerequisite to any well-defined property regime. Coase’s analysis—like *any* property analysis—cannot stand absent such baseline notions about the substance of property rights.

This understanding of the baseline of property rights gives much credence to the notion of “thingness” of property rights, a notion that was severely undermined by the Coasean analysis.⁷² As noted above, the Coasean analysis breaks away from traditional property notions that underlie this feature of property, such as the *ad coelum* principle, or trespass rules that revolve around physical invasion. This is because the Coasean analysis suggests that there is no *a priori* reason to assume that an owner of a thing should have priority in using that thing for a particular purpose.⁷³ In a Coasean world, the focus of property analysis is shifted from the exclusionary rights of owners with respect to things that are owned—say, a farmer’s right to

70. Nor would the farmer be able to sell the right to farm, because any buyer would be faced with the same problem. The only buyer who would be willing to invest in the land under these conditions would be one who would be able to fend off poachers regardless of the legal regime.

71. Compare Coase, *supra* note 49, at 14 (acknowledging that any property regime would require exclusive rights in resources in order to prevent a state of chaos that would undermine the operation of the market through contracting), with Merrill & Smith, *supra* note 2, at 373 n.68 (commenting that “the only virtue of property Coase mentions [when referring to the state of property-less chaos] is that it facilitates the ability to enter into contracts”). Coase’s point has not been extended, however, to address the appropriability problem.

72. See Merrill & Smith, *supra* note 2, at 373 (highlighting Coase’s focus on property rights as necessary to create contracts so that goods can be bought and sold, rather than the importance of the right to exclude others).

73. See *supra* note 53 and accompanying text.

exclude others from her land—to the respective use rights of owners whose uses may affect one another—say, farmers and ranchers.⁷⁴ Thus, in a Coasean world, legal systems should not be concerned with, or guided by, rules that prevent invasion of another's property. Instead, they should be concerned with and guided by rules that define discrete (and necessarily malleable) use rights, such as the right to raise cattle.⁷⁵

This shift, demonstrated so elegantly by Coase, becomes dramatically less compelling once we realize that *any* allocation of use rights must be made against the backdrop of a property regime that *must* protect appropriability, at least to some reasonable degree. In any property regime, owners *must* enjoy a set of legal rights that would ensure reasonable protection of their investments against an indefinite class of putative poachers. In other words, regardless of any allocation of use rights, owners *must* have a right to exclude putative poachers from the fruits of their labor.

But how can this exclusionary right be translated into a legal norm? Such a norm would have to send a clear exclusionary message to an undefined class.⁷⁶ To achieve that goal, it must (1) draw a clear boundary around the object to be protected for appropriation; and (2) signal this boundary to the world at large. In a perfect world, such a boundary could perhaps be drawn around all the fruits of allowed uses, i.e., those uses to which the owner has a legal right. In the real world, however, owners usually can use their assets in numerous ways⁷⁷ that neither the legal system nor third parties can predict with any certainty. Therefore, drawing a clear boundary around the fruits of specific uses would be impossible. A much more

74. See *supra* notes 55 and 58 and accompanying text.

75. See *supra* note 58 and accompanying text.

76. See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 8 (2000) (presenting a theory on information costs as the basis for the relative homogeneity within property regimes); see also Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 471–74 (2004) (viewing information costs as the basis for retaining the “thingness” of property in the intellectual property field); Merrill & Smith, *supra* note 2, at 385–88 (reasoning that government standardization of property rights is necessary to reduce data-gathering and administrative costs; Molly S. Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885, 910–14 (2008) (recognizing servitude concerns related to notice and information costs in the intellectual property field).

77. To use the “bundle of rights” metaphor, owners usually hold the biggest bundle with respect to the assets they own. This is true even under the Coasean analysis, because the owner usually has all residual use rights, whereas non-owners only have, at best, one or two specific rights to use another's property as a result of spillovers.

viable solution, at least in the case of physical assets,⁷⁸ would be to draw a boundary around each owner's *actual asset*, regardless of the owner's use thereof. Such boundary would be relatively easy to administer and, absent special circumstances, should not be excessively under-inclusive.⁷⁹ A right to exclude putative poachers that is generally coterminous with the boundaries of the underlying asset—i.e., the thing that is owned—would thus best protect appropriability.

This analysis offers a much better understanding of the relationship between the bundle of rights metaphor (in the sense referred to herein) and the notion of “thingness” so prevalent in more traditional analyses of property rights.⁸⁰ It makes plain that “thingness” is not an arbitrary aspect of property regimes. At least when it comes to protection against poaching, it is a requisite feature thereof. Moreover, whatever may be the “reciprocal” nature of the problem of competing use, it must be analyzed against the backdrop of an appropriability problem that is both systemic and entirely unidirectional (i.e., a problem pertaining to an outside threat to owners), and must be solved against a set of rules that must also address that appropriability problem effectively.

Notably, this conclusion is not contrary to the Coasean analysis. It merely suggests that when the Coasean analysis is applied correctly, it must account for the numerosity factor and for the need to ensure appropriability. In these situations, this conclusion would generally require a default allocation that would include a right to exclude

78. Cf. Long, *supra* note 76, at 473 (arguing that the problem of defining alternative boundaries, combined with the information costs associated with intangible ideas, have required intellectual property regimes to adhere more strictly than tangible property regimes to a clear definition of the thing that is protected: well-specified “claims” in the case of patents, or a specific expression made in tangible form in the case of copyrights).

79. Situations in which a large proportion of the benefits from a specific use spill over into the property of another are generally rare.

80. Many post-realist scholars have argued that the traditional notion of “thingness” is merely a naïve, layperson's account. See, e.g., ACKERMAN, *supra* note 17, at 26–31, 97–103 (claiming that the pervasive legal view of property is of the relationships arising among people with respect to things, rather than the relationship between a person and his things); Grey, *supra* note 3, at 69 (contrasting a layperson's view of property as things owned by people with a specialist's understanding of property as a bundle of rights). Others have countered by arguing that any account of property that overlooks its “thingness” is incomplete. See Merrill & Smith, *supra* note 2, at 397–98 (suggesting that by completely ignoring an *in rem* dimension of property, modern commentators in the field of law and economics have a distorted and incomplete understanding of property rights); see also Long, *supra* note 76, at 473 (suggesting that “[a] question is beginning to emerge . . . in the literature: Why do these two conceptions of property proper—those of the layperson and the specialist—continue to coexist?”).

poachers from the entire thing that is owned as the best approximation of what transacting parties would agree to in a frictionless world. Whether the right to exclude poachers should be extended also to non-poachers in every single case, as trespass law suggests, is a separate question which goes well beyond the scope of this paper.⁸¹ Intuitively, however, the appeal of such an extension is clear, at least in terms of simplifying the administration of the anti-poaching rule; the invasion test affords an easy resolution of a huge bulk of cases. By contrast, the “classic” ad hoc Coasean analysis should apply with full force to noninvasive competing uses traditionally handled under the doctrinal heading of nuisance law.⁸² As Coase suggested, these disputes should be resolved clearly in order

81. One way of looking at this question would be through the Coasean analysis. Under that analysis, we may assume that owners must have a right to exclude one undefined class: poachers. By contrast, it is usually unimportant whether owners have a right to exclude a second undefined class: competing uses. Nor is it important whether the use rights of that class trump those of the owner. Under these circumstances, it would generally be much easier to concentrate all exclusionary powers in the hand of one agent—the owner—instead of dispersing them, since this would create a clear boundary rule and dramatically reduce information costs.

Another way of looking at this question would be to assess the effectiveness of a right to exclude that is good only against poachers. It should be noted that such a right could create considerable problems for owners. Most notably, in many cases, owners would not be able to distinguish poachers from non-poachers. Take, for example, the rancher-farmer situation. When a farmer is faced with cattle on her land (or cattle threatening to invade her land), she has no way of knowing whether the cattle got there by accident (competing use) or intentionally (poaching). In most cases, a judicial determination of this question would be ineffective (in terms of protecting the farmer’s *ex ante* incentives), because it would have to be made *ex post*. Such a determination would involve an inquiry into the intent of the rancher that would likely be prolonged, costly, and uncertain in its results, like any inquiry into subjective issues (even if some objective indications thereto may be used to facilitate it). With every additional competing use that would be allowed to invade the farmer’s land, the problem of distinguishing poachers from non-poachers would be exacerbated. With each such use, the farmer’s ability to exclude poachers would be undermined, and her incentive to (efficiently) invest in her tract of land would diminish. Ultimately, if too many invasive competing uses are allowed on the farmer’s land, the farmer would find herself forced to choose between over-enforcement (which would lead to constant bickering and subsequent liability) and relinquishment of all *ex ante* enforcement efforts in favor of costly, ineffective, *ex post* protection. The law of trespass, essentially forbidding *all* physical invasions, as well as the *ad coelum* principle that underlies it, may be justified, at least in part, by this very problem.

82. As the previous footnote suggests, they would also apply to situations where a right to invade is exceedingly efficient and transaction costs are high. Such instances are somewhat rare, but they do exist, especially when invasions are not intrusive, such as in the case of air travel, broadcasting, etc. These instances require a streamlining of property rights. See, e.g., 49 U.S.C. § 40103(a)(2) (2000) (granting all citizens a common “right of transit through the navigable airspace” of the United States).

to facilitate contracting for efficient allocation.⁸³ Where transaction costs are minimal, these cases could essentially be resolved arbitrarily, so long as the arbitrary rule is clear. Where transaction costs are significant, resolution would have to be based on an ad hoc, cost-benefit analysis of the uses involved, in an attempt to replicate the ultimate allocation that would have been reached absent transaction costs. In either case, the allocation of competing use rights operates against the backdrop of a “baseline” in the form of a necessary set of exclusionary rights that ensure a reasonable level of legal appropriability.

IV. APPROPRIABILITY AND SERVITUDES

A. *The Law of Servitudes*

Another longstanding area of property law that reflects rationales of appropriability, and that demonstrates the erosion of these rationales due to misconceptions concerning the role of economic analysis in property law, is the law of servitudes.⁸⁴ Traditionally, the common law was generally hostile towards servitudes, but the manifestation of that hostility was marked by a sharp distinction between servitudes on land and servitudes on other types of assets.⁸⁵ Courts have recognized servitudes on land for many centuries, albeit subject to multiple limitations on the type, scope, and duration of the servitudes that may be imposed.⁸⁶ Private ordering in the post-sale context was thus limited and highly regulated.⁸⁷ By contrast, servitudes on other types of assets—chattels in general and intellectual property-based products in particular—have been

83. See Coase, *supra* note 2, at 8–10 (providing an example of a situation in which a court’s judgment between conflicting businesses served to promote orderly apportionment of the use of certain property in the future).

84. A servitude is “a charge or burden on an estate for another’s benefit.” BLACK’S LAW DICTIONARY 1373 (7th ed. 1999). I will refer to a “servitude” as any limitation on the use of property that “runs” with the property, i.e., that survives the sale of the property to another.

85. See *infra* notes 89 and 92 and accompanying text.

86. See, e.g., Susan F. French, *Toward a Modern Law of Servitudes: Reweaving the Ancient Strands*, 55 S. CAL. L. REV. 1261, 1262 (1982) (“Private arrangements that bind particular burdens or benefits to the occupier of land have been known to the common law since medieval times.”).

87. See, e.g., *id.* at 1265 (“Because these devices are both useful and dangerous, courts have responded to them with understandable ambivalence, allowing their use at some times, for some purposes, for some people, and preventing their use for others.”).

rejected outright by the courts.⁸⁸ Two major studies by Zechariah Chaffee, performed in 1928 and 1956, demonstrated how, for hundreds of years, the common law held that servitudes on chattels harm commerce because they restrict alienation, remove assets from the stream of commerce, and are anticompetitive.⁸⁹ Chaffee noted that common law courts had repeatedly found that servitudes on chattels violated public policy and were unenforceable.⁹⁰ Servitudes on intellectual property products have similarly been rejected, albeit under a unique doctrine—the first-sale doctrine, also known as the exhaustion doctrine. As developed by the Supreme Court in the late 19th century, the first-sale doctrine holds that once a product manufactured under a patent or copyright is sold to another, the seller no longer holds an intellectual property right to restrict further resale (in the case of both patent and copyright) or use (in the case of patent rights only⁹¹) of that specific product.⁹²

In recent years, however, the property doctrines curtailing post-sale encumbrances have lost much of their force. This is perhaps best seen in the intellectual property field. The first-sale doctrine, which was developed as a bright-line property rule that delineates the rights of individuals in assets vis-à-vis the world at large, was recast by courts as an (intellectual property-related) antitrust doctrine focused on the competitive effects of bilateral vertical agreements.⁹³ Consequently, the change in economic and legal assessment of vertical restraints led courts to conclude that the doctrine is based on shaky foundations,⁹⁴

88. See Zechariah Chaffee, Jr., *Equitable Servitudes on Chattels*, 41 HARV. L. REV. 945, 954–56 (1928) (reviewing the consistent practice of modern courts, both in the United States and in England, of striking down equitable servitudes on chattels).

89. *Id.* at 987–89; Zechariah Chaffee, *The Music Goes Round and Round: Equitable Servitudes and Chattels*, 69 HARV. L. REV. 1250, 1261–62 (1956). Servitudes on land have attracted more analysis, some of which will be discussed in further detail.

90. Chaffee, *supra* note 88, at 954–56.

91. The issue of use was never raised in the context of copyright because the right to use the copyrighted work was never one of the exclusive enumerated rights under the copyright laws. Therefore, traditional copyright jurisprudence considered *any* restriction on use (other than restrictions against specific uses such as broadcast, etc., that are expressly allowed under the Copyright Act) to be outside the scope of the copyright grant.

92. See 17 U.S.C. § 109 (2000) (“[T]he owner of a particular copy or phonorecord lawfully made under this title, or any person authorized by such owner, is entitled, *without the authority of the copyright owner*, to sell or otherwise dispose of the possession of that copy or phonorecord.” (emphasis added)).

93. See *infra* note 94 and accompanying text.

94. In a string of decisions spanning the last thirty years, the Supreme Court gradually declared every type of vertical restraint (most recently including vertical resale price maintenance) to be subject to a rule of reason analysis, overturning decades of decisions treating such restrictions as per se illegal under the antitrust laws. See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705, 2718–20 (2007) (holding that vertical minimum price fixing is not per se illegal), *overruling*

causing its near demise.⁹⁵ Similar developments have taken place—albeit to a lesser extent—in connection with servitudes on land and on chattels.⁹⁶ These jurisprudential developments deserve a more thorough analysis than the one I will offer here. At this juncture, I wish to take issue with a notion that seems to have allowed courts to get away with the implementation of these far reaching changes to the law with very little analysis, namely that servitudes are somehow a “natural” incidence of ownership.⁹⁷ The appropriability analysis, properly applied, indicates that traditional servitude rules were fully justified. Servitudes may be justified in certain contexts, such as the real estate context, but are clearly *not* part of any core notion of property rights.

B. Property and Contract: Two Levels of Property Rules

The preceding sections have demonstrated that property rules operate on two distinct levels. On one level, private property rules operate first and foremost to ensure legal appropriability and prevent poaching—to solve the appropriability problem—while residually, as a consequence, allocating some use rights. These are basic roles that

Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373 (1911); State Oil Co. v. Khan, 522 U.S. 3, 18–19 (1997) (holding that vertical maximum resale price fixing is not per se illegal), *overruling* Albrecht v. Herald Co., 390 U.S. 145 (1968); Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 57 (1977) (holding that vertical geographic division of markets is not per se illegal), *overruling* United States v. Arnold, Schwinn & Co., 388 U.S. 365 (1967).

95. See *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992) (holding that patentees may impose servitudes on patented goods, and that previous first-sale cases stood only for the proposition that no such encumbrances apply as a default). But see *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109, 2115–22 (2008) (holding that the doctrine of patent exhaustion prevents manufacturers from asserting patent rights after an item's initial authorized sale). In the copyright field, courts allowed software manufacturers to completely evade the doctrine by finding that software is “licensed” rather than sold to end users. See, e.g., *Microsoft Corp. v. Harmony Computers & Elecs., Inc.*, 846 F. Supp. 208, 212–13 (E.D.N.Y. 1994) (requiring that a party trace the purchase of a product to an authorized seller in order to invoke the first-sale doctrine as a defense to copyright infringement); *Microsoft Corp. v. ATS Computers*, No. 93-1273, 1993 U.S. Dist. LEXIS 21132, *16–18 (S.D. Cal. 1993) (determining that products distributed through licenses, not sales, are ineligible to invoke the first-sale doctrine); *ISC-Bunker Ramo Corp. v. Altech, Inc.*, 765 F. Supp. 1310, 1331 (N.D. Ill. 1990) (finding that the first-sale doctrine applies only when a copyright holder has sold his work, but he retains control over distribution when his work has only been licensed).

96. See, e.g., Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1464–80 (2004) (noting several cases that have relaxed or ignored the rule against servitudes on chattels); A. Dan Tarlock, *Touch and Concern Is Dead, Long Live the Doctrine*, 77 NEB. L. REV. 804, 812 (1998) (discussing the abandonment of the requirement in the Restatement (Third) of Property: Servitudes that servitudes on land “touch and concern” the servient land).

97. See Robinson, *supra* note 96, at 1462 (arguing that a fundamental concept in property rights is the ability to restrict use embedded within the ability to transfer).

every private property regime must fulfill. On this level, property's rigidity, "thingness", and *in rem* nature are most apparent.

On a second, "higher" level,⁹⁸ property rules sometimes operate specifically to allocate use rights in situations where transaction costs are substantial, i.e., where contractual mechanisms for the allocation or reallocation of use rights break down. In this role, property rules become much more nuanced and complex: such rules attempt to emulate contractual allocations and to strike a delicate balance between the benefits of finely-tuned allocations and the information and administrative costs associated with deviations from the relatively clear "thingness" model of property. In these situations, the main goal of such allocative property rules is not to solve any of the overarching problems that we have identified; instead, these rules are intended to solve idiosyncratic problems that essentially lie *in the realm of contract law*.

This distinction is illustrated in Figures I and II below. In Figure I, property rules operate to ensure legal appropriability and exclusivity of use, and nothing more; once these are achieved, owners are free to utilize the upper layer—contract law—to transact with proximate parties for the efficient exploitation of their mutual resources. In Figure II, property rules still ensure legal appropriability and exclusivity of use (as they must). However, in certain discrete instances, where the second layer—contract law—fails, governmental regulation utilizes property-like rules to overcome these failures and extend certain use rights that emulate contractual transactions. Importantly, in this second level, these property rules do not *facilitate* contracts, but rather *replace* them.

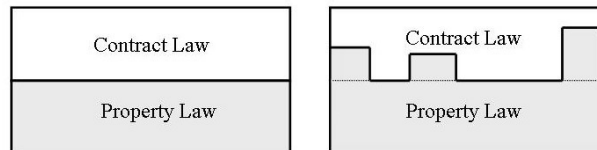


Fig. I

Fig. II

This distinction should guide our determinations regarding the optimal scope of property rights. In general, their scope should be limited to the assurance to owners of appropriability and exclusivity of use. Deviations from this baseline must be justified either by the problems underlying private property at large (namely the

98. I refer to this level as "higher" because it assumes the existence of, and builds upon, the first "lower" level.

appropriability problem and the tragedy of the commons), or by a specific breakdown in the contracting mechanism that requires realignment of use rights.

This insight allows us to better evaluate the place of servitudes within property law, i.e., whether they can justifiably be considered to be a normal or integral instance of ownership. Importantly, I do not attempt at this juncture to evaluate the desirability of servitudes, or any other type of property-type, post-sale restrictions in any given situation. My point is much more modest: simply put, servitudes and other post-sale restrictions cannot be justified by either of the two overarching problems that underlie property regimes. By definition, because they operate post-sale, i.e., *post-appropriation*, they have nothing to do with exclusivity of use, nor can they promote protection against poaching. Of course, it is possible that the availability of servitudes would increase a seller's return in a given situation, i.e., increase her *economic appropriability*. However, as noted, economic appropriability should not guide us in determining the scope of property rights.⁹⁹ It is also possible that servitudes would be welfare-enhancing in certain instances, because of some breakdown in the contractual mechanism that they help to overcome; the following section suggests that this is exactly the case in the field of real property. However, an idiosyncratic failure of contracts cannot justify an overarching principle of property law. Absent some direct link between servitudes and either of the problems underlying property regimes in general, servitudes have no place as part of any baseline notion of property rights; they operate entirely at the "higher" level of property regimes.

C. *The Case of Real Property*

The former conclusion begs the question of real property servitudes. Real property servitudes, after all, are a well-established common law institution dating back to the sixteenth century (and as such, are heavily relied on by commentators for the conclusion that servitudes are a "normal" instance of ownership).¹⁰⁰ If servitudes are

99. See *supra* note 98 and accompanying text (purporting that a specific focus on allocation of use rights lies in the realm of contract law, and should not be the basis of defining a property regime).

100. English courts first recognized covenants that run with the land—i.e., that bind subsequent assignees—in *Spencer's Case*, 77 Eng. Rep. 72 (K.B. 1583). Robinson recognizes this unique justification for servitudes on land, and also concedes that these have no direct counterpart in personal property, but nonetheless contends that the distinction between real and personal (or intellectual) property is "not . . . substantively important." Robinson, *supra* note 96, at 1461.

not an integral part of property, as I argue, one might wonder why servitudes on land have successfully survived as a legal institution for the last five centuries. The explanation, I believe, lies in the special nature of land as an asset; the inherent interdependence between tracts of land leads to an idiosyncratic breakdown in contractual mechanisms—the very type of breakdown that the former section suggested would justify an extension of property rules beyond their appropriability-based baseline in certain situations. Real property servitudes thus reinforce, and may be seen as an example of, the foregoing analysis.

I have argued elsewhere that property-type, post-sale restrictions are generally justified wherever a seller retains a legitimate interest in the very thing that it sells, regardless of the title thereto.¹⁰¹ For example, I have argued that sellers of copyrighted goods should be allowed to impose property-type, post-sale restrictions that would protect the integrity of their works where—and only where—mutilation of these works (post sale) would undermine the reputation of the seller and impact the value of her entire body of work.¹⁰² The underlying idea that guides this proposition is that some assets are inherently interdependent, i.e., their nature is such that the use made of one asset (a work of art, for instance) affects, or even controls, the value of others (other works of art by the same artist).

Real estate fits this bill perfectly, and is probably the quintessential interdependent asset. The “neighborhood effects” associated with real estate cause the use of any tract of land to have direct and immediate effects on the value of neighboring tracts. It is therefore not surprising that the early, paradigmatic cases involving real property servitudes involved two-party transactions where the owner of a large tract of land sold off one parcel of that tract while retaining others, thereby effectively transacting to share the larger tract with the buyer and her assignees.¹⁰³ The interdependence of the two assets is central to these transactions; if the seller could not ensure that the

101. Yonatan Even, *The Right of Integrity in Software: An Economic Analysis*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 219, 253 (2006) (focusing on the nature of particular chattels which give rise to a continued economic interest of the seller after the sale). The context there was the right of sellers to protect the integrity of copyrighted works they have sold, which is widely recognized in civil law countries as part of artists' *droit moral* and that was recognized by statute in the United States with regard to certain visual works of art. See Visual Artists Rights Act of 1990, Pub. L. No. 101-650 § 601, 104 Stat. 5089, 5128 (codified at 17 U.S.C. § 106A (2007)) (providing federal copyright protection to moral rights of artists, regardless of physical ownership).

102. See Even, *supra* note 101, at 253.

103. See Tarlock, *supra* note 96, at 812 (noting that the central servitude model has been the two-party “use sharing” system).

sold parcel would never be used in a way that would damage the seller's remaining tract, she would refrain from entering into the transaction in the first place. As recognized by the Chancery Court in *Tulk v. Moxhay*,¹⁰⁴ this conclusion was the *raison d'être* for enforcement of real property servitudes:

That this Court has jurisdiction to enforce a contract between the owner of land and his neighbour *purchasing a part of it*, that the latter shall either use or abstain from using the land purchased in a particular way, is what I never knew disputed . . . it is . . . contended, not that the vendee could violate that contract, but that he might sell the piece of land, and that the purchaser from him may violate it without this Court having any power to interfere. *If that were so, it would be impossible for an owner of land to sell part of it without incurring the risk of rendering what he retains worthless.*¹⁰⁵

In recent years, the law of real property servitudes has been applied to slightly different, multi-party settings involving residential community associations (RCAs).¹⁰⁶ This change in application does not undermine the basic analysis. As in the two-party model, individuals living in RCAs opt to share a given space—be it a condominium, a gated community, or another type of RCA.¹⁰⁷ Real estate developers, who initially own these residences in their entirety, stand in a unique position because they hold all the foreseeable future interests of the association in unified form before the interests become dispersed between several residents and thus

104. 41 Eng. Rep. 1143 (Ch. 1848).

105. *Id.* at 1144 (emphasis added). The case involved the sale of London's Leicester Square by the original owner of that square and several adjoining houses. *Id.* at 1143. The sale was made under condition that the buyer and his assignees shall maintain the square as a garden for the enjoyment of the residents of the adjoining houses, i.e., the seller and his tenants. *Id.* The case was brought after a subsequent buyer of the square announced his intention to build houses upon it, arguing that he was not privy to the original covenant. *Id.* at 1143–44. Note that the problem discussed in the case is not dissimilar to an appropriability problem—a failure to ensure the future of an investment results in under-utilization of resources.

106. See Uriel Reichman, *Toward a Unified Concept of Servitudes*, 55 S. CAL. L. REV. 1177, 1184 (1982) (noting the prevalent use of servitudes during the twentieth century to regulate private residential subdivisions and communities); Tarlock, *supra* note 96, at 812 (evaluating the modern use of servitudes in common interest communities as a vitally important tool to “enhance the quality of living for their members and help guarantee the value of the property investment”). RCAs (sometimes also referred to as common interest communities) have become tremendously popular in the United States over the last thirty-five years, their number leaping from a mere 10,000 communities housing a little over two million residents in 1970, to a whopping 300,800 communities housing about 59.5 million residents in 2008. COMMUNITY ASSOCIATION INSTITUTE, INDUSTRY DATA: NATIONAL STATISTICS (2009), <http://www.caionline.org/info/research/Pages/default.aspx>.

107. See, e.g., Reichman, *supra* note 106, at 1184 (discussing how a system permitting individuals to enter into free market transactions to share and allocate common use rights promotes efficiency).

susceptible to corrupt incentives. Developers therefore use servitudes to write “constitutions” for such associations that would run with the residences, regardless of changes in tenancy. In this way, they coordinate *ex ante* between multiple subsequent buyers in an effort to prevent coordination problems, opportunistic behavior, and other problems resembling tragedies of the commons *ex post*.¹⁰⁸

In both the traditional two-party setting and the RCA setting, efficient utilization of resources thus *requires* legal mechanisms that attach to assets and “run” with them. Contract law, however, was designed to attach to individuals, not assets. Specifically, contract law’s privity requirement is intended to *prevent* contracts from obliging anyone who was not party to the “meeting of the minds” that formed the contract, and courts have traditionally held that assignees of the original buyer of servient lands were members of that class.¹⁰⁹ Courts were thus faced with a breakdown in contractual doctrine, the results of which created clear inefficiencies in allocation of resources.

Courts could have solved these problems within contract law doctrine, for instance, by relaxing the privity requirement in certain situations. However, the problems that arise due to interdependencies between assets do resemble the appropriability and tragedies of the commons problems underlying property law.

108. As many commentators have noted, the rulemaking powers of the developer—and, subsequently, of the association—raise considerable concerns with regard to the powers’ encroachment on general constitutional rights of tenants and would-be tenants, as well as their effects on the role of local governments. *See, e.g.,* Todd Brower, *Communities Within the Community: Consent, Constitutionalism, and Other Failures of Legal Theory in Residential Associations*, 7 J. LAND USE & ENVTL. L. 203, 204 (1992) (noting that “[a]s common interest developments proliferate, their characteristics as residential governments pose questions about longstanding relationships between the individual and the community, and of private groups to the public as a whole”); Susan F. French, *The Constitution of a Private Residential Government Should Include a Bill of Rights*, 27 WAKE FOREST L. REV. 345, 346–47 (1992) (highlighting the substantial loss of freedom that property owners in common interest communities must give up, juxtaposed by developers’ nearly limitless ability to create restrictions as embodied in associations’ constitutions); Steven Siegel, *The Constitution and Private Government: Toward the Recognition of Constitutional Rights in Private Residential Communities Fifty Years After Marsh v. Alabama*, 6 WM. & MARY BILL RTS. J. 461, 468–70 (1998) (detailing the significant lack of bargaining power that homebuyers in today’s housing market possess, giving RCAs considerable and largely un-checked authority to impose restrictive servitudes); Angel M. Traub, Comment, *The Wall Is Down, Now We Build More: The Exclusionary Effects of Gated Communities Demand Stricter Burdens Under the FHA*, 34 J. MARSHALL L. REV. 379, 382–83 (2000) (discussing use restrictions employed in common interest developments, and particularly in gated communities that are developed and carried out by housing associations and can govern the use and tenancy of the property).

109. *See* Reichman, *supra* note 106, at 1213–14 (explaining the development of the law from the requirement of privity of contract to property’s privity of estate, providing a specific exception allowing an obligation to bind a person not party to the contract).

Moreover, property law's *in rem* nature provided a simple, though overbroad, solution to the shortcomings of the proximity requirement. In property law, the right of an owner is good against the world, and thus is also good against any assignees of a buyer under a property-type post sale restriction, or servitude. It should therefore come as no surprise that most courts have extended property law to solve what started out as a problem with contract doctrine.¹¹⁰ And yet, courts never considered this extension to represent anything like a "natural incidence" of ownership; far from it. In fact, courts have been painfully aware that real property servitudes are an exceptional mechanism, and have allowed them only in certain discrete situations. Most notably, following *Spencer's Case*¹¹¹ and *Tulk v. Moxhay*, courts have required that servitudes "touch and concern" both the servient and the dominant tracts.¹¹² However vague that requirement is, it does ensure that servitudes can *only* be imposed in cases of interdependence where the use of the servient tract directly affects the dominant tract and property-type PSRs are thus justified.¹¹³ Real property servitudes that "run" with the land are therefore an exception to the scope of ownership, and not a natural incidence thereof.¹¹⁴

110. In the United States, equitable servitudes like those recognized in *Tulk v. Moxhay* were initially regarded by courts as contractual, i.e., as "obligations specifically enforced in equity against third party [with notice thereof]." *Id.* at 1226. Thus, courts used equity to circumvent the shortcomings of the proximity requirement. Eventually, however, these servitudes—along with easements and real covenants—came to be regarded as interests in land. *Id.* at 1225–27.

111. 77 Eng. Rep. 72 (K.B. 1583).

112. See Tarlock, *supra* note 96, at 817–21 (providing a brief overview of courts' treatment and application of the "touch and concern" test, requiring that the covenant must relate to the physical use of the land and that the original grantor must have intended the burden to "run with the land").

113. Relying on the Restatement (Third) of Property, which substituted certain reasonableness tests for the longstanding touch and concern doctrine, Robinson suggests that the doctrine no longer applies to real property servitudes. See Robinson, *supra* note 96, at 1461 n.36. Robinson ignores the fact that the Restatement's position was harshly criticized when it was first adopted. See, e.g., Tarlock, *supra* note 96, at 811 (noting that "the Restatement . . . strikes out in a new direction that has quite limited academic and judicial support"). Additionally, the Restatement failed to eradicate the use of the doctrine by the courts. See Ben W.F. Depoorter & Francesco Parisi, *Fragmentation of Property Rights: A Functional Interpretation of the Law of Servitudes*, 3 GLOBAL JURIST FRONTIERS Issue 1, art. 2, 11 & 11 n.31 (2003), available at <http://www.bepress.com/gj/frontiers/vol3/iss1/art2/> (noting, based on a survey of decisions found on Lexis, that "despite the[] efforts by scholars and the drafters of the Third Restatement, touch and concern remains is [sic] very much alive in the case law today" and is "a permanent fixture in the case law on land use arrangements").

114. Richard Epstein argued that the only limitation on the scope and context of servitudes should be the availability of a reliable recordation system that would give adequate notice to third parties, and that the information costs associated with such recordation systems stand at the basis of the distinction between servitudes on land

Could servitudes be justified in other instances, outside the real property context? Of course. However, such an extension cannot be simply transferred from the realm of real property, nor can it rely on property notions. Real property servitudes essentially operate in the realm of contract law. To extend their application, one would have to be convinced that similar breakdowns of the contractual mechanism plague the relevant context (such as in the case of certain works of art). At least facially, no such general proposition can be made in connection with either chattels or intellectual property products. Thus, the traditional common law distinction between servitudes on land and servitudes on other types of property seems to accurately reflect the calls of legal appropriability.

V. APPROPRIABILITY AND TAKINGS

The last area of law that I focus on, the law of takings, is rather unique. Regulatory takings, it should be noted, stand outside regular notions of ownership and the conveyance of property; they are involuntary transfers that are the result of centralistic planning and have little to do with free market mechanisms. Nonetheless, takings are very relevant to any discussion of property rights. Indeed, some of the most elaborate academic and judicial discussions regarding the scope and protection of property rights under U.S. law revolve around the Takings Clause of the Fifth Amendment of the U.S. Constitution, arguably the Constitution's foremost manifestation of substantive protection of property rights.¹¹⁵

(where recordation is relatively easy) and servitudes on chattels (where, according to Epstein, recordation would be costly due to the dynamic nature of the underlying assets). Richard A. Epstein, *Notice and Freedom of Contract in the Law of Servitudes*, 55 S. CAL. L. REV. 1353, 1353-55 (1982). Epstein's analysis, I believe, confuses cause and effect. To be sure, information costs played a part in the development of recordation systems. However, recordation systems are very costly and affect the owners of all assets, even those that are not encumbered. Moreover, as Epstein acknowledges, servitudes on land were recognized by courts long before the emergence of reliable recordation systems. *Id.* at 1354. Recordation systems are therefore best viewed not as a reason for the distinction between servitudes on land and on chattels, but rather as an administrative solution that was created *in response* to the real necessity in servitudes on land that was recognized by courts.

115. Although substantive property rights can be, and occasionally have been, found under the Due Process Clause, in recent decades the focus of substantive constitutional protection of property rights has shifted squarely to the Takings Clause, either alone (where the federal government is concerned) or, in most cases, in conjunction with the Fourteenth Amendment's Due Process Clause (where states are involved). See JOHN V. ORTH, *DUE PROCESS OF LAW: A BRIEF HISTORY* 92 (2003) ("Now that substantive due process is almost exclusively concerned with noneconomic rights, the takings clause has gained new salience in economic cases."); see also BERNARD H. SIEGAN, *PROPERTY RIGHTS FROM MAGNA CARTA TO THE FOURTEENTH AMENDMENT* 119 (2001) (observing that constitutional protection of property rights can also be found in the Third Amendment (protection against quartering soldiers

The Fifth Amendment, in rather laconic fashion, forbids governmental takings of private property (for public use) without just compensation.¹¹⁶ It appears clear from the text of the Clause that it should apply to outright condemnation of property by the government. However, its applicability to governmental acts, which fall short of outright condemnation but nevertheless have adverse effects on the value of private property, is nowhere as clear. For nearly a century courts and commentators alike have grappled with this question, trying to demarcate a distinction between compensable and noncompensable governmental regulation of property.¹¹⁷ In the following pages, I examine the role of appropriability in this demarcation exercise; the definition of a “taking” of “property”, I argue, is informed, to a large extent, by basic intuitions about appropriability and its role in the law of property.

A. *Current Supreme Court Law*

A complete analysis of current takings jurisprudence is beyond the scope of this paper. For present purposes, an overview of the Supreme Court’s discussion in *Lucas v. South Carolina Coastal*

on private property), the Fourth Amendment (protection against unreasonable search and seizure of property), the Eighth Amendment (protection against excessive bails and fines), and, according to some commentators, also in the Second and Seventh Amendments (the right to keep and bear arms and the right to a jury trial for economically substantial controversies)).

116. See U.S. CONST. amend. V (“[N]or shall private property be taken for public use, without just compensation.”).

117. See, e.g., *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 435–40 (1982) (law requiring landlords to allow placement of cable boxes on their property constitutes a compensable taking); *Andrus v. Allard*, 444 U.S. 51, 66–67 (1979) (prohibition on the sale of eagle feathers is not a compensable taking); *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 136 (1978) (law prohibiting the plaintiff from constructing an office building above its train terminal was not a taking of air rights, because it did not interfere with the terminal’s current use or the plaintiff’s ability to obtain a reasonable financial return on its investment); *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 414 (1922) (law prohibiting the extraction of underground coal deposits that might harm buildings on the surface constitutes a compensable taking, because “mak[ing] it commercially impracticable to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it”); *Hadacheck v. Sebastian*, 239 U.S. 394, 412 (1915) (law prohibiting the operation of a brickyard was not a compensable taking because it did not prohibit the extraction of clay from which bricks were produced); *Mugler v. Kansas*, 123 U.S. 623, 668–69 (1887) (law prohibiting the manufacture of alcoholic beverages was not a compensable taking of property, but rather “a declaration by the state that its use . . . for certain forbidden purposes, is prejudicial to the public interests”). Indeed, the Supreme Court has acknowledged that the distinction between compensable and non compensable takings revolves around “essentially ad hoc, factual inquiries,” *Penn Cent.*, 438 U.S. at 124, and depends mostly “upon the particular circumstances [of the particular] case,” *United States v. Cent. Eureka Mining Co.*, 357 U.S. 155, 168 (1958).

*Council*¹¹⁸ is sufficiently illustrative of the meandering route taken by the Court on this issue.¹¹⁹ *Lucas* revolved around the 1988 South Carolina Beachfront Management Act, which purported to regulate the use of South Carolina's beach line by prohibiting construction of "occupiable improvements" upon certain oceanfront properties.¹²⁰ The plaintiff, David Lucas, had purchased two oceanfront lots prior to the Act's enactment, and intended to use them for the construction of two single-family homes.¹²¹ Lucas filed suit and the trial court found that the Act effectively deprived Lucas "of any reasonable economic use of the lots . . . and rendered them valueless."¹²² The question before the Supreme Court was whether this effect of the statute's regulations constituted a taking that entitled Lucas to just compensation, even though Lucas retained possession of the lots.¹²³

Justice Scalia, writing for the Court, noted that early decisions took a narrow view of the Takings Clause, limiting its reach only to "direct appropriation" of property or the functional equivalent of an "ouster of the owner's possession."¹²⁴ The Court first departed from this view in *Pennsylvania Coal Co. v. Mahon*,¹²⁵ where Justice Holmes, invoking the fear of a slippery slope effect whereby "the natural tendency of human nature [would be] to extend the [regulatory] qualification more and more until at last private property disappeared,"¹²⁶ held

118. 505 U.S. 1003 (1992).

119. *See id.* at 1014–19, 1022–26 (discussing in detail the Court's previous holdings, and emphasizing that its decision in this case was not meant to overrule precedent).

120. *Id.* at 1008–09.

121. *Id.* at 1008.

122. *Id.* at 1009 (quoting appendix to petition for certiorari).

123. The trial court's findings were the basis for grant of certiorari in the case. However, following a hearing, four of the justices raised serious doubts as to its correctness. *See id.* at 1033–34 (Kennedy, J., concurring) (asking whether a permanent taking had actually occurred and whether Lucas's property had been "rendered valueless"); *id.* at 1046–47 (Blackmun, J., dissenting) (questioning why the Court issued a new categorical rule to decide a very narrow case, given the nuisance caveat); *id.* at 1065 n.3 (Stevens, J., dissenting) (highlighting a "fundamental weakness in the Court's analysis: its failure to explain why only the impairment of 'economically beneficial or productive use' . . . of property is relevant in takings analysis," which is an arbitrary distinction) (emphasis in original); *id.* at 1076 (Souter, J., dissenting) (opining that certiorari was improperly granted because the "questionable conclusion of total deprivation cannot be reviewed").

124. *Id.* at 1014 (quoting the Legal Tender Cases, 79 U.S. (12 Wall.) 457 (1870) and *Transp. Co. v. Chicago*, 99 U.S. 635 (1878)).

125. 260 U.S. 393 (1922).

126. *Lucas*, 505 U.S. at 1014 (citing *Penn Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922)).

that “while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.”¹²⁷

The Court in *Lucas* extended this view and created a rule whereby any regulation that “denies *all* economically beneficial or productive use of land” is categorically a compensable taking,¹²⁸ with one exception: where such regulation prohibits use that constitutes a common law nuisance, and therefore only prohibits uses that the owner was never entitled to (nor had a reasonable expectation to be entitled to).¹²⁹ In response to criticism from one dissenting Justice,¹³⁰ the Court acknowledged the possibility that regulation which falls short of complete deprivation of all value of affected properties may also be compensable in some rare cases, but refrained from outlining the circumstances that might result in such compensation being awarded.¹³¹ Instead, the Court emphasized the broad power of government to affect property values by regulation without incurring an obligation to compensate.¹³² Furthermore, the Court limited its holding to regulation of land, finding that regulation of uses of personal property can *never* constitute a compensable taking “by reason of the State’s traditionally high degree of control over commercial dealings [which should have made owners] aware of the possibility that new regulation might even render [their personal] property economically worthless”¹³³

127. *Id.*

128. *Id.* at 1015 (emphasis added).

129. *See id.* at 1029 (discussing, as an example, how a lake bed owner might not receive compensation when he is denied a landfill permit that would result in flooding others’ property).

130. *See id.* at 1064 (Stevens, J., dissenting) (arguing that according to the Court’s new “arbitrary” rule, a “landowner whose property is diminished in value 95% recovers nothing, while an owner whose property is diminished 100% recovers the land’s full value.”).

131. *See id.* at 1019 n.5 (majority opinion) (noting that although an owner whose property value is diminished by 95% may not be able to benefit from the new categorical rule, she may still be compensated if investment-backed expectations are taken into account).

132. *See id.* at 1022–23 (explaining states’ police power to regulate public nuisance activities).

133. *Id.* at 1027–28. Justice Blackmun, in an elaborate dissenting opinion, found even this narrow rule to be too restrictive. *See id.* at 1047–48 (Blackmun, J., dissenting). Under his view, any regulation that is aimed at preventing some public harm will not be a compensable taking, but rather a legitimate exercise of the states’ police power, regardless of its effect on the value of the affected properties. *See id.* For an extensive critique of Justice Blackmun’s position, see SIEGAN, *supra* note 115, at 180.

B. The Role of Appropriability in Takings

Although *Lucas* lacks any in-depth analysis of the underlying rationales for its holding, the decision can best be read as reflecting the Court's appropriability-based intuitions about the nature and substance of property ownership and property law. In this context, I do not argue that appropriability *requires* compensation for certain governmental takings, whether outright or regulatory; the question of whether compensation is just or efficient has more to do with one's view of the role of the State (and one's faith in the democratic process to adequately fulfill that role) than in traditional notions of property and appropriability. In fact, one could make a perfectly valid argument that appropriability does not require constitutional protection of property rights at all.¹³⁴ Thus, I make here a more

134. Property rights operate mainly against other individuals. By contrast, the role of property rights is nowhere near as clear in the relationship between an individual and the State. As already mentioned, the appropriability problem only has to do with internalizing benefits, not costs. State regulation may also be required to prevent hold-up problems when efficient projects affect the properties of several owners. Thus, one could argue that governmental intervention, by definition, should only occur where the asset that is taken would be put to better, more efficient use by the government than by its lawful owner. If this argument is followed to its logical conclusion, any appropriability problem created by potential governmental takings is, in fact, not a problem at all, because it does not lead to under-utilization of resources. Instead, the level of utilization by the private owner would reflect the fact that the asset would likely be regulated or condemned by the government to ensure a more efficient use thereof. It is therefore not surprising that government is routinely allowed to regulate, tax, and even condemn private property.

The argument against substantive constitutional protection of property rights is strongest where the governmental regulation was already in place, or was reasonably expected to become effective, when the owner of the asset first acquired the affected property. This argument is in line with our analysis, since the appropriability problem and its corrupt effect on incentives cannot arise in any meaningful sense where there is no legitimate expectation to derive a profit from an asset. This argument, however, becomes more tenuous in transition periods, i.e., in times when new regulation is introduced or new condemnation is effectuated. On the one hand, transitions may clearly raise appropriability problems, thus skewing the incentives of owners. On the other hand, compensating owners for inefficient uses, which they have undertaken in reliance upon their ability to externalize costs and the availability of future compensation for any new regulation, would also skew the incentives of owners. See, e.g., Lawrence L. Blume & Daniel L. Rubinfeld, *Compensation for Takings: An Economic Analysis*, 72 CAL. L. REV. 569, 578 (1984) (noting that State regulation may be required to internalize costs associated with certain uses of resources, most specifically when such uses have spillovers that harm a resource that either cannot be effectively parceled—e.g., the seas, the air, etc.—or whose ownership is too dispersed to effectively negotiate the efficient level of usage); Lawrence L. Blume, Daniel L. Rubinfeld & Perry Shapiro, *The Taking of Land: When Should Compensation Be Paid?*, 99 Q.J. ECON. 71, 81–82 (1984) (asserting that oftentimes the decision to take property is dependent upon how the current private owner uses the land; for instance, highway planners seem to choose routes that will pass through a slum, alluding to the idea that a highway is a more efficient use of land than a slum); Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 582–92 (1986) (discussing different types of transition mechanisms, including direct compensation, grandfather provisions, and partial, delayed, and

modest proposition, namely that under current constitutional law and its express protection of property rights against governmental takings, the scope of protection is determined, by and large, using the same appropriability-based principles that demarcate property rights in the private. Thus, takings clause jurisprudence is treated by the courts as an extension of the laws of property; as such, courts incorporate and apply much of the rationale of the appropriability analysis.

I have argued in the preceding sections that economic appropriability is focused on owners' security from poaching of the fruits of their labor. By contrast, legal appropriability has very little to say about the right of owners (or lack thereof) to use their assets in a certain way—for example, to raise cattle, grow wheat, or build a condominium. Indeed, this was noted to be a major difference between legal and economic appropriability. Whereas economic appropriability would require that owners be allowed to put their assets to any use (or at least to the assets' most lucrative use) to maximize revenues, legal appropriability does not call for the protection of one's right to a specific use of one's assets. Instead, legal appropriability requires only an assurance that once an owner uses her assets in a certain (legal) manner, she would be able to enjoy the fruits of such use without the threat of poaching.

Compare, then, the requirements of legal appropriability with the Supreme Court's takings analysis. As a general matter, it seems clear that the emphasis of the Court in *Lucas*, like that of the appropriability analysis, is focused on freedom from "poaching"—in that case, in the form of a regulatory taking—and not on any right to

phased-in implementation of a new regulation).

Ultimately, the approach toward the necessity to compensate individuals for governmental takings depends on one's relative optimism about the incorruptible and efficient functioning of government compared to the functioning of information markets and of market-based insurance. See, e.g., Kaplow, *supra*, at 528 (arguing that the effects of transitions can most efficiently be mitigated through a market for insurance, based on a model government whose regulation is always welfare-promoting (even as its capacity for effectively supplying efficient insurance is questioned)); see also William A. Fischel & Perry Shapiro, *Takings, Insurance and Michelman: Comments on Economic Interpretations of "Just Compensation" Law*, 17 J. LEGAL STUD. 269, 276 (1988) (noting that Kaplow assumes a Pigovian government, i.e., one that has all the information and incentives to act efficiently). By contrast, for Richard A. Epstein, the epicenter of takings jurisprudence is not in the incentives of owners, but rather in the incentives of government itself. See RICHARD A. EPSTEIN, *TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN* 199–200 (1985) (assuming that government regulation would generally be motivated by rent-seeking on the part of a ruling sect); see also Thomas W. Merrill, *Rent Seeking and the Compensation Principle*, 80 NW. U. L. REV. 1561, 1584–85 (1986) (contrasting Epstein's pessimistic view of the state with Kaplow's optimism about the role of public institutions).

use property in a given way. Thus, any direct appropriation by the government, e.g., an ouster of possession, would require just compensation; government is not allowed to poach for itself (and the public) benefits that flow from the investments made by private persons in their privately held property. By contrast, under *Lucas*, the government may freely regulate the usage of private property, and outside the narrow rule announced by the Court, such regulation shall not constitute a compensable violation of property rights, regardless of its economic effects on privately held assets.¹³⁵ The right to exclusive use (i.e., use that is free of poaching) is fully protected; the right to freedom of use in a given way receives no protection at all.

Turning to examine the implications of *Lucas* in more detail, its correlation with the appropriability analysis becomes even more striking. Consider, for instance, the following examples, which represent a sliding-scale of encroachment upon owners' rights under both *Lucas* and the appropriability analysis:

First, assume that a hypothetical rancher bought land for the purpose of building her cattle ranch. As she prepares to build the ranch, it transpires that the raising of cattle at the specific spot would contaminate a major underground aquifer held in common, and that such contamination would cost more to society than the value of any contaminating use of the land adjacent to the aquifer. The State, therefore, enacts a regulation demanding that "contaminating users"—including cattle ranchers—line their land with plastic sheets to minimize the risk of contamination.¹³⁶ The cost of lining the land would obviously render cattle-raising less profitable; assume, however, that the cost is not prohibitive.

Under *Lucas*, such a regulation would clearly not be considered a compensable taking.¹³⁷ A look at the appropriability analysis gives a clear explanation to that ruling. Arguably, the regulation denies the farmer her most lucrative use of the land—contaminating cattle-

135. The categorical rule announced by the Court does not necessarily deviate from the analysis. See *supra* Part V.A (discussing states' broad power to police public nuisances).

136. An underground aquifer, being held in common, would generally require protection through state regulation; private ordering would usually be prohibitively costly and would raise the hold-out problems associated with tragedies of the commons.

137. Contamination would be akin to a public nuisance, that the State may regulate to mitigate harm to the public that would occur if the aquifer were contaminated. See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1021 (1992) (listing several examples of cases in which the Court found laws to be nuisance prohibiting, including a law banning the manufacture of alcoholic beverages, and laws preventing operation of a brick yard and a quarry in residential areas).

raising—thereby diminishing her *economic* appropriability. However, her *legal* appropriability would remain unchanged. To the extent that her right to exclude is protected, she will still be able to appropriate all the revenues associated with her allowed use of the land as a cattle ranch; no direct appropriability problem would arise and the rancher would not refrain from cattle-raising due to an externality.

Second, assume that the cost of lining renders cattle-raising less profitable than an alternative, substantially profitable, noncontaminating use such as wheat growing. This alternative use would clearly not affect the result of the previous scenario under *Lucas*.¹³⁸ Nor would it alter the preceding appropriability analysis; the fact that the rancher would have to switch uses (or sell the land to another who specializes in wheat growing) is immaterial. As in the first scenario above, the farmer's economic appropriability would be diminished; however, no legal appropriability problem arises, because the rancher may still appropriate all the revenues that may be derived from her main use of the land—this time, wheat growing—without actual or potential poaching.

Third, assume that the regulation renders cattle-raising unprofitable, and that no alternative, substantially profitable use for the land exists. This scenario is the hard case that led the *Lucas* court to find an exception to the general rule against compensation for regulation.¹³⁹ This exception can also be explained in terms of appropriability, because the quantitative differences from the preceding scenarios do have qualitative implications that ultimately raise appropriability-like problems. Indeed, such a regulation can justifiably be said to be akin to poaching.

The qualitative difference between this scenario and the previous scenarios should be plain to see; at least in a constructive (and in an economic) sense, we can certainly say that the land has been effectively dedicated to the public. Indeed, whereas the previous scenarios contemplated a situation whereby the State forbids or raises the cost of one (or a few) uses of the rancher's land, in the present scenario the State takes effective control of the land by dictating to the rancher that her land's main use must be to serve as a shelter to the aquifer. Obviously, it is the public at large, and not the rancher,

138. The growing of wheat would be an economically profitable use of the land, unlike the building of a house in *Lucas*, which had no viable economic use. *Id.* at 1020.

139. *See id.* (emphasizing that *Lucas*'s property had been "rendered valueless" with "no economically viable use").

that appropriates the benefits from that main use. In many senses, the public therefore poached all the fruits of ownership from the rancher, leaving her with an economically empty shell of legal title. This scenario thus clearly creates an appropriability-like problem.¹⁴⁰

Finally, assume that the underground aquifer is so crucial to the State, that the State takes possession of the land over it. This scenario has always been the clearest case under the Takings Clause, and *Lucas* has done nothing to change that.¹⁴¹ Similarly, this case is clearly analogous with the worst kind of private-sphere poaching: the owner is denied of all rights in the land, clearly undermining both economic and legal appropriability.

C. *A Comment on Harms and Benefits*

The preceding section makes clear the similarity between the appropriability analysis and the current takings jurisprudence. At the same time, the analogy to current takings jurisdiction also exposes the distinction between economic and legal appropriability to a critique whereby it relies on a misplaced distinction between harms and benefits.¹⁴² The gist of this critique would be that one cannot determine whether regulations such as the one discussed in the examples prevent harms (e.g., the harm of contamination), or secure benefits (e.g., the benefit of pure water). Thus, the argument might go, the regulation contemplated in the first and second examples above diminishes legal appropriability because it secures to the public, and not the farmer, a benefit resulting from the farmer's

140. This is an appropriability-like problem, and not an actual appropriability problem, specifically because the poaching is done by the public at large and, as presumed here, is itself intended to prevent an externality. See *supra* note 134 and accompanying text (discussing the concept of appropriability). The reason that this is an appropriability-like problem can be understood by an analogy to the private sphere. The first and second scenarios are akin to an event that renders certain uses a private nuisance; such an event may be a change in the law, but it may also be the arrival of a new neighbor. The third scenario, by contrast, is more akin to a situation wherein a non-owner takes control of an asset and utilizes it to his or her own benefit, even if he or she does not actually gain title to, or exclusive possession of, the asset. For a more detailed discussion on the meaning and role of appropriability, see *supra* Parts II.A–B.

141. See *Lucas*, 505 U.S. at 1014 (citing cases in which the Court has found that compensation was due under the Takings Clause, including the Legal Tender Cases, 79 U.S. (12 Wall.) 457, 551 (1871) (“direct appropriation” of property), and *Transport Co. v. Chicago*, 99 U.S. 635, 642 (1879) (“practical ouster” of the landowner)).

142. See, e.g., Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law*, 80 HARV. L. REV. 1165, 1176 (1967) (contemplating who is “competent to decide that some change in resource would benefit some people more than it harms others”). For a more substantive discussion of Michelman's approach to the law of takings, see *infra* Part V.D.3.

permitted conduct that would not be captured by the farmer. Thus, the argument would posit that—at least in some sense—the public is poaching some of the benefits of the farmer’s conduct.

This critique suffers from all the shortcomings of the previously discussed nihilistic understanding of property rights.¹⁴³ Indeed, it completely ignores the import of the parceling mechanism through which private property regimes seek to ensure appropriability.¹⁴⁴ Private property is all about allocating assets by erecting legal boundaries between them. As discussed earlier in the context of “thingness”, if these boundaries are to have any operative significance, we must assume that the baseline of any private property regime is that uses of property would be self-contained, i.e., would not penetrate these boundaries and would not invade—or “spillover” to—the property of another. This assumption is true with regard to both physical and conceptual, and to both positive and negative, spillovers. Thus, if self-contained cattle-raising has no effect on the aquifer, but contaminating cattle-raising physically invades the aquifer by discharging chemicals into it, a private property regime would consider the first use “neutral” and the latter “harmful”; if the growth of wheat is self-contained, but the growth of coca leaves has detrimental societal effects due to drug abuse, the former would be considered neutral and the latter harmful (although the invasion in the latter is clearly more remote). Similarly, if bees could be raised in a self-contained manner (e.g., in a glass tank) or, alternatively, be raised in a field, where they would pollinate crops in adjacent fields, the former use would be considered neutral, whereas the latter would confer a benefit. If a painting could be enjoyed by its owner, in her own living room, or alternatively be presented in a public space and enjoyed by the public at large, the former would be considered a neutral use, whereas the latter would confer a benefit on the public (even though, again, the invasion in the latter case is conceptual and more remote). Once we understand that property regimes should and do have a baseline against which harms and benefits can be evaluated, the nihilistic argument loses much of its power. With a proper understanding of that baseline, it becomes evident that in the first and second examples above, the public does not poach a benefit that derives from the farmer’s (neutral) use; instead, it prevents a harm that could be the result of the farmer’s activities.

143. See *supra* Part V.B.

144. For a similar response to this argument, albeit from a slightly different perspective, see EPSTEIN, *supra* note 134, at 118.

Naturally, hard cases may be found where the element of invasion is not conclusive. That, however, does not undermine the basic analysis. In most cases, as in the cattle-raising example, the distinction between harms and benefits would be clear, as would be the distinction between economic and legal appropriability. In this context, it is important to remember that legal appropriability, as its name suggests, is a legal, not an economic, concept. Thus, while its goals are economic—to solve an appropriability problem—its realization or *modus operandi* is that of courts exercising their judicial capacity in protecting legally recognized rights. As such, attaining legal appropriability is an imperfect and costly endeavor; no property regime ensures perfect appropriability to owners. At best, property regimes ensure that benefits stem directly from the main use of the property, and even then they do so only if such appropriation is not prohibitively costly (such as in situations where residual benefits—i.e., benefits that are a side-effect of a contemplated activity—are bestowed on a large, unspecified public).¹⁴⁵ In the first and second examples, even if we could think of fresh water as a benefit, it is clearly not *the* benefit that the farmer sought to appropriate; the farmer did not intend to use the land mainly as shelter for the aquifer, and raise cattle thereupon merely as a secondary endeavor, but rather the very opposite; the farmer's main, or even sole, intent was to raise cattle, notwithstanding any consequences to the aquifer. As long as the farmer was able to appropriate the benefits that flow directly from her chosen use of her land, and as long as these are economically substantial, legal appropriability would be satisfied. We have no reason to believe that in these circumstances an efficient use would not be undertaken due to externalities that are the result of an appropriability problem.¹⁴⁶

D. Alternative Property Analyses in the Takings Context

Academic critiques of the Supreme Court's takings jurisprudence are abundant, and a thorough study of them goes well beyond the scope of this paper. Nonetheless, because the Supreme Court's approach reflects intuitions of appropriability, a brief overview of the

145. See *supra* note 9 and accompanying text (providing an example of residual benefits).

146. This analysis assumes, of course, that the social choice to keep the aquifer clean is an efficient one. Note that because the benefit that the regulation ensures is a constant—i.e., is ensured under any allowed use—the owner would have an incentive to put the land to the most efficient use; under-investment in such use would not necessarily occur, and in any case would be limited to the pro-rated share of the owner in the public benefit of fresh water.

most prominent critiques of that approach will give a better perspective of the robustness of the appropriability analysis that informs it.

1. *Richard Epstein*

Richard Epstein critiques the Supreme Court's approach as being overly narrow in its protection of property rights. Epstein, invoking Lockean ethics and echoing Blackstone's "sole and despotic dominion" language¹⁴⁷ argues that ownership is made up of three equally important instances: possession, use, and disposition.¹⁴⁸ Thus, whereas appropriability protects only against invasion (i.e., exclusivity of use), Epstein argues for protection of freedom of use as such.¹⁴⁹ In appropriability parlance, Epstein is advocating for the protection of economic appropriability. As applied to takings, this would mean that any governmental limitation on any tenet of ownership—including regulation of use or disposition—constitutes a conceptual taking.¹⁵⁰

The flaw with this approach, at least in its pure form, was discussed earlier in this Article¹⁵¹ and should by now be self evident. Use rights tend to clash; moreover, many uses of assets may be inefficient due to negative externalities. Thus, economic appropriability has little to do with the problems underlying property regimes and is a poor guide to the scope of property rights. To counter these shortcomings, Epstein is quick to qualify the protection of use rights by arguing that, in the public sphere, states may exercise their police power to affect a noncompensable taking, where such a taking is necessary to prevent a common law nuisance.¹⁵² Epstein argues that "the wrong of the citizen [committing a nuisance] justifies conduct otherwise wrongful by the state as representative of and in defense of its other citizens."¹⁵³ In other words, conduct that could hypothetically be prevented in a

147. EPSTEIN, *supra* note 134, at 22.

148. *See id.* at 58–59 (noting that the Supreme Court articulated the same idea in *United States v. Gen. Motors Corp.*, 323 U.S. 373, 377–87 (1945)).

149. *See id.* at 66 ("Indeed, it is the ability to act at will and without need for justification within some domain which is the essence of freedom, be it of speech or of property.").

150. *See id.* at 65 (emphasizing that State-placed restrictions on exclusive possession is a partial taking that requires compensation).

151. *See supra* Part V.B.

152. *See* EPSTEIN, *supra* note 134, at 111 (asserting that when a harm threatens a significant number of people in a population, the State has the sum total of those people's individual rights; thus, the police power is the same as an individual acting on his own behalf).

153. *Id.*

private law claim for nuisance may also be prevented by the State, without any compensation requirement.¹⁵⁴

This exception, tailored to allow regulation of use, brings Epstein's rather extreme initial view of property rights closer to the legal appropriability analysis. Ultimately, it espouses the right of owners to freely use their property only to the extent that such uses do not amount to a common law nuisance, i.e., do not unreasonably harm the property of another. The outcomes suggested by both theories would likely converge in many instances.¹⁵⁵ However, it is in two instances where the theories diverge that Epstein's arguments ultimately fail.

First, the theories diverge regarding the scope of the government's police power. As noted, appropriability does not require protection of property rights against governmental regulation.¹⁵⁶ If such protection is deemed necessary, however, it is focused on the right to enjoy the benefits of use, and not on freedom of use; the government is thus free to regulate almost without limitation.

Epstein, by contrast, allows the government significantly less latitude. A self-proclaimed libertarian, Epstein begins his account with the assertion that libertarian and utilitarian theories of individual rights "tend to converge."¹⁵⁷ However, his insistence that "the government stands no better than the citizens it represents on whether property has been taken" drives a wedge between the two

154. *See id.* Epstein offers another, much narrower exception, relating to situations where the encroachment on the rights of many owners is necessary to promote a scheme that, on balance, does not diminish the welfare of any affected owner. *Id.* at 96. A classic example is that of governmental grants of flight routes to airlines, whereby the government condemns the high-altitude air space above many properties, the argument being that the cost to each property owner is smaller than the benefits she receives from the overall scheme of civic aviation. *Id.* at 235. This exception is not really an exception to the general rule regarding takings, but rather an exception to the general rule regarding the form of compensation paid to owners. *Id.* at 195. In such schemes, owners receive implicit compensation in-kind, through the operation of the overall scheme, instead of explicit compensation in cash. *Id.* at 196. Therefore, additional compensation is not required or warranted. *Id.*

155. Take, for example, the cattle-raising example used in the previous section. Assuming that contamination of another's water supply would be considered a private law nuisance (as it most probably would, since it involves the harmful physical invasion of the property of another), both theories would generate identical outcomes in the first and second examples; the regulation would not be considered a compensable encroachment on the cattle-rancher's property. The outcomes may nevertheless be different in the third and fourth cases, with Epstein curiously allowing greater latitude to government regulation; assuming that the regulation fits the problem it seeks to address, it would be considered a compensable taking under Epstein's nuisance theory.

156. *See supra* note 134 and accompanying text (discussing the limitations that governmental regulations place on property rights).

157. EPSTEIN, *supra* note 134, at 5.

theories; simply put, government many times stands in a unique position as the efficient regulator of conduct that reduces overall public welfare, even when it does not amount to a nuisance under traditional private law doctrine.¹⁵⁸

Moreover, Epstein appears to concede this point, at least in part, when he moves from an anti-nuisance doctrine based on private nuisance to one that is based on public nuisance. Despite Epstein's assertions to the contrary,¹⁵⁹ this move is not trivial; public nuisance is generally considered to be "an entirely different concept from that of private nuisance . . . [which is] a much broader term [that] encompasses much conduct other than the type that interferes with the use and enjoyment of private property."¹⁶⁰ The distinction is predicated on the very theory Epstein seeks to reject—that government may protect interests that are much broader than those protected by private law.

The fallacy in Epstein's portrayal of public nuisance is best demonstrated by Epstein's analysis of *Mugler v. Kansas*.¹⁶¹ In *Mugler*, the Supreme Court upheld a statute that prohibited the manufacture of alcoholic beverages in Kansas, which the Court found to be a legitimate exercise of that state's police power.¹⁶² Notably, although Epstein criticizes the ultimate holding,¹⁶³ he does accept the purpose of the statute—control of the consequences of alcoholism—as within the state's police power.¹⁶⁴ Arguably, however, there is no remedy for

158. *Id.* at 36.

159. Epstein argues that "a public nuisance is understood as a wrong against many individuals, each of whom suffers small compensable harms." *Id.* at 112.

160. W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 90 (5th ed. 1984); see R.F.V. HEUSTON & R.A. BUCKLEY, SALMOND AND HEUSTON ON THE LAW OF TORTS 61 (19th ed. 1987) ("Public and private nuisances are not in reality two species of the same genus at all."); B.S. MARKESINIS & S.F. DEAKIN, TORT LAW 450 (4th ed. 1999) ("[P]ublic nuisance . . . is an amorphous and unsatisfactory area of the law covering an ill-assorted collection of wrongs, some of which have little or no association with tort . . .").

161. 123 U.S. 623 (1887).

162. See *id.* at 662 (noting that Kansas was protecting its citizens against the detrimental effects of alcohol).

163. Epstein argues that the means used by Kansas to attain its purpose were inappropriate, because theories of proximate causation "only allow an injured party to reach the immediate supplier of the alcohol." EPSTEIN, *supra* note 134, at 130. For this proposition, Epstein relies on *Vesely v. Sager*, a case in which the plaintiff, injured by a drunken driver, was allowed to maintain claims against the purveyor who sold alcoholic beverages to the driver. 486 P.2d 151, 157 (Ca. 1971). In *Vesely*, however, the claim against the purveyors of the alcoholic beverages sounded in negligence based on breach of a specific statutory duty, and not on any notion of nuisance. See *id.* at 159–60 (finding that breach of the defendant's statutorily imposed duty would create a presumption of negligence).

164. See EPSTEIN, *supra* note 134, at 130 (critiquing the Court regarding its failure to consider whether the defendants, and not the original producers, were the source of the public nuisance).

the citizenry at large from the harmful effects of alcoholism, at least not under any theory of nuisance; no group of citizens could prevent purveyors of alcoholic beverages from serving alcohol, unless the group could show some form of negligence on the part of the purveyors as well as proximate causation of injuries.¹⁶⁵ Thus, a state's attempt to control the detrimental effects of alcoholism must be based on a power that goes beyond the aggregate private law powers of each citizen. Indeed, the power must be based on a view of public nuisance that is much broader than, and distinct from, the law of private nuisance; arguably, it has no clear boundaries other than the requirement that the regulatory scheme would be overall welfare-enhancing, i.e., to prevent some public harm.¹⁶⁶ Essentially, this is the very regulatory latitude the government enjoys under an appropriability analysis and that the Court recognized in *Lucas*.¹⁶⁷

The second divergence between Epstein's theory and the appropriability analysis concerns instances where the police power is

165. In cases such as *Vesely*, the reliance on negligence is typically the reason for rejecting claims against manufacturers as too remote. See EPSTEIN, *supra* note 134, at 130 n.8. Manufacturers appear to be removed from specific injuries due to the negligence of several intervening actors: the purchasers of alcoholic beverages, the purveyors, etc. *Id.* By contrast, had the common law recognized a right to sue purveyors of alcohol under a theory of nuisance based on the general effects of alcoholism, there would be no reason to think that manufacturers would be considered too remote. *Id.* at 130–31.

166. Another example of this is the federal government's prohibition on the cultivation of hemp. Hemp, a variety of the cannabis *Sativa* plant, was a popular crop in the United States for well over a century; it was grown in many plantations (including George Washington's and Thomas Jefferson's) and put to a wide array of uses, such as making paper, fabrics, ropes, etc. See Christopher S. Wren, *U.S. Farmers Covet a Forbidden Crop*, N.Y. TIMES, Apr. 1, 1999, at A22 (discussing how many farmers think that they could save their farms if they could grow hemp). However, in 1937, as part of the federal government's drug policy, Congress enacted the Marihuana Tax Act of 1937. Pub. L. No. 75-238, 50 Stat. 551 (1937) (repealed 1970), which taxed and regulated the transfer of hemp thereby effectively preventing the viable continued cultivation of hemp crops. As a result, the value of land on which hemp was previously grown was undeniably diminished and hemp farmers were forced to switch to other, less profitable crops. If we were to accept the government's rationales for the statute at face value—that hemp is so closely related to marijuana that its cultivation would impede the government's war against the trafficking of marijuana and thereby increase marijuana's spread in society—then the ends sought by the statute appear to be well within the police power rationale, even though no private citizen could have a right to prevent the growth of hemp under any recognized nuisance rationale. The statute was ultimately struck down as unconstitutional in *Leary v. United States*, after the Supreme Court determined that its requirement that traffickers of cannabis varieties register with law enforcement authorities violated the Fifth Amendment's privilege against self-incrimination. 395 U.S. 6, 12 (1969). The prohibition against cultivation of cannabis varieties, including hemp, can now be found in the Federal Controlled Substances Act, 21 U.S.C. §§ 801–971 (2006).

167. See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1022 (1992) (observing that although it did not apply to the instant case, prevention of public harm justifies governmental regulation of property without requiring compensation).

used in a way which deprives owners of all substantial economic value of their property. Under Epstein's account, such a taking would still be noncompensable so long as it was a valid operation of the police power.¹⁶⁸ After all, private nuisances may be prevented through litigation by private plaintiffs without any need for compensation of the defendant.

Here, again, the fallacy of the private law analogue is clear. Injunctive relief is easily justifiable in the limited, and relatively static context of private nuisance doctrine; an owner has no right to expect, *ex ante*, to use her property in a way which amounts to a private nuisance. The prohibition against such use would be reflected in the initial price of the property and the owner should not, therefore, be compensated *ex post* if and when she is ultimately prevented from such prohibited use. The risk associated with any given prohibited use is thus narrowly confined, because the rights of "neighbors" (whether in land or in other types of property) are generally well delineated.¹⁶⁹ By contrast, in the amorphous and dynamic realm of governmental regulation, the risk is not so confined. Governmental regulation is not merely declarative; it changes the legal situation in ways that the assertion of imminent private rights does not. Indeed, the government may limit uses of property for a plethora of reasons and use a plethora of means to do so.

Take, for example, Epstein's analysis of Kansas's right to control the effects of alcoholism, as discussed in *Mugler*. Setting aside Epstein's proximity-based objections (since Kansas could have regulated more proximate entities), assume that the regulation rendered a few manufacturers' properties unusable, depriving the

168. See EPSTEIN, *supra* note 134, at 111–12 (justifying police power as the sum of many individuals' rights).

169. For example, if a cattle rancher contaminates a privately-owned lake for five years without interruption, the legal system would generally not assume that she acquired a right to continue the contamination, or that the owner of the lake has waived her right to seek an injunction against further contamination; she thus undertakes a calculated risk. Notably, although this proposition represents the traditional approach of the common law, the equitable nature of injunctive relief has allowed courts some flexibility on these issues, with some courts moving toward rules of liability—i.e., the payment of damages—instead of rules of property—i.e., injunctive relief. This is especially true in cases where the balance of hardships tilts in the defendant's direction because of the plaintiff's own fault in confronting the nuisance or because of large disparities in the values of the properties concerned. See *Boomer v. Atl. Cement Co.*, 309 N.Y.S.2d 312, 315–16 (N.Y. 1970) (determining whether an injunction was appropriate, given the disparity between the fact that the defendant company was found to be a nuisance, and the fact that the defendant invested forty-five million dollars into the company and employed over three hundred people).

owners of all economic value.¹⁷⁰ Clearly, these manufacturers could not have foreseen this occurrence; any suggestion to the contrary would be a legal fiction. Although this is a “hard case” under any analysis, the appropriability analysis’s recognition of such regulation as tantamount to a taking seems to better comport with the realities of modern day regulation, whether we refer to it simply as regulation or dress it up in the guise of public nuisance control.¹⁷¹

2. *Joseph Sax*

At the other end of the spectrum from Epstein, Joseph Sax proposes a takings theory that allows extensive noncompensable regulation of property.¹⁷² Sax’s theory is based on extreme nihilism regarding any notion of “thingness” of property; to Sax, a “spillover” is any effect of one use on another use, regardless of the relation between such uses and the underlying thing that is owned.¹⁷³ Thus, Sax argues, “[T]o use land in a way that demands silence, darkness or the absence of smoke on one’s land is similarly to burden the common in air.”¹⁷⁴ Sax considers uses that require freedom from invasion by others to have spillover effects that are just as detrimental as those of uses that actually do invade the property of others.¹⁷⁵

170. This is possible, for instance, if the cost of converting the distillery to another use is greater than the net present value of such alternative use.

171. It should be noted that some regulatory regimes do nothing more than enforce an aggregation of private rights against nuisance. This phenomenon is most prominent in zoning regulations that prohibit certain industrial activities in the midst of a residential area. See EPSTEIN, *supra* note 134, at 131–32 (citing *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 391 (1926)) (discussing the rationale for upholding a zoning ordinance that prohibited commercial development on the defendant’s property as a valid state exercise of local police power to prevent a public nuisance). A complete analysis of such cases goes beyond the scope of this paper; however, it appears safe to assume that subject to some analysis of the expectations of the affected parties, such regulations should not be considered a compensable taking under the appropriability analysis even if they do strip the property of most, or all, value. See EPSTEIN, *supra* note 134, at 131 (noting that the zoning ordinance reduced Ambler’s property value by about seventy-five percent).

172. See generally Joseph L. Sax, *Takings, Private Property and Spillover Effects*, 81 YALE L.J. 149 (1971) (discussing takings in the context of his nontraditional theory that property transcends mere physical boundaries).

173. See *id.* at 161 (differentiating between three different types of spillovers: an individual’s land use that restricts other people’s use of their own land, use of a common property that other people have equal rights to use, and land use that affects the health or well-being of others).

174. *Id.* at 162.

175. Sax’s position in this paper is based on a notion of property as an “interdependent network of competing uses” and on the centrality of the concept of public—as opposed to private—rights. *Id.* at 150. In an earlier paper, Sax held a slightly different position, which tended to focus on the role the government was playing in each regulation, as either a competitor for resources or as a mediator of conflicts between owners. See Joseph L. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 62 (1964). Sax’s earlier position had some notions similar to the appropriability

Based on this expansive definition of spillovers, Sax argues that owners have a protected right to use their property only inasmuch as such use has no spillover effects at all, and that any regulation controlling spillover effects would not be considered a compensable taking.¹⁷⁶

Sax's own examples fully demonstrate the difficulties created by the detachment of use from the underlying thing that is owned. Sax argues, for example, that the government could, without compensation, prohibit mining that would result in drainage to nearby residential lots, just as it could prohibit the residential uses that require freedom from drainage.¹⁷⁷ By contrast, if the government had prohibited mining, it could not require that the abandoned mining strip be converted into a parking lot simply because the neighbors require it; this would deny the owner other uses which would have no spillover effects (as defined by Sax) on the lower-lying lands.

This account appears to be fundamentally flawed. That mining which is harmful to lower-lying land may be prevented through regulation is uncontroversial; this would usually not be considered a reduction of legal appropriability under the appropriability analysis, and may not even be considered a compensable taking under Epstein's account. On the other hand, Sax's conclusion with regards to the regulation of adjacent lands that stand to be destroyed is completely unjustified.

First, as noted before, if the boundaries erected by property law are to have any significance at all, we cannot say that the freedom from invasion (in this case physical invasion) is the same as freedom to invade; as the analysis in Part III demonstrated, freedom from invasion is the inevitable result of the requirement that appropriability be ensured.

Second, Sax's approach offers no real distinction between the regulation of adjacent lands that would be damaged (which Sax argues is noncompensable) and the positive requirement that the

analysis proposed here, in that to some extent it was concerned with the question of who enjoys the benefits of regulation. Sax did little by way of justifying the distinction between the different roles of government, and the theory was never fully developed in this direction.

176. See Sax, *supra* note 172, at 162 ("Any demand of a right to use property that has spillover effects . . . may constitutionally be restrained, however severe the economic loss on the property owner, without any compensation being required . . .").

177. See *id.* at 152–53 (characterizing neither prohibition as superior to the other, and noting that prohibiting either action would result in a taking of the other property).

upper-lying land be used as a parking lot instead of a mine (which Sax argues is compensable). In essence, a regulation that prohibits residential development and approves mining effectively requires owners of lower-lying lands to use their property as a vessel for containing the acid drainage; there is no distinction between that and a requirement that the upper-lying land be used as a vessel for parked cars. Both the acid drainage and the cars are arguably spillovers.¹⁷⁸ Ultimately, Sax's nihilism is self-defeating, and cannot serve as an alternative to the Supreme Court's approach, or to the appropriability analysis that informs it.

3. *Frank I. Michelman*

In a seminal paper in takings scholarship, Frank Michelman offers both utilitarian and fairness-based, Rawlsian analyses of the takings problem.¹⁷⁹ In his utilitarian analysis, Michelman emphasizes the Benthamian notion of expectations, which is closely related to appropriability, and ultimately concludes that a utilitarian approach would require compensation in situations where "to [not] compensate would be critically demoralizing [in terms of costs to expectations]; otherwise, not."¹⁸⁰ Michelman then goes on to suggest that the need for compensation, under a utilitarian regime, must arise out of some distinction between perceptions of majoritarian arbitrariness (which are compensable, at least in some instances) and naturally-occurring "accidents" (which, as a general rule, are dealt with through insurance mechanisms).¹⁸¹ Michelman then examines how the common rules of decision developed by the courts—rules predicated on physical invasion, diminution of value, or a distinction between harms and benefits—fare under these analyses.¹⁸² Most relevant to our discussion, when discussing the diminution of value test, Michelman notices that "the test poses not nearly so loose

178. The fact that the first regulation is phrased as a negative prohibition (no residential development) and the latter as a positive requirement (build a parking lot) is completely arbitrary; the former may be phrased as a requirement (use your land in way X which allows for drainage) and the latter may be phrased as a negative prohibition (for example, no interference with the flow of cars).

179. Michelman, *supra* note 142, at 1219 (outlining Rawls' theory that social arrangements are fair where inequality between individuals is considered acceptable).

180. *Id.* at 1213.

181. *Id.* at 1217 (concluding that people perceive that "the force of a majority is self-determining and purposive, as compared with [accidents,] . . . which seem to be randomly generated"; people can cope with "random uncertainty" but "remain on edge when contemplating . . . strategically determined losses").

182. *See id.* at 1233 (noting that precedent appears to call for an arbitrary decision about the extent to which a given property must be devalued, likely somewhere between fifty and one hundred percent, to require compensation).

a question of degree . . . [but rather] whether or not the measure in question can easily be seen to have practically deprived the claimant of some distinctly perceived, sharply crystallized, investment-backed expectation.”¹⁸³

Michelman, whose focus is on takings—and not property rights at large—does little to ascertain just what these “distinctly perceived” expectations amount to, but he does seem to realize that such expectations exist.¹⁸⁴ It is at this very juncture, I believe, that legal appropriability should enter the equation. Property regimes form the expectations of owners with regard to the rights they have in connection with their assets; legal appropriability is the purpose of such regimes, and thus defines and delineates (or should define and should delineate) owners’ expectations. Legal appropriability recognizes not only the necessity to internalize benefits, but also to control negative spillovers through regulation. As such, it gives an attenuated answer to the question of the content of expectations created by property: it not only tells owners what to expect, but also what not to expect. Under its auspices, owners should expect to enjoy the fruits of the legitimately chosen use of their property. Owners should also expect that their use of private property may be curtailed, within reasonable boundaries and given the prevailing constitutional principles, to the extent that such uses have harmful spillover effects. However, owners should generally not expect to dedicate their property to the public, i.e., to essentially be altogether deprived of their property (or its economic value).

Although the takings problem may require some flexible, equitable principle that will help resolve hard cases, the notion of appropriability, and the expectations it creates, should clearly guide such a solution. It is legal appropriability that should ultimately define not only what property is, but also when a redistribution that affects its value would be considered “critically demoralizing.” This understanding seems to underlie the Supreme Court’s takings analysis, as reflected in *Lucas*.

CONCLUSION

The role of appropriability in property analysis is more than analytic. Appropriability analysis has an institutional aspect; it can and should be used to tailor relatively clear rules of decision regarding the scope of property rights. Such rules, if properly

183. *Id.* at 1233.

184. *See id.* at 1213 n.97 (observing only that not all expectations are justified).

constructed, would make short shrift of most property cases, and would give considerable guidance to courts in hard cases. By comparison, alternative rules seem not only less reasoned, but also less workable. A rule that would protect any and all uses of private property, for example, would clearly create inefficiencies, due to the problem of negative externalities. Such a rule would also give no guidance on solving cases of competing uses. As a result, as demonstrated in the discussion of Epstein's analysis of takings, such a rule would end up with so many exceptions that it would lose any practical significance; courts would not be able to determine, in a given case, whether they should apply the rule or an exception thereto.

Similarly, a rule that would protect only efficient uses—for example, a Coasean rule that would attempt to replicate the results of arms-length contractual negotiations in every case—would be prohibitively costly to administer. Such a rule would require courts to delve into extensive inquiries regarding the costs and benefits of any given purported use in every single case. With the exception of a small number of extreme cases,¹⁸⁵ courts are clearly not adept at performing these types of inquiries for a multiplicity of reasons: their fact-intensive nature, the broad policy rationales that they implicate, and where negative externalities are involved (or alleged), the lack of adequate representation of the implicated interests in the framework of an adversarial trial.¹⁸⁶

Appropriability, by contrast, calls for a return to traditional rules that have been tested in courts for centuries. Indeed, many of the concepts and rules that have been undermined or deserted because of the shift to the bundle of rights model can be re-evaluated and, in many cases, resurrected using the appropriability analysis. Notably, however, legal appropriability is not simply a reactionary concept. Instead, it offers a nuanced property analysis that is informed by, and can many times bridge the gap between, traditional and modern property scholarship.

185. The most typical example of such uses are those that amount to a common law tort, such as the private nuisance example discussed earlier in Part V.B. However, even these cases are susceptible to exceptions and exceptions-to-exceptions.

186. This is just another facet of the transaction costs problem that prevents contracting between the relevant parties. This is the same problem that was pointed out in Part III.B's discussion of numerosity.