

Symposium: New and Critical Approaches to Law and Economics (Part II)
Critical Approaches to Property Institutions

THREE FACES OF PRIVATE PROPERTY

Michael A. Heller [\[FNa1\]](#)

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Introduction

Private property is a rather elusive concept. Any kid knows what it means for something to be mine or yours, but grown-up legal theorists get flustered when they try to pin down the term. [\[FN1\]](#) Typically they, actually we, turn to a familiar analytic toolkit: including, for example, Blackstone's image of private property as "sole and despotic dominion"; [\[FN2\]](#) Hardin's metaphor of the "tragedy of the commons"; [\[FN3\]](#) and, more generally, the division of ownership into a trilogy of private, commons, and state forms. [\[FN4\]](#) While each analytic tool has a distinguished pedigree and certain present usefulness, each also imposes a cost because it renders invisible many new forms of property.

This essay suggests that legal scholarship, particularly its law-and-economics branch, relies on an outdated and overly simplistic image of private property, an understanding that acknowledges just one of the many faces of private property. I will focus here on three faces—first, the possibility of creating a new ideal type of property; second, synthesizing existing ideal types; and third, redefining our core types—that may render private property a more tractable term, one better designed to identify and support innovation at the frontiers of social relations.

I The Property Trilogy and its Discontents

Let us begin with the preeminent analytic tool of property theory, that is, the well-worn trilogy of ownership forms—private, commons, and state property. The trilogy has long formed the focal point for normative and practical property debates. [\[FN5\]](#) As Frank Michelman states: "We need some reasonably clear conceptions of regimes that are decidedly not [private property], with which [private property] regimes can be compared . . ." [\[FN6\]](#) This process of working from ideal types pervades property theory stretching back past Locke's discussion of the state of nature and forward to the modern law-and-economics debates. Today, law and economics scholars deploy the trilogy in calling for a tilt toward private property, some progressive scholars disparage private property and advocate expanded state control, while communitarians press for expanding the scope of commons property. While theorists push reforms toward one type or the other, none subjects the trilogy itself to much challenge. The trilogy has become so entrenched as to seem almost natural, beyond serious contestation or elaboration. Before we go about constructing new ideal types, or synthesizing existing ones, let us briefly recapitulate the trilogy itself. So, what are these ideal types?

A. Private Property

Private property is a complicated idea to pin down precisely, as its boundaries fray at the edges. [\[FN7\]](#) For property theorists (and for ordinary lay folk [\[FN8\]](#)), a workaday understanding seems reasonably within reach. For example, Frank Michelman focuses his definition on rules for initial acquisition and reassignment. He defines "sole ownership" to mean "[t]he rules must allow that at least some objects of utility or desire can be fully owned by just one person," and freedom of transfer to mean "[o]wners are both immune from involuntary deprivation or modification of their ownership rights and empowered to transfer their rights to others at will, in whole or in part." [\[FN9\]](#) Similarly, Jeremy Waldron defines private property "around the idea that contested resources are to be

regarded as separate objects each assigned to the decisional authority of some particular individual (or family or firm)." [FN10]

These standard definitions can be multiplied many times over, but all partake of and help keep current Blackstone's endlessly repeated definition of private property as "that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe." [FN11] While the image of sole dominion has never adequately described any real world property ownership, as even Blackstone recognized, [FN12] the idea rings through the ages, and continues to block clear thinking about private property.

B. Commons Property

Commons property has been the residual category that theorists usually use when they describe a regime that is not private or state property. Michelman defines a commons property regime as one where "there are never any exclusionary rights. All is privilege. People are legally free to do as they wish, and are able to do, with whatever objects (conceivably including persons) are in the [commons]." [FN13] To restate, this definition means that *420 every individual may use any object of property and no individual has the right to stop someone else from using the object.

Although this is not the place to elaborate the point, a useful distinction could be drawn between the liberals' notion of a "state of nature" and the utilitarians' image of commons property; both images share a core definition--everyone has privileges of inclusion and no one has rights of exclusion--but a different emphasis and context. Usually, liberal property theorists deploy the state of nature image to describe a pre-political commons which then evolves towards a regime of private property; [FN14] while the commons metaphor of modern law-and-economists reflects their goal of explaining the marginal evolution toward private property in specific scarce resources, such as the enclosure of the English commons. [FN15] For all these scholars, from old liberals to new law-and-economists, explaining the transition from commons to private property is the core problem and opportunity for property theory.

C. State Property

State property, also sometimes called collective property, can be defined as a property regime in which:

[i]n principle, material resources are answerable to the needs and purposes of society as a whole, whatever they are and however they are determined, rather than to the needs and purposes of particular individuals considered on their own. No individual has such an intimate association with any object that he can make decisions about its use without reference to the interests of the collective. [FN16]

As Waldron notes, a state property regime is similar to commons property in that no individual stands in a specially privileged position with regard to any resource, but is distinguished from commons property because the state has a special status or distinct interest--that of owner of all resources able to include or *421 exclude all individuals, according to the rules of that particular state. [FN17] In other words, the collective, represented usually by the state, holds all rights of exclusion and is the sole locus of decision-making regarding use of resources. So, a subsidiary set of questions then need to be answered to specify a state property regime fully, including what is the "collective interest" and what procedures will be used to apply that conception to a particular case.

Figure 1 represents this trilogy simply, the three forms together occupying the entire space of imagination about property relations.

Figure 1: The Standard Trilogy
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Today, for most property theorists, this limited vision of property has shrunk even further. State property has become a less and less important category, particularly since the fall of socialist states and rise of the worldwide

trend towards privatization. [FN18] For liberal, communitarian, and utilitarian theorists alike, the trilogy may effectively reduce down to a dichotomy--private and commons--so that all theoretical work takes place in the interplay of these two regimes. For example, Michelman says that a commons can be seen as "a scheme of universally distributed, all-encompassing privilege . . . that is opposite to [private property] . . ." [FN19] Similarly, as the economist Yoram Barzel notes, the standard economic analysis of property has "tend[ed] to classify ownership status into all-or-nothing categories, the latter being *422 termed 'common property'--property that has no restrictions placed on its use." [FN20]

II Three Approaches to the Property Trilogy

The ideal-typic trilogy straightjackets analysis. Consider the standard example where people share access to resources in a commons and then proceed to waste the resource through overuse. In this scenario, theorists often see an instance of Hardin's metaphor of the "tragedy of the commons"--another core concept of property law. By looking to the standard trilogy, liberals and utilitarians point to privatization as a conservation solution, while communitarians point to those cases where close-knit groups manage to work together and avoid tragedy. [FN21] Trilogy and tragedy provide useful foils for legal theorists from all camps. But do these categories define the only possibilities?

As I will show, there are at least three productive approaches -- constructive, integrative, and definitional--to updating our understanding of private property. All three versions begin by observing previously unnoticed or unexplained property puzzles and end by moving property theory beyond the existing analytic tools, in this case the standard trilogy, and the limited debates those tools allow. While the following discussion draws on my previous work to demonstrate these three variants, the point of these examples is only to illustrate briefly how property theorists might explore the standard theory, but not to provide an exhaustive accounting of the many faces of property. Further (and undoubtedly better) examples of each approach abound: Carol Rose's limited commons property, Guido Calabresi and Douglas Melamed's opposition of property and liability rules, Margaret Jane Radin's personhood approach, and so on. [FN22]

*423 A. The Constructive Approach

The constructive approach works by offering a new ideal type, essentially by creating a new vocabulary to describe a complex real world problem. In this sense, constructing a useful new ideal type in property theory can be understood as (more or less) like identifying a new element or particle in physics--both help identify and explain previously puzzling real world phenomena.

While there are many ways to go outside the usual trilogy, this section will set out just the anticommons ideal type. [FN23] I developed "anticommons" property as a fourth ideal type because I walked down a Moscow street and noticed an anomaly that the standard trilogy could not explain. One consequence of adding this ideal type to the analytic toolkit is to give voice to certain previously inchoate worries about the progressive tide of privatization, to explain why too much private property can be as costly as too little--a perspective that the standard trilogy makes difficult to articulate. Figure 2 suggests how the idea of private property can be relocated by adding the anticommons ideal type. In effect, private property becomes the middle of a new spectrum, an equilibrium that may be approximated, rather than an extreme that may be asymptotically achieved.

Figure 2: The Constructive Approach

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Anticommons property can be most easily understood as the mirror image of commons property. A resource is prone to overuse in a tragedy of the commons when too many owners *424 each have a privilege to use a given resource, and no one has a right to exclude another. By contrast, a resource is prone to underuse in a tragedy of the anticommons when multiple owners each have a right to exclude others from a scarce resource, and no one has an effective privilege of use. In theory, in a world of costless transactions, people could always avoid commons or

anticommons tragedy by trading their rights to higher valued users. In practice, however, market actors face often insuperable collective action problems. Avoiding tragedy requires overcoming transaction costs, strategic behaviors, and cognitive biases of participants, with success less likely among strangers in markets than within close-knit communities of repeat players. Once an anticommons emerges, collecting rights into usable private property may prove to be brutal and slow.

Legal and economics scholars have generally overlooked evidence of anticommons tragedy when it appeared because the problem did not fit within the familiar property trilogy. Nevertheless, waste through underuse can appear whenever governments create new property rights, as with privatization in post-socialist economies. One promise of transition to markets was that new entrepreneurs would fill stores that socialist rule had left bare. Yet after several years of reform, many privatized storefronts remained empty, while flimsy metal kiosks, stocked full of goods, mushroomed up on the streets. Why did the new merchants not come in from the cold? One reason was that transition governments often failed to endow any individual with a bundle of rights that represents full ownership. Instead, fragmented rights were distributed to various socialist-era stakeholders, including private or quasi-private enterprises, workers' collectives, privatization agencies, and local, regional, and federal governments. No one could set up shop without first collecting rights from each of the other owners.

This definition of anticommons property is constructed in such a way as to render it useful for describing emerging real-world property regimes. For example, to have an anticommons, I do not require that everyone hold rights of exclusion, but only that a limited group of owners be able to block each other. Waste through non-use can occur even when a few actors have rights of exclusion in a resource that each wants to use. Also, my definition does not require that non-use be optimal. There are many situations in which non-use results from excessive fragmentation, *425 but is not socially desirable. For most resources that people care about, some level of use is preferable to non-use, and an anticommons regime is a threat to, rather than the epitome of, productive use. Finally, an anticommons may be created even when multiple rights of exclusion are not formally granted through the legal system.

Once defined in this inclusive way, the term becomes available to help explain other previously overlooked phenomena. For example, privatization of upstream biomedical research in the United States may create anticommons property that is less visible than empty storefronts, but even more economically and socially costly. [FN24] In this setting, privatization takes the form of intellectual property claims to the sorts of research results that, in an earlier era, would have been made freely available in the public domain. Today, upstream research in the biomedical sciences is increasingly likely to be "private" in one or more senses of the term--supported by private funds, carried out in a private institution, or privately appropriated through patents, trade secrecy, or agreements that restrict the use of materials and data. Several types of biomedical research anticommons property may arise. One example emerges from gene fragments, which may now be patented before researchers have identified any corresponding gene, protein, biological function, or potential commercial product. Yet foreseeable commercial products, such as therapeutic proteins or genetic diagnostic tests, likely require use of multiple fragments. So the proliferation of patents on individual fragments held by different owners seems inevitably to require future costly transactions to bundle licenses together before a firm can have an effective right to develop useful products.

As Rebecca Eisenberg and I have shown, such an anticommons in biomedical research may be more likely to endure than in other areas of intellectual property because of particular, high transaction costs of bargaining, heterogeneous interests among owners, and the predictable cognitive biases of scientific researchers. [FN25] But there is little public outcry to fix a biomedical anticommons because the price people pay--life-saving drugs that are not discovered--is invisible. Like transition to free markets in post-socialist economies, privatization of biomedical research offers both promises and risks. It promises to spur private *426 investment, but risks creating a tragedy of the anticommons through a proliferation of fragmented and overlapping property rights. Constructing the anticommons ideal type helps to show why privatization must be more carefully deployed if it is to serve the public goals of biomedical research and post-socialist transition. Otherwise, in the biomedical context more upstream rights may lead paradoxically to fewer useful products for improving human health, and in post-socialism, excessive privatization can have the unintended effect of turning people against the benefits of market reforms.

The anticommons property ideal type adds to our analytic toolkit by going beyond the familiar trilogy; reveals how privatization can cause an unexpected, new form of resource tragedy; and challenges law-and-economists' too-simple understanding of private property.

B. The Integrative Approach

The existing trilogy also can be challenged using what I call an integrative approach, one that brings together elements of the existing ideal types into something surprising and new. To stretch the (admittedly weak) physics analogy under which the constructive approach is like discovering a new element, the integrative approach is like combining already-existing elements into a quite distinct compound--such as alloying copper and tin into bronze. Consider the "liberal commons" idea that Hanoch Dagan and I are developing (noting again ours is just one of many possible integrative approaches). We puzzled over cases where people have created property regimes that seem both to achieve the gains from cooperation that communitarians seek and to preserve the right to exit that liberals demand--a combination seen for example in the rapid rise of common interest residential communities. By integrating existing ideal types, we hope to make the most distinctive, perplexing, and previously obscured aspects of emerging regimes more tractable for legal theory.

According to the standard trilogy, integrative solutions should not be possible because private and common property seem intrinsically in opposition, a tragic choice. The Blackstonian image of private property as "sole despotic dominion" is traditionally wrapped up with the idea of individual autonomy and the right of exit. Within this ideal type, introducing complex notions of cooperation *427 seems almost impossible. By contrast, the core of the commons property ideal type seems to involve wide access to scarce resources, the possibility for cooperation, and little concern for autonomy or exit. The traditional trilogy is constructed so that private and commons property seem in essence to repel one another, and as an inadvertent consequence, real world examples that bridge the two types are rendered invisible in property theory. An integrative approach draws new life from existing analytic categories. By pulling from familiar existing types, private and commons, we suggest that the core elements of exit and cooperation can be brought together to create something distinct and surprising. Using the same simple schematic as the previous figures, Figure 3 suggests the distinctive characteristic of the integrative approach.

Figure 3: The Constructive Approach
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My current work with Hanoch Dagan illustrates this integrative approach to the property trilogy. [FN26] We look at the complex forms of internal self-governance that make cooperation work in new real-world property regimes, and then abstract from those practical solutions to re-conceptualize the private and commons ideal types of ownership. Integrating those two forms suggests a new analytic tool, what we call "the liberal commons." In our definition, a liberal commons is a legal regime that enables a limited group of owners to capture the economic and social benefits from cooperative use of a scarce resource, while also ensuring autonomy to individual members who each retain a secure right to exit.

The liberal commons challenges entrenched property theory *428 built on oppositions inherent in the existing trilogy. According to these familiar views, the liberal commons is an oxymoron in theory, impossible in practice, and therefore unworthy of support by law. "Communitarians," who celebrate successful commons property regimes, openly promote their illiberal character. They emphasize that restrictions on exit are essential in a flourishing community, for only by locking people together can small, close-knit groups develop the informal norms key to conserving commons resources. "Privatizers" counter that breaking up commons property augurs better for efficiency and autonomy. Most economists join this camp because they worry that rational owners will over-consume commons resources, while most liberals join in because they object to locking people together. "Regulators" call for state command and control where communitarian or privatization approaches can not apply. For all, the opposition of commons and private property proves an ideal foil, a shared counterpoint for otherwise competing advocates of community, efficiency, autonomy, and state authority.

Our approach rejects the oppositions between private and commons property. More precisely, by integrating these types in theory, and showing how these types can work together in practice, we dissolve the "tragedy of the commons" conundrum. The tragedy metaphor has long been understood to refer to the problem of tragic outcomes. In recent years, communitarians answered the outcome debate by showing that a commons can succeed, but only in

an illiberal environment. Liberals justifiably countered that illiberal successes are still tragic and pushed for privatization. Seen through our prism, the debate between the communitarians and the liberals relies too heavily on false oppositions between commons and private property. Rightly considered, their debate should be reframed in terms of the question of tragic choice: are we doomed to choose between our liberal commitments and the economic and social benefits available in a commons? The integrative approach suggests that we are not necessarily so doomed. Constructing a liberal commons is indeed a challenge, but it is not inherently contradictory or practically unattainable-- though the familiar trilogy obscures the meaning of already-existing integrative solutions.

In our view, marital property, trusts, condominiums, partnerships, and corporations all belong under a single analytic umbrella: they are forms of liberal commons property. Each is a ***429** legal invention that encourages people voluntarily to come together and create limited-access and limited- purpose communities dedicated to shared management of a scarce resource. Each offers internal self-governance mechanisms to facilitate cooperation and the peaceable joint creation of wealth, while simultaneously limiting minority oppression and allowing exit. For more and more resources, the old-fashioned image of sole private property has become impracticable and misleading; perhaps deterring people from creating even more successful variations on our theme.

By introducing the liberal commons as an analytic tool, we make the already- existing liberal commons regimes more visible and more tractable for jurisprudential and practical property theory work. For example, the idea of a liberal commons helps draw attention to a puzzle: why is there such a sharp contrast between existing liberal commons regimes and the unified hostility of legal theory and Anglo-American co-ownership law to cooperation? Our analytic tool can be deployed wherever people want to work together, but are prevented from doing so by background property rules premised on the old-fashioned Blackstonian image of private property and the unreflective hostility to cooperation built into the tragedy of the commons image. By showing how a liberal commons can integrate the benefits of private and commons forms, this dynamic approach to property analytics advances normative debates.

C. The Definitional Approach

Finally, the definitional approach, which may seem the most obvious, is instead the most in need of analytic reworking. Our understanding of private property itself is built on a thin reed, derived mostly today from an amalgam of undigested philosophical musings summarized by the "bundle of rights" metaphor. The bundle metaphor is pervasive in property-speak and structures large segments of theoretical and practical debate, yet it poorly describes emerging property innovations and problems. Unlike the previous sections, I am much more tentative here, and will just introduce the problem and suggest an approach.

Where does the bundle of rights come from? According to the stylized history taught to generations of law students and applied ***430** by judges everyday, [\[FN27\]](#) people understood property as a physical thing or a legal thing until this century. Lawyers then recast it as an abstract bundle of legal relations, a process that culminates in what is now called the standard Hohfeld-Honore analysis--a widespread but still remarkably thin account of ownership. Neither the old nor new metaphors convey well the nuanced way law structures control over scarce resources.

Under the old metaphor, property involves the physical ownership of discrete, individually-owned things, an image symbolized by the medieval ceremony of "livery of seisin" which gathered people in a field to exchange ownership by handing over a clod of dirt. This thing-ownership metaphor is conventionally summarized in Blackstone's talismanic quotation cited earlier. Similarly, the idea of private property as a "legal thing," which arises in part because ownership has no intrinsic form, has a lineage as ancient as the image of property as a "physical thing." Fees, life estates, easements, and leases all represent complex legal things distinct from physical things. Although superseded in property theory, the thing-ownership metaphor continues today as a theme in popular understanding. It is easy to think of houses, fields, or farms as things because resources defined on this scale can be put to productive use. The problem with the thing-ownership metaphor, and part of the reason for its demise, is that it does not help identify boundaries of complex governance arrangements and modern intangible property.

The metaphoric shift from thing-ownership to bundle of relations can be traced to the late 1800s. [\[FN28\]](#) Though

its modern version is usually attributed to Hohfeld, he never mentions a "bundle of rights." Nevertheless, he developed the now standard idea that property comprises a complex aggregate of social and legal relationships made up of rights, privileges, duties, and immunities. This vision contrasts with "the simple and nonsocial relationship between a person and a thing that Blackstone's *431 description suggested." [FN29] The Hohfeldian view moved quickly from legal theory into the 1936 Restatement of Property and from there into mainstream scholarship and judicial decision-making. For example, the American Law of Property now defines private property to be "an aggregate of legal relations which has economic or sale value if transfer be allowed." [FN30]

Despite the pervasiveness of this modern image, I have elsewhere shown how the bundle metaphor can have pernicious consequences in property law. [FN31] While the metaphor captures the possibility of complex fragmentation, it gives a weak sense of the "thingness" still inherent in private property. So long as property theorists continue to rely on the modern bundle of legal relations metaphor, they need some analytical tool to distinguish things from fragments, bundles from rights, and private from non-private property, in cases where those distinctions matter. Lacking such a perspective has practical consequences. For example, the Supreme Court has uncritically adopted the bundle of rights view of property and used it inadvertently, I argue, to collapse the idea of private property as a distinct economic and constitutional category.

As the bundle of rights waxes in judicial decision-making, it is waning in property theory. J. E. Penner has written caustically that, "I believe in giving dead concepts [such as the bundle of rights metaphor] a decent burial"; [FN32] Carol Rose has suggested the thought experiment of moving from land to water as a core organizing image for property; [FN33] and in conversation, property scholars Brian Simpson, Gregory Alexander, Tom Merrill and many others concur that the time has come for a better core metaphor. A definitional approach could perhaps re-characterize existing metaphors as Newtonian holdovers and propose moving to something more up-to-date, such as a quantum or string-theory metaphor. Alternatively, we might look to re-describing the familiar opposition of property as thing and bundle, as particle and *432 wave. This is whimsical: to be persuasive, efforts to redefine the term must resonate with existing property debates while they must better describe new possibilities. The point here is not to solve the problem, but to suggest that an important analytic puzzle exists, with a prize to the property theorist able to solve it. Figure 4 suggests the challenge of the definitional approach.

Figure 4: The Definitional Approach
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The standard trilogy, the tragedy of the commons, the bundle of rights . . . each of these analytic tools has served long and well the needs of property theorists and policymakers, but each has reached limits that press us to new work. Whether following a constructive, integrative, or definitional approach, paying close attention to emerging, on-the-ground property relations can lead to new interpretations of private property that in turn open provocative normative debates.

D. Deploying the Three Methods

Understanding what is private property is an inductive and iterative process, one that looks to the chaos of real world relations and identifies some puzzle that is not well-captured by the existing framework, something new, something striking--a conundrum hidden or misdescribed by existing theory. While each puzzle requires its own analytic solutions, the constructive, integrative, and definitional approaches share the key feature of starting from a concrete observation, abstracting from that observation so that it crystallizes in a new analytic tool with normative and practical implications, and then using that tool to make innovative solutions more easily imaginable and achievable.

When should a constructive approach be used? When an integrative or definitional one? The variants differ according to *433 the limitations imposed by the existing analytic tools on which they build. For example, the problem of excessive fragmentation of property appears in what had been terra incognita, on the other side of the ownership spectrum from commons to private property. So constructing an anticommons type has the effect of putting fragmentation on the map, relocating private property to the middle of a new continuum, and exposing the

possibility of "too much" property.

By contrast, the integrative method works better when the problem is to draw out new implications from existing ideal types. For example, Dagan and I noticed that the images of private and commons property had always been interpreted in opposition, but that real-world property relations were melding the two forms together to create something distinct. By identifying the liberal commons, existing private and commons property types can be re-deployed to support the gains possible from emerging forms of cooperation in managing scarce resources. Similarly, with the definitional approach, the existing images of private property have begun to have visible and costly consequences, as with the Court's misguided takings jurisprudence.

Each method to revitalize private property is always available; which variant seems more promising depends on the contingency of the puzzle that needs explaining. For all variants, the goal and measure is simplicity and persuasion.

Conclusion

Ideal typical understandings of property infuse the normative and practical debates that matter. What happens if the core of property evolves, mutates, refuses to hold still? For example, what if the existing trilogy of property forms--private, commons, and state--hides tragedy and impedes imagination and innovation at the frontiers of property? Then new definitions of private property, in constructive, integrative, and definitional variants, can update the hoary metaphors of property law while carrying a powerful normative punch. Beyond the standard trilogy lie new and useful concepts, not just anticommons property and the liberal commons, but also as-yet unnamed property theory tools that will respond to as-yet unexplored property puzzles.

None of the basic terms for property are stable--this is not to say property has disintegrated, but rather that property scholarship can gain from pushing its categories to reflect better the *434 changing on-the-ground relations. We can move beyond polarizing oppositions that render practical problems invisible and jurisprudential debates unresolvable.

[FN1]. Professor of Law, The University of Michigan. This essay is abridged and adapted from Michael A. Heller, *The Shifting Analytics of Property Law*, in 3 *Theoretical Inquiries in Law* (forthcoming Jan. 2001). Thanks to Kim Krawiec, Carol Rose, and participants at the University of Oregon Conference on New and Critical Approaches to Law and Economics and the Tel Aviv University Conference on Achievements in Legal Scholarship. The University of Michigan Law School Cook Endowment provided generous research support.

[FN2]. Bruce A. Ackerman, *Private Property and the Constitution* 98-100 (1977) (contrasting lay and technical understandings of private property).

[FN3]. 2 William Blackstone, *Commentaries* *2.

[FN4]. Garrett Hardin, *The Tragedy of the Commons*, 162 *Sci.* 1243, 1244-45 (1968).

[FN5]. See, e.g., Jeremy Waldron, *The Right to Private Property* 37-42 (1988).

[FN6]. See, e.g., *id.* at 44.

[FN7]. Frank I. Michelman, *Ethics, Economics, and the Law of Property*, in *Nomos XXIV: Ethics, Economics, and the Law* 3, 5 (J. Roland Pennock & John W. Chapman eds., 1982).

[FN7]. See generally Michael A. Heller, The Boundaries of Private Property, 108 Yale L.J. 1163 (1999).

[FN8]. See Ackerman, *supra* note 1, at 99-100 (discussing layperson's view of property as thing-ownership).

[FN9]. Michelman, *supra* note 6, at 5. These definitions harken back to and build another unsteady part of the standard conceptual apparatus of property, crystalized in the Hohfeld-Honore picture of property as a "bundle of rights," discussed *infra* in text accompanying notes 27-33. See Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, in *Fundamental Legal Conceptions as Applied in Judicial Reasoning and Other Legal Essays* 65, 96 (Walter Wheeler Cook ed., 1923); A.M. Honore, *Ownership*, in *Oxford Essays in Jurisprudence* 107 (A.G. Guest ed., 1961).

[FN10]. Jeremy Waldron, *Property Law*, in *A Companion to Philosophy of Law and Legal Theory* 3, 6 (Dennis Patterson ed., 1996).

[FN11]. Blackstone, *supra* note 2, at *2.

[FN12]. See Carol M. Rose, Canons of Property Talk, or, Blackstone's Anxiety, 108 Yale L.J. 601 (1998) (discussing the ever-present thicket of restrictions Blackstone recognized in his day).

[FN13]. Michelman, *supra* note 6, at 5.

[FN14]. See Waldron, *supra* note 4, at 277-78; see, e.g., John Locke, *Two Treatises of Government* 327-44 (Peter Laslett rev. ed., Cambridge Univ. Press 1963) (3d. ed. 1698); Blackstone, *supra* note 2, at *2-8. Rose uncovers the contradictions these narratives obscure as they move across the commons/private boundary. Carol M. Rose, *Property as Storytelling: Perspectives from Game Theory, Narrative Theory, Feminist Theory*, 2 Yale J.L. & Human. 37, 52 (1990).

[FN15]. See Heller, *supra* note 7, at 1194 n.165.

[FN16]. Waldron, *supra* note 4, at 40 & n.30; see also C.B. Macpherson, *The Meaning of Property*, in *Property: Mainstream and Critical Positions* 1, 5-6 (C.B. Macpherson ed., 1978) (offering substantially the same definition of state property).

[FN17]. Waldron, *supra* note 4, at 41.

[FN18]. Property theorists always recognize that any actual regime should and will contain all elements of the trilogy. See, e.g., Robert C. Ellickson, Property in Land, 102 Yale L.J. 1315, 1381 & n.342, 1397 n.413 (1993).

[FN19]. Michelman, *supra* note 6, at 9.

[FN20]. Yoram Barzel, *Economic Analysis of Property Rights* 99 (2d ed. 1997).

[FN21]. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* 35-36 (1990) (showing successful close-knit commons regimes); Harold Demsetz, *Toward a Theory of Property Rights*, 57 *Am. Econ. Rev.* 347, 354 (1967) (explaining privatization).

[FN22]. See Margaret Jane Radin, *Reinterpreting Property* (1993); Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 *Harv. L. Rev.* 1089 (1972); Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emissions Trades and Ecosystems*, 83 *Minn. L. Rev.* 129 (1998).

[FN23]. The material defining anticommons property draws substantially from Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 *Harv. L. Rev.* 621 (1998); the biomedical example comes from Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 *Sci.* 698 (1998).

[FN24]. Heller & Eisenberg, *supra* note 23, at 700-01.

[FN25]. *Id.*

[FN26]. This section draws substantially from Hanoch Dagan & Michael A. Heller, *The Liberal Commons*, 110 *Yale L.J.* (forthcoming Jan. 2001).

[FN27]. The material in this section is drawn from Heller, *supra* note 7, at 1187-94.

[FN28]. The earliest use of the term "bundle of rights" appears to be from John Lewis, in his 1888 treatise, *The Law of Eminent Domain*: "The dullest individual among the people knows and understands that his property in anything is a bundle of rights." John Lewis, *A Treatise on the Law of Eminent Domain in the United States* 43 (1888) (quoted in J.E. Penner, *The "Bundle of Rights" Picture of Property*, 43 *UCLA L. Rev.* 711, 713 n.8 (1996) (citing Kenneth J. Vandeveld, *The New Property of the Nineteenth Century: The Development of the Modern Concept of Property*, 29 *Buff. L. Rev.* 325 (1980) (tracing the metaphor))).

[FN29]. Gregory S. Alexander, *Commodity & Propriety: Competing Visions of Property in American Legal Thought 1776-1970*, at 321 (1997).

[FN30]. 6 *American Law of Property* § 26.1 n.1 (A. James Casner ed., 1952 & Supp. 1958); see also *Restatement of Property* §§ 2-6 (1936) (adopting Hohfeldian definition of property).

[FN31]. Heller, *supra* note 7, at 1202-20 (criticizing Supreme Court takings jurisprudence).

[FN32]. Penner, *supra* note 28, at 819.

[FN33]. Carol M. Rose, Property as the Keystone Right?, 71 Notre Dame L. Rev. 329, 351 (1996) (comparing land and water as metaphors for property).

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