MODULARITY, MODERNIST PROPERTY, AND THE MODERN ARCHITECTURE OF PROPERTY

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ABSTRACT

Henry Smith's theory of property revolves around the human need for informational shortcuts in dealing with the claims of others. Property law treats property as *things,* or as he often says, modules—objects whose boundaries people may see and understand as belonging to themselves or others, without having to know the details of their interior interrelationships. Such "things" are protected by exclusion rules with some more fine-tuned governance rules for boundary issues.

Smith's theory is a welcome relief from the unproductive theory of property as "bundles of sticks," but it does raise some questions. Some are these: can property "modules" really be combined like LEGOs, or are some combinations messier, as in unsuccessful corporate takeovers? What, actually, is a "thing"—is it something natural, or is it (also) something like a farm or a condominium, an artifact of property law itself? How stable are the relationships between exclusion rules and governance rules? Can the information-economizing theory of property take more lessons from law and economics? Finally, aside from economizing on information, should a theory of property also leverage other purposes of property, such as the enhancement of effort and wealth, autonomy, and democratic self-government?

INTRODUCTION

Henry Smith is one of the great property law theorists of his generation, perhaps of the entire twenty-first century. At the center of his theory is a vision of property law as architecture. Henry has spent much of his scholarly output in elaborating the ways in which

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the architectural vision of property law can explain many of property law's features, and indeed can reach out into other parts of private law more generally—including torts, contracts, and even customary law. I will not even attempt a comprehensive view of all those ramifications, but instead I will try to explain how powerful the architectural theory is, but also how, in a very few instances, I find myself puzzled or even demurring. (But not many!) I am one of many who think that Henry's vision of property will be at the center of property scholarship for a long time to come.

I. SMITH ON THE MODULAR ARCHITECTURE OF PROPERTY

Henry starts many of his articles with a quick primer on his theory of property law's basic architecture, and so I will do that, too. The driving force of his theory is the fact that human beings have only limited cognitive abilities to grasp the myriad details of reality.[1] People simply cannot know every feature of the world in which they are navigating, and for that reason they need information shortcuts. The institution of property acts as a system to provide those shortcuts, and indeed an exceedingly important and all pervasive one.[2] But Henry asserts that property has an architecture: the basic building blocks of property law are what Henry calls "things," which may, but need not, overlap with physical things.[3] Each "thing" includes a more or less bounded center that can include intensely interacting features, but a boundary or periphery in which each "thing" has very limited interactions with other "things."[4] Property law solidifies this boundary by allocating to the owner the right to exclude, subject to a few exceptions which I will get to in a minute.

But for now, this architecture saves all of us from spending a great deal of time figuring out what we can and cannot do vis-à-vis all kinds of resources.[5] To be sure, and by comparison, contracting

1. Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 793–95 (2001); Henry E. Smith, *The Persistence of System in Property Law*, 163 U. PA. L. REV. 2055, 2057–58 (2015) [hereinafter Smith, *Persistence of System*].

2. Smith, *Persistence of System*, *supra* note 1, at 2057.

3. Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1700 (2012) [hereinafter Smith, *Law of Things*].

4. *Id.* at 1700–91.

5. Henry E. Smith, *Institutions and Indirectness in Intellectual Property*, 157 U. PA. L. REV. 2083, 2087–90 (2009).

parties can make their arrangements in a fine-tuned manner, since they themselves negotiate the elements. Somewhat similarly, members of close communities can also understand their mutual rights and obligations in some detail, since everyone knows everyone else and their respective positions.[6] But in the looser and wider social organization of strangers, property's simplified structure permits ordinary activities to proceed without detailed contemplation of every item. Henry frequently uses the example given by the philosopher James Penner: a car is parked in a lot.[7] A passerby need not know anything about the owner or the uses that the owner makes of the car, but simply that it belongs to someone else, and that she, the passerby, is expected and indeed required to keep off. Thus, property law's exclusion rule for "things"—"in rem," good against the world—may be crude, but it creates a powerful simplification of information for all of us.

Now, to the exceptions: the periphery around things (I will henceforth stop putting scare quotes around things) sometimes grows fuzzy and conflicted. Neighbors may disagree about, say, loud noises coming from next door; the public may be threatened by owners' claims to pour poisonous materials into nearby streams; someone in an emergency may be endangered by the owner's refusal to permit even the slightest intrusion over the property line. In that fuzzy zone of occasional conflict, overreach, or misunderstanding, property law may adopt what Henry calls a governance strategy as opposed to the normal exclusion strategy—basically a more fine-toothed refinement of what the owner may and may not do on his or her property.[8]

Henry's work stands in opposition to another view of property, a view that is older and quite widely known: property as a "bundle of sticks," a view that he associates particularly with the Legal Realists, although to some degree with law and economics as well.[9] Henry

6. *See* Henry E. Smith, *Custom in American Property Law: A Vanishing Act*, 48 TEX. INT'L. L. J. 507, 514–16 (2013) (observing that particular communities can generate customs understandable among the members but not others); Henry E. Smith, *Community and Custom in Property*, 10 THEOR. INQ. L. 5, 21–22, 41 (2009) [hereinafter Smith, *Community and Custom*] (same).

7. *See, e.g.*, Smith, *Law of Things*, *supra* note 3, at 1703 n.47.

8. *Id.* at 1710.

9. *See, e.g.*, Henry E. Smith, *Mind the Gap: The Indirect Relation between Ends and Means in American Property Law*, 94 CORNELL L. REV. 959, 962–63 (2009) [hereinafter Smith, *Mind the Gap*] (observing the Realists' failure to recognize indirect contribution of property and flawed assessment of property doctrines as if applied directly to welfare); Henry E. Smith

regards the "bundle" version as defective in a number of ways, and he frequently tells his readers what those defects are. Among other matters, he thinks both the Realists and the law and economics writers make a fatal error in treating all the rights and duties engaged by property as matters of equal weight in the so-called bundle. In making this equation, they fail to recognize the special role of exclusion as a "first cut," curtailing the voluminous information costs that would be required to learn all those rights and duties before acting. Similarly, he accuses the Legal Realists in particular of mischaracterizing the right to exclude as a goal in itself. No one but a fetishist, he says, would want to exclude for its own sake.[10] According to Henry, the central right in property is *use*, whereas the right to exclude, while critically important, is so because it acts as an indirect assurance that allows the owner to proceed undisturbed with his or her various uses—while, of course, reducing the need of non-owners to decipher every element of the owner's claims and their own duties.

Perhaps most important, Henry argues, the bundle of sticks view gives no theoretical leverage.[11] In its bland addition of stick after stick, it effectively goes nowhere in explaining how the different parts of property are constructed. On the other hand, the architectural, center/periphery picture of property as *things*, Henry argues, lets us understand the modular architecture of property and shows how different modules can be stacked, mixed, and matched.[12]

Essential to the modular architecture of property things is the modular character of property law itself. Property law economizes on information costs by constraining the number of recognizably standardized legal blocks that will count as property interests. In the common law, the best known are the estates in land, along with a limited number of servitudes like easements and mortgages; in the civil law, constraints on the numbers and types of property forms are collectively known as the *numerus clausus*, closed number, a

& Thomas W. Merrill, *Making Coasean Property More Coasean*, 54 J. L. & ECON. 77, 90–91 (2011) (criticizing law and economics literature for failure to see unique character of property, among other matters).

10. *See* Smith, *Mind the Gap*, *supra* note 9, at 964 (asserting that the right to exclude would only be valuable for its own sake to a fetishist); Smith, *Law of Things*, *supra* note 3, at 1693 (same).

11. *See* Smith, *Law of Things*, *supra* note 3, at 1696–98 (describing bundle of sticks view of property as descriptive but not a theory).

12. *Id.* at 1701–05.

term now famously revived for property law of all kinds by Henry's article with Tom Merrill in 2000, analyzing what they call optimal standardization in property law.[13] Using these modular forms, those dealing with property can create multiple different combinations by buying and selling, adding and subtracting, mixing and matching to form complex wholes, all without unduly taxing the information-processing ability of human owners—and non-owners as well.

To be sure, the very short-cutting nature of property's modules means that property modules may not always match reality exactly or may be too lumpy to fit together precisely. According to Henry, that is where *governance* rules come in to manage the peripheral problems: externality, overreach, misunderstanding at modular interfaces, and so forth. Nuisance law, unconscionability, and other equitable modifications serve these governance purposes, as in the frequently cited relaxation of *ad coelum* rules in order to permit airplane overflight—all these oversight strategies permit a modicum of relaxation in cases where the crudeness of modularity becomes problematic.[14] But in Henry's view, even governance has a certain formality, most notable in what used to be called the maxims of equity. Yes, he says, equity does pass the laugh test,[15] and its older formal rules deserve more respect than they sometimes get.[16]

II. A FEW QUESTIONS ABOUT MODULARITY IN PROPERTY

At this point, I should turn to some of the issues that I see lurking in Henry's very impressive theory of property law. Henry's analysis of the architecture of property law has influenced thinking in areas of private law far beyond property itself. That wider influence motivates my first issue, concerning the functionality of the modular view

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

14. Smith, *Law of Things*, *supra* note 3, at 1713–16, 1719.

15. Henry E. Smith, *Does Equity Pass the Laugh Test? A Review of Oliar and Sprigman*, 95 VA. L. REV. BRIEF 9 (2009–2010).

16. *See, e.g.*, Henry E. Smith, *The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. 203, 232–37 (2012) (criticizing Supreme Court's deviation from traditional equity in context of patent case). For Henry's latest discussion of equity, see Henry E. Smith, *Equity as Meta-Law*, 130 YALE L.J. 1050 (2021) [hereinafter Smith, *Equity as Meta-Law*] (defending and describing the proper understanding of equity as a domain separate from basic law).

of property, or by extension of a modular view of other private law topics, when the modules really are put together in some architectural form. By chance, this issue occurred to me in connection with two recent experiences, both rather prosaic. One was attendance via Zoom at a job talk by an entry-level law school faculty candidate, in which the candidate's paper discussed modularity at length in the management of complex corporate contracts.

The author of this paper cited Henry profusely as a theorist of modularity, albeit focusing on potential problems. I will not elaborate those here, but most could be summed up by saying that the left hand knew not what the right hand was doing when a complex contractual drafting problem was divided into modular parts. According to the presenter, the result was confusion as to which part governed the other parts in later disputes with contractual partners. The other chance experience came when I listened to a broadcast of the National Public Radio program "Planet Money," in which the travails of the Hertz Corporation were a prominent example. According to the interviewee, although it was not Hertz's only problem, the company's fatal mistake lay in acquiring two other car rental firms, Dollar and Thrifty, whose corporate cultures were far out of alignment with Hertz's own. Thereafter, apparently nothing jelled as Hertz and its acquisitions slipped into a corporate morass.[17]

Now, this sounded to me like modularity in action: Module A acquires Module B and Module C. Should it now become Module ABC, or should the whole remain in separate modules, and if the latter, what exactly was the point of the acquisition in the first place? If there was some intermediate mix-and-match, how and why did Hertz botch the interface/governance issues? More generally, the issue in both these examples seemed to me to be this: does the language of modularity suggest an underlying likeness or compatibility among different "things," as if they really are LEGOs, while perhaps understating their potential incompatibilities—or alternatively, understating the need to intervene into the internal character of one or the other or both, in order to create compatibility?[18] Does the idea

17. Planet Money from NPR, *Owner of a Broken Hertz*, NATIONAL PUBLIC RADIO (June 24, 2020), https://www.npr.org/transcripts/883047437 (Host Kenny Malone interviewing Alexxus Harris).

18. *See, e.g.*, Lisa Bernstein & Brad Peterson, *Managerial Contracting: A Preliminary*

of modular building blocks create a false hope of avoiding the problems of managing complexity in social institutions?

Turning to a somewhat more philosophical second issue: what makes any subject a thing, a.k.a. module, anyway? Physical objects certainly seem thing-y enough. But if a thing is defined as something with intense interactions at the center, with few or no interactions with other intense centers/things at the boundary, why are the boundaries where they are? I can see an apple as a thing by nature. An apple tree too. Maybe even an orchard. But what about a farm? True, the farmer plans the details of a farm's management and carries out those plans, doing so without a great deal of interference from the outside. But then, does not property law itself create the possibility for that undisturbed central activity defining the farm? That appears to be the point of Henry's remark in a 2015 article that "legal things are not actual things."[19] Is the legal recognition of property as *things* then a self-referential system? That is, if as Henry formulated the matter a year later, "a legal thing is similar to, but not different from, a physical thing,"[20] is the physical thing something like a natural kind, while the legal thing is an artifact of property law? But if so, why does property law recognize some subjects, whether physical things or not, as legal things or modules but not others?

Henry grapples with this topic in a 2016 article on what he calls fluid resources—water, of course, but also intellectual property.[21] The analogy between physical things and legal things revolves around separability: just as some physical things (like water) are hard to separate into exclusive parts, so some legal things are not easily separated either; a main example is copyright, which leaks (so to speak) into common usage in concepts like "fair use."[22] Henry makes a rather dismissive reference to an umbrella as presenting a trivial difference between physical and legal thinghood,[23] but an umbrella

Study (unpublished manuscript) (on file with author) (workshop paper given to University of Arizona Law College Feb. 4, 2021) (describing emergent managerial strategy whereby suppliers agree to purchasing firm's highly detailed interventions into suppliers' operations).

19. Smith, *Persistence of System*, *supra* note 1, at 2057.

20. Henry E. Smith, *Semicommons in Fluid Resources*, 20 MARQ. INTELL. PROP. L. REV. 195, 197 (2016) [hereinafter Smith, *Fluid Resources*].

21. *Id.*

22. *Id.* at 197; Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 117 YALE L. J. POCKET PART 87, 91 (2007).

23. Smith, *Fluid Resources*, *supra* note 20, at 200.

is actually more interesting than that. Clearly an umbrella is a physical thing, but what kind of a *legal* thing is it? In someone's hand, an umbrella looks like property. Hanging in a restaurant's coat closet it looks like property too, even though we don't know whose. In a street corner wastebasket, it looks as if it is not anyone's property anymore, but rather up for grabs. That is to say, what kind of legal thing it is depends on what it looks like, and what it looks like depends on a number of surrounding circumstances.

It is easier to make some subjects look like legal things than others. A farm is a good example: a farm is not a natural thing like an apple, but the claimant may deploy physical characteristics to make it look like a legal thing. If the farmer can surround the claimed land with a fence and then plow the fields, others are likely to understand that at a minimum it is someone's landed property, and more specifically that it is a farm. But the farm may also rely on more subtle forms of "fencing" that let others recognize it as a legal thing, and those may not be physical at all, or only peripherally physical, like a symbol (a "Jones Farm" sign); or a real estate title. Recording the title requires a whole regime of property titles, and more complex forms of property—say, trademarks or stocks—may only claim recognition as legal things through these kinds of collective property regimes.

I do not think that Henry would disagree with any of the above. But these differing modes of signaling legal thinghood have differences in costs, and that is where it seems to me that Henry might have made more explicit use of some insights drawn from law and economics. I am thinking especially of those pieces that point out that property regimes, while potentially very beneficial, are themselves costly; and that property regimes for different kinds of subjects have different cost and benefit profiles. Harold Demsetz set off a good deal of thought in this direction.[24] Terry Anderson and P.J. Hill colorfully illustrated Demsetz's arguments through their description of evolving property rights in the American West.[25] James Krier observed

24. Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON REV. PAPERS & PROC. 347 (1967). Henry is of course well aware of Demsetz's contribution and cites him frequently, though often for other points; *see, e.g.*, Henry E. Smith & Thomas W. Merrill, *Making Coasean Property More Coasean*, 54 J. L. & ECON. S77, 78–79 (2011) (citing Demsetz on point that property rights internalize externalities and affect valuation of resources).

25. Terry Anderson & P. J. Hill, *The Evolution of Property Rights: A Study of the American West*, 18 J. L. & ECON. 163 (1975).

the widely overlooked element of collective action necessary to create property rights regimes.[26] Gary Libecap analyzed the political stickiness that can impede changes in property regimes once some group of constituents has dug in.[27]

Henry certainly understands the costs of defining and defending property rights in different kinds of resources, as in his observations about the difficulty of creating a simulacrum of thingy-ness in water or intellectual property, and the consequent need for greater predominance of what he calls governance strategies in the legal delineation of these subjects.[28] But I believe his theory, with its stress on information costs and cognitive limitations, leads him to focus more on the costs to the observer or duty-holder when trying to comprehend the rights of others, and less on the costs to the claimant of communicating rights claims—or the costs to the public of creating any kind of overall regime for claiming property rights.[29] I am the last person to criticize an emphasis on the duty-holder in property relations, because my own view is that the duty-holder or non-owner is critical to making property regimes function.[30] Nevertheless, it is costly for individuals to communicate claims, and even costlier for the public to institute collective regimes for communicating claims, and all those costs are relevant to an understanding of what the law recognizes as a property thing. Law and economics scholars have been in the forefront of examining costs of this sort.

My third issue concerns another aspect of Henry's theory, although it harks back to my first issue about modularity. This issue concerns the deployment of exclusion—essential for modularity—as the dominating principle for the center of property things, and governance as the dominating principle at the periphery, the latter principle coming into play primarily in what Henry refers to as "high stakes"

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26. James E. Krier, *Tragedy of the Commons, Part Two*, 15 HARV. J. L. & PUB. POL'Y 325, 332–39 (1992).

27. GARY D. LIBECAP, CONTRACTING FOR PROPERTY RIGHTS 11–12, 21–26 (1989).

28. Smith, *Fluid Resources*, *supra* note 20, at 206–10.

29. I believe Henry has put the costs of creating and operating a property regime under the rubric of "measurement costs," but this phrase has generally left me uncertain about who is measuring what. *See, e.g.*, Smith & Merrill, *supra* note 24, at 94 (using term "measurement costs" in connection with defining and defending rights).

30. *See, e.g.*, Carol M. Rose, *Psychologies of Property (and Why Property is Not a Hawk/Dove Game)*, *in* JAMES PENNER & HENRY E. SMITH, PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW 272, 282–83 (2013) (stressing the importance of non-owner recognition of property of others).

situations.[31] My question here is this: how stable is the center/periphery relationship between these management strategies? To begin with, there may be a more even distribution between these strategies than one might conclude from Henry's concentration on exclusion as the dominating strategy for property as the law of things, a.k.a. modules.[32]

Environmental law governs a lot of physical/legal "things" like factories, oil rigs, and autos, but environmental law has quite a trove of both exclusion and governance. If anything, if one understands governance to include detailed governmental supervision of owners' actions, governance strategies have predominated in environmental law to date, as in nuisance law in small-scale disturbances, or as in the very detailed command-and-control regulation of hazardous materials in more complex statutes. Moreover, it is precisely in "high stakes" situations, when environmental damage becomes acute, that commentators and legislators are most apt to turn to modular strategies. Those high stakes prod legislators to experiment with higher-cost but potentially more effective regimes of exclusive property.[33] An important example was the reaction to the damage caused by acid rain; this problem led to the 1990 amendments to the Clean Air Act, which introduced tradable property-like emission rights in sulfur dioxide.[34] Similar exclusion strategies have been proposed or enacted to deal with other environmental issues when threats have become more apparent—among them species decimation, overfishing, and wetlands loss.[35] Perhaps most notably, proposals to diminish

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31. *See, e.g.*, Smith, *Law of Things*, *supra* note 3, at 1693–94, 1702–03. Henry is careful to note, however, that exclusion is not the "ontological" basis of property; see Henry E. Smith, *The Thing About Exclusion*, 3 BRIGHAM-KANNER PROP. RTS. CONF. J. 95 (2014). Henry often refers to governance strategies as those applying at the periphery in "high stakes" situations; *see, e.g.*, Smith, *Community and Custom*, *supra* note 6, at 16.

32. In his more recent work, however, Henry has concentrated more on governance strategies, particularly equity. *See* Smith, *Equity as Meta-Law*, *supra* note 16, at 73–75 (arguing that both formal law and contextual equitable modifications are essential to legal system).

33. Carol M. Rose, *Big Roads, Big Rights: Varieties of Public Infrastructure and Their Impact on Environmental Resources*, 50 ARIZ. L. REV. 409, 409–11 (2008) [hereinafter Rose, *Big Roads*, *Big Rights*]; Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 DUKE L.J. 1, 16–24, 28–29 (1991).

34. 42 U.S.C. § 7651 (2000).

35. *See, e.g.*, Jonathan Remy Nash, *Trading Species: A New Direction for Habitat Trading Programs*, 38 ENV'T L. REP. 10539 (2008) (species conservation); Jonathan Adler & Nathaniel Stewart, *Learning How to Fish: Catch Shares and the Future of Fisheries Management*, 31

greenhouse gases include both detailed governance proposals on the one hand, but also and increasingly frequently exclusion strategies like carbon taxes or trades.[36] At the far end of the complexity scale, one might consider ecosystems, the ultimate polycentric resources. "Ecosystems" can designate anything from a mud puddle to the Amazon basin, and they would seem to be particularly resistant to modular approaches. Nevertheless, putting the mud puddle to one side, Amazon forest conservation too has elicited calls both for governance and for exclusion strategies.[37]

Henry does not dispute that governance strategies are important—far from it—but he nevertheless argues there is a "gravitational" pull toward exclusion/modular strategies in property law.[38] I would agree in many cases, but my own view is that the relationship is not so heavily weighted on one side as Henry implies. Henry's theory centers on property in a modern commercial society. Smaller and less commercial economies may well generally lean toward governance strategies for resource management, as in the numerous eighteenth-century Pacific island societies so beautifully described by Stuart Banner, where individual claims were subject to revision through decision by the indigenous community or its leaders.[39] Moreover, even in a modern economy, Henry himself has argued that 'fluid" resources like water and intellectual property do not lend themselves easily to pure exclusion strategies. Even though there are indeed more or less exclusive property rights in water in the American West, the gravitational pull of the law of surface

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UCLA J. ENV'T L. & POL'Y 150 (2013) (fishing quota); James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607 (2000) (wetlands and other environmental resources).

36. *See, e.g.*, Greg Dotson, *The Carbon Tax Vote You've Never Heard of and What It Portends*, 36 UCLA J. ENV'T L. & POL'Y 167, 179–85 (2018) (describing conservative support for carbon pricing, although blocked in Congress).

37. *See, e.g.*, Howard A. Latin, *Climate Change Mitigation and Decarbonization*, 25 VILL. ENV'T L. J. 1 (2014) (describing and criticizing current mix of regulatory and incentive-based systems, proposing more far-reaching decarbonization).

38. *See, e.g.*, Smith, *Community and Custom*, *supra* note 6, at 27 (describing exclusion measures as having "gravitational" force in property); Henry E. Smith, *Mind the Gap: The Indirect Relation between Ends and Means in American Property Law*, 94 CORNELL L. REV. 959, 965 (2009) (same).

39. *See, e.g.*, STUART BANNER, POSSESSING THE PACIFIC: LAND, SETTLERS, AND INDIGENOUS PEOPLE FROM AUSTRALIA TO ALASKA 52–53 (2007) (describing Maori methods of land allocation prior to British settlement).

water is toward governance, given the interactions of upstream and downstream claims.

Water, like many resources, is one for which exclusion strategies are costly, as the law and economics scholars remind us. But these scholars also remind us that matters can change: growing (or diminishing) resource demand, new technology, and even politics may push property regimes in one direction or the other.[40] Such changes alter the cost/benefit calculations of different regimes, and they can drive recalibrations in the relationships between exclusion and governance.

If I may indulge in a personal quibble, some time ago, I made the claim that there was another such driver in at least some property relationships, located in an endogenous relationship between exclusion and governance (or rules and standards). I borrowed this idea from Albert Hirschman's 1982 book, *Shifting Involvements*.[41] The gist of it was that as one management strategy grows more dominant, its limitations may become more salient, inducing various players to try the other—but then later, those players or others start to chafe under the second strategy and return to some version of the first, and so on. Several years ago, when I was the recipient of this wonderful Brigham-Kanner Property Rights Prize, Henry gently argued that instead of cycling between what I called "Crystals and Mud," any such patterns in property law might be envisioned as *sedimentation* of rules and structured governance.[42] I have to confess that I see cycling and sedimentation as rather similar, if one sees each layer of sediment as a variant on the one-before-last.

In another metaphor in the same piece, Henry suggested that my view was rather like the thermostat that is first set too high, then too cool, then too high again, ad infinitum.[43] To this I would say, "Well, so what?" We never get some thermostats set just right—even in nature,

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40. *E.g.*, Anderson & Hill, *supra* note 25, at 169–72 (describing changes in property rights in grazing land in Great Plains in response to greater competition, cattlemen's organization, introduction of barbed wire, and legislative action).

41. ALBERT HIRSCHMAN, SHIFTING INVOLVEMENTS 11, 21, 62, 120 (1982).

42. Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577 (1988) [hereinafter Rose, *Crystals and Mud*]; Henry E. Smith, *Rose's Human Nature of Property*, 19 WM. & MARY BILL RTS. J. 1047, 1052 (2010) [hereinafter Smith, *Rose's Human Nature of Property*]. Some years earlier, Randy Barnette suggested to me that the appropriate metaphor might not be crystals and mud but rather bricks and mortar, which strikes me as a closer metaphor to a modular form.

43. Smith, *Rose's Human Nature of Property*, *supra* note 42, at 1052–53.

as in predator/prey cycles. Voles and snowy owls never seem to get their thermostat set just right either.[44] In any event, I was not making a universal claim, but I do think that in some subjects in property, we do not get the thermostat just right, at least for a time. One of my examples was the title theory of mortgages, reined in by the equity judges' lien theory as strict rules resulted in undue losses to borrowers, to be subverted anew by the installment land contract as parties looked for more rapid and predictable rules, then re-regulated into the lien theory once again[45]—and in recent years re-subverted into the title approach by the rent-to-own signs that I have seen all over Tucson, Arizona. But as Hirschman's *Shifting Involvements* argues, cycling is a feature of many aspects of life.[46] It would be unseemly of me to carry this debate further here, but if my Crystals and Mud view holds any water (so to speak), endogenous cycling may be another driver of a changing relation between exclusion and governance.[47]

Let me sum up this issue about the stability of the mix between exclusion versus governance in property. One might think property law itself has a center and periphery. The modular model may dominate the central resources, like land, but the governance strategies seep in more and more as one approaches the nether poles of what we consider to be property: think water.[48] Moreover, it does seem that the proportions between the two strategies can change. The law and economics scholars link this kind of change to cost/benefit fluctuations that are driven by resource demand, technology, and patterns of entrenchment: all can lead to different mixes of governance and exclusion with respect to property. And of course, I would add that cycling is another driver at least some of the time: an increasingly frustrating experience with one strategy may lead the relevant actors to turn to the other—and then vice versa.

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44. *See "Snowy Owl,"* THE PEREGRINE FUND, *available at* https://peregrinefund.org/explore-raptors-species/owls/snowy-owl (linking snowy owl population to populations of voles and lemmings and vice versa).

45. Rose, *Crystals and Mud*, *supra* note 42, at 583–85.

46. *E.g.*, HIRSCHMAN, *supra* note 41, at 11, 21, 62, and 120 (describing cycling political involvements).

47. I am happy to see Henry may agree; *see* Smith, *Equity as Meta-Law*, *supra* note 16, at 49 (noting that law and equity may cycle).

48. *See* Carol M. Rose, *From H2O to CO2: Lessons of Water Rights for Carbon Trading*, 50 ARIZ. L. REV. 91 (2008) (describing impediments to exclusive property rights regimes in water and air pollutants).

My last issue shifts to the goals of property regimes. In theorizing an architecture of property, Henry's overwhelmingly dominant concern is information cost, and he argues that its reduction through property's exclusion rules (modified by structured governance strategies at the periphery) make interactions possible. To this I would again say, "Well, yes and no." Once again, those smaller traditionalist societies offer a contrast in which more fine-grained governance dominates; people in these societies know a lot about one another, so that information is not so costly; and they manage to get along, even though they do so without great accumulations of wealth. The Smithean architecture of property, on the other hand, generally presumes what I have called a "modernist" economy, characterized by frequent interactions among strangers, widespread commerce, and the vastly increased "wealth of nations" that accompanies commerce. A modernist economy like this requires modernist property forms: simple, modular, standardized forms that reduce otherwise overwhelming information costs among far-flung market participants.[49]

But then the question becomes, which economic form is better? For some thinkers, the traditionalist small-scale economy of an intimate community certainly has a romantic appeal.[50] (But see Marx, the author of the telling phrase, "the idiocy of rural life.")[51] The even less regimented life of nomadic herders or hunter/gatherers appeals as well, to the point that some persons initially taken by force into such communities later have not wished to leave.[52] Yes, information cost reduction is essential to the modernist economy, but by what measures is the modernist economy superior to the traditionalist one? To be sure, the modernist economy has proved to be evolutionarily more powerful and in that sense perhaps inevitable; traditionalist economies often fail to survive the encroachments of widespread

49. Rose, *Big Roads*, *Big Rights*, *supra* note 33, at 410–11.

50. *See, e.g.*, DAVID BOLLIER, THINK LIKE A COMMONER 147–59 (2014) (describing commons as a new life form replacing capitalism and the liberal state); *but see* Carol M. Rose, *Commons and Cognition*, 19 THEOR. INQ. L. 587, 601–02 (2018) (noting criticism of a romantic view of commons).

51. KARL MARX & FRIEDRICH ENGELS, MANIFESTO OF THE COMMUNIST PARTY ch. 1 (1848), *available at* https://www.marxists.org/archive/marx/works/1848/communist-manifesto/ch01.htm#:~:text=The%20bourgeoisie%20has%20subjected%20the,the%20idiocy%20of%20rural%20life.

52. James Axtell, *The White Indians of Colonial America*, 32 WM. & MARY Q. 55, 55–58 (1975).

commerce, and even if they do, their generally modest ability to generate wealth puts them behind in any kind of arms race.[53]

But is superior strength the only point of a modernist, modular property regime? Is that why we want it to be easy for anyone in the whole world to understand the basic message: Thing X may belong to me, but all those Thing Ys out there belong to someone else? It is slightly surprising to me that Henry, in his heavy focus on property's information-cost advantages, says only a little about other reasons why we might prefer a modernist regime to a traditionalist one. The most obvious reason is wealth itself, through property's encouragement of industry and effort, mightily enhanced by trade; Henry does mention this occasionally. But in Henry's work I see little mention of the libertarians' emphasis on property's role in according independence and autonomy to individuals.[54]

The same goes for other aspects of property rights that seem to me exceedingly important. Henry and I are on the same page in thinking that the person whose perspective to be accounted for is not the owner, but rather the non-owner, or as Henry calls her, the duty-holder. Those persons' respect for the property of others makes the entire property regime function. Henry's goal is to structure property law so that any one of these persons can recognize that X is a Thing, and Thing X belongs to someone else. I would go on to suggest that there is a reason beyond commerce for encouraging this kind of recognition, even agreeing that commerce and its wealth production are important. Another hugely important reason is that property gives lessons for conducting one's self in a democratic regime: if a person can recognize the property of others, she can learn to respect the rights of others more generally. In that sense, property is a vivid educator about what it means to have and to recognize rights.[55] Moreover, property and trade can induce habits whereby people are willing to try out relationships with others who differ from themselves;

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53. *See, e.g.*, BANNER, *supra* note 39, at 53 (describing traditional Maori practices as generating little tradable wealth); Carol M. Rose, *Property's Relation to Human Rights*, *in* ECONOMIC LIBERTIES AND HUMAN RIGHTS 80–81 (Jahel Queralt & Bas van der Vossen eds., 2019) [hereinafter Rose, *Property's Relation to Human Rights*] (observing traditional communities' products as generally low economic value compared to those of a modernist economy).

54. *Cf.* Smith, *Law of Things*, *supra* note 3, at 1693 (briefly mentioning interest in autonomy in property).

55. Rose, *Property's Relation to Human Rights*, *supra* note 53, at 69–70, 88.

whereby they put force to one side and instead appeal to the voluntary agreement of others; whereby they learn to downplay irrelevant disagreements and instead concentrate on coming to terms on matters of mutual benefit. In these ways, as I have argued elsewhere, open regimes of property and trade help to produce a culture that supports democratic self-government.[56]

Henry is undoubtedly right that property's reduction of information cost is a sine qua non of modernist economies. More than anyone so far, he has induced scholars to take information costs seriously in the institutional construction of private law. But beyond all that, it would be gratifying to hear, at least from time to time, why the flourishing of a modernist private law matters to our *public* life as well.

56. Carol M. Rose, *Property as the Keystone Right?*, 71 NOTRE DAME L. REV. 329, 363–64 (1996).