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The Architecture of Property

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Abstract: Avoiding the reduction of property to a bundle of rights or to the working out of a single master principle, the architectural theory of property sees property as an integrated system or structure anchored in certain unifying principles. Because our world is neither chaotic nor additively simple, property law and institutions must achieve their plural ends in a fashion that manages the inherent complexity of the interaction of valued resource attributes and human actions. In managing complexity, some of the law's structures receive functional explanations and justifications, which can be different from the explanations and justifications that apply to the system as a whole. In working as a whole, the system exhibits a number of tightly interwoven design principles, including the centrality of things, rights to exclude and possession, hybrids of exclusion and governance, modularity, differential formalism, standardization and the *numerus clausus*, and "property rule" protection and equity. The architectural approach allows us to revisit some basic questions in property theory and to capture the dynamic reality of property law and institutions.

I. Introduction: Why Architecture

Academic discussions of property generally follow one of two paradigms. One is to treat property as a bundle of rights, in which the identification of any particular right or feature as "property" is regarded as a matter of convention having no independent significance. On this approach, discrete issues should be resolved by undertaking a policy analysis limited to each issue, with no consideration given to how the resolution of that issue fits together with the way other issues have been resolved. The other paradigm is to identify some overarching meta-principle that is thought to be served by the institution of property, such as autonomy, efficiency, equality, or individual flourishing. Individual issues that arise are then examined by advancing arguments about which resolution does the most to advance the chosen meta-principle.

In this chapter, we outline a different way of thinking about property: property as architecture. In contrast to the bundle of rights trope, the architectural approach views the institution of property as an integrated system or structure anchored in certain unifying principles. The resulting system is capable of accommodating a great deal of complexity and

changes in technologies and social values. But it does not fall into the trap of depicting property as a massive heap of ad hoc rules, which would be impossible for ordinary citizens to follow or even comprehend in navigating through the world of resources. And in contrast to the meta-principle mode of analysis, the architectural approach does not seek to reduce the institution of property to being a means to realizing any particular theory of the good. Rather, property is such a widespread and enduring institution largely because it serves a plurality of ends or goals for both individuals and larger social units.

The architectural approach is functional, but it focuses its functional analysis on property as a system or structure designed to resolve conflicts over the use of resources. It considers the various legal doctrines characteristic of property not in terms of the results they generate in particular applications, but how they function as a means of achieving a variety of results. Couched in law and economics terms, the architectural perspective is sensitive to the costs as well as benefits of property law, and understands that both costs and benefits emerge from a world of complex interactions of people with respect to resources.

The architecture of property turns out to be quite rich, subtle, and dynamic. Property law is a complex system that coevolves with the larger social and economic system in which it is embedded. Property manages this complexity by avoiding too much interconnection between resources and too little. A system in which everything is connected to everything is chaotic: any change can set off unpredictable ripple effects. At the opposite extreme, a system in which there are few to no connections can be treated as simply additive. If law were even close to additive, it might be seen as a heap of rules and could be correctly characterized as a bundle of rights – an arbitrarily grouped bunch of inert sticks. Instead, in our in-between world of organized complexity, property law manages such complexity and for this reason exhibits a number of design principles.

This Chapter first sets out in Section II how the architecture of property serves its purposes in the presence of complexity. In a world of neither chaos nor additive simplicity, the “how” of property becomes one of its characteristic features. Law is not a heap of rules and any rule or doctrine may contribute indirectly to an emergent feature of the system overall. Complex system behavior can originate in simple parts if they are connected intensely and in the right way. Section III then turns to design features of property that are implicit – and sometimes explicit – in property’s architecture. These include the centrality of things, rights to exclude and possession, hybrids of exclusion and governance, modularity, differential formalism, standardization and the *numerus clausus*, and “property rule” protection and equity. Section IV draws out some implications for property law theory, and Section V ends with some overall lessons.

II. Architecture and System

The architectural approach to property seeks to explain and justify how property law and institutions work in the face of a immense diversity of assets, human aspirations for those assets, and the inherent limitations of human beings in processing the vast amount of information created by this diversity. Characteristic of the approach is to distinguish what property does

from how it does it, with the emphasis on the latter, however intertwined these aspects may be. The architectural theory pays attention to the function of structures and doctrines and does not regard them as epiphenomenal.¹ Unlike classic Realism it seeks concepts that tie property together rather than preferring shallow notions close to particulars. A concern with architecture precludes us from looking at law as a collection of bottom-line results. In this, the architectural approach is an example of the New Private Law.²

The architectural approach is functional. It does not regard the structures and doctrines of the common law as engraved in stone. Instead it asks what problem they solve and how. And the problem, in its most general form, is one of complexity. The world of persons, resources, and the activities that involve them is hugely complex. A legal system that dealt with these entities directly, including all their potential interdependencies, would quickly become intractable.³

Property law and institutions gain some of their characteristic architecture from solving this complexity problem. A complex system is one in which the elements are interconnected enough that the properties of the whole are difficult to trace to their individual parts.⁴ The action is in the interactions. Many of the purposes of property are only relevantly attributed to the system as a whole. These include furthering autonomy, providing a platform for cooperation, avoiding conflict, promoting the creation of wealth, developing one's personhood, and quite possibly more. To expect that individual rules will necessarily serve any one of these purposes directly is an unwarranted assumption and an example of the fallacy of division (water molecules are not wet even though water is wet). They may or may not serve purposes directly, and as we will see, it makes more sense to expect this of individual rules when they are more separable from the system as a whole – something we cannot always assume.

Because much of the action in complexity is in the interactions or connectedness in the system, it is worth asking what shape this takes. Complexity can be roughly grouped into three broad types.⁵ If every element is connected to every other, small changes can have massive and highly unpredictable ripple effects. This is chaos. At the opposite extreme, if elements are independent with no connections, the effects of the system are the additive sum of the effects of

¹ Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357 (2001).

² Symposium, *The New Private Law*, 125 HARV. L. REV. 1640 (2012); *The Oxford Handbook of the New Private Law* (Andrew S. Gold et al. eds., forthcoming); see also Henry E. Smith, *Systems Theory: Emergent Private Law* (forthcoming in *Oxford Handbook of New Private Law*, Andrew Gold, et al., eds.).

³ See Brian Angelo Lee & Henry E. Smith, *The Nature of Coasean Property*, 59 INT'L REV. ECON. 145, 151–53 (2012); Thomas W. Merrill & Henry E. Smith, *Making Coasean Property More Coasean*, 54 J.L. & ECON. S77, S93–94 (2011).

⁴ MELANIE MITCHELL, *COMPLEXITY: A GUIDED TOUR* (2011); HERBERT A. SIMON, *THE SCIENCES OF THE ARTIFICIAL* (2d ed. 1981); see also Smith, *supra* note 2.

⁵ Lee Alston & Bernardo Mueller, *Towards a More Evolutionary Theory of Property Rights*, 100 IOWA L. REV. 2255, 2260–65 (2015); see also Henry E. Smith, *Complexity and the Cathedral: Making Law and Economics More Calabresian*, 48 EUR. J.L. & ECON. 43 (2019).

the parts. Optimizing the system is the same as optimizing each part. Finally, in between is “organized complexity,” in which there are numerous but not total connections.⁶ We believe that property systems lie in this middle range: they are organized complexity, rather than chaos or additive simplicity. By contrast, additive simplicity is often assumed in the so-called bundle-of-rights picture, where it is assumed that every stick can be evaluated in isolation and sticks can be added or subtracted at will with the meaningless label “property” stuck on as an afterthought.⁷ Likewise, to regard property as dealing with chaos is a counsel of despair.

The problem of complexity has two sides – benefit and cost. The benefit is a stand-in for the many purposes property serves. We do not claim that these purposes can be reduced to a single metric (such as utility), although we do think that the kind of quasi-utilitarianism of law and economics can serve as a provisional lingua franca (analogously to the way cost-benefit analysis serves a role in the regulatory context).

The result of this picture of complexity – organized complexity – is the need for architecture. Individual pieces of the system may serve property’s purposes indirectly – there is a “gap” between the contours of a rule or feature of property and the system’s overall goals and effects.⁸ For example, a local law that mandates contributions to a public library looks like an unalloyed good until it turns out to be a method of excluding low-income homeowners.⁹

Property serves plural purposes in a world of complexity and information cost. That’s why property has an architecture and why it takes the form it does.

III. Design Principles of the Architecture of Property

In this Part, we survey some design principles that characterize the architecture of property. It bears emphasis at the outset that listing such principles is not inconsistent with seeing property as a system with an architecture. As we will advert to frequently, each of these principles is closely related to other principles. If the institution of property is a whole that possesses certain key principles – emergent principles – that are more than the sum of its parts, then it should come as no surprise that the principles themselves are synergistic. They work in tandem to achieve system effects at the level of the law or of society as a whole.

⁶ Warren Weaver, *Science and Complexity*, 36 AMERICAN SCIENTIST 536 (1948).

⁷ See, e.g., Thomas C. Grey, *The Disintegration of Property*, in NOMOS XXII: Property 69 (J. Roland Pennock & John W. Chapman eds., 1980).

⁸ Henry E. Smith, *Mind the Gap: The Indirect Relation between Ends and Means in American Property Law*, 94 CORNELL L. REV. 959 (2009).

⁹ Compare Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 CORNELL L. REV. 745, 804 (2009) (arguing that property law should favor funding of public libraries because they promote human flourishing) with Smith, *supra* note 8, at 987 (pointing out that library funding can sometimes be used to promote exclusion).

These emergent principles also point to a possible misconception about the architectural theory of property. The system of property does not exist for its own sake but for other purposes, as noted earlier. While we have in the past referred to our approach as emphasizing “information costs,” we have never taken the position that minimizing information costs is the purpose of property. Information costs could be minimized by having only one property interest and prohibiting alienation, but such a system would have obvious and severe drawbacks.¹⁰ Instead, informational requirements need to be optimized in an overall design that pairs benefits and costs. One way to think about the evolution of property is to draw on evolutionary models, in which information cost is built into the process, whether directed or undirected, of moving property institutions to higher “fitness” where fitness is a stand-in for the aforementioned purposes of property law as whole.¹¹

A key insight of the architectural theory is its focus on the whole. When it comes to individual doctrines and rules, the question may or may not be well posed if asked in the usual form: is this doctrine or rule efficient, fair, moral etc.? Only if the rule in question is relatively separable from the system does it even make sense to ask that kind of question. And ultimately, the value of rules or doctrines is their contribution to the fitness – the serving of purposes – of the entire institution of property. And that contribution need not be additive in a linear sense or even approximately linear. There are, as we will see, important features of property law and property institutions that do not contribute to the system of property in additive fashion. Conventional stick-by-stick analysis is especially wrongheaded for such rules and doctrines.

The architectural theory crucially distinguishes between the system and moves made within the system. Out in terms of John Rawls’s distinction, our approach adopts the practice view rather than the summary view of rules: property law defines the practice rather than simply summarizing behavior.¹² The architectural view of property makes room for justification at the system level to differ from the justification that are invoked in applying a rule or doctrine. In this, our approach can be called broadly Humean.¹³ Thus “[p]roperty rights serve human

¹⁰ Thomas W. Merrill & Henry E. Smith, *Property: Principles and Policies* 503 (3d ed. 2017).

¹¹ For similar reasons, we disagree that the architectural approach’s cognizance of information costs, commits it to looking at property law like a machine that needs minimal tinkering – or that it requires one to downplay human flourishing. Cf. Jane B. Baron, *The Contested Commitments of Property*, 61 HASTINGS L.J. 917 (2010).

¹² John Rawls, *Two Concepts of Rules*, 64 PHIL. REV. 3 (1955). In private law theory, Felipe Jiménez has argued for the application of this distinction to contract law, that contract as a whole serves economic efficiency, but rules within contract law are couched in moral terms. Felipe Jiménez, *The Pluralism of Contract: A Theory of Contract Law* (JSD dissertation, N.Y.U. School of Law, 2019); see also Benjamin J. Zipursky, *Pragmatic Conceptualism*, 6 LEGAL THEORY 457, 458 (2000).

¹³ DAVID HUME, *A TREATISE OF HUMAN NATURE*, bk. III, pt. II, secs. 2-5 (L.A. Selby-Bigge, ed., 2d ed., Oxford: Clarendon Press, 1978) (1739-40) (making the distinction between institutions and norms within the institution in the course of analyzing property).

values,”¹⁴ but it need not be the case that every invocation of the law of trespass, or even the rule itself, can be fully justified, much less to a court, in such a fashion.

A. Things

The most basic architectural – and, in that sense, foundational – principle is that property is about things.¹⁵ Things are discrete objects that are perceived as being separate from other things and from persons.¹⁶ The simplest and most universal type of property consists of objects that are naturally perceived as separate things – objects like tools, foodstuffs, articles of clothing, or domestic animals. Here ordinary visual perception does the work of identifying things. As societies became more complex, property extends to objects that are artificially delineated as things separate from other things, such as tracts of land marked off by cairns or fences or walls. Here community norms and customs enter into the understanding of what constitutes a thing, although it is striking that land marked off by fences or walls is universally recognized as a thing separate from surrounding land (whether similarly marked off or not).¹⁷ In the most advanced societies, the identification of things extends even further, to the point that purely intangible interests such as shares of stock or intellectual goods like patents and copyrights are assimilated to the realm of things.

The set of things eligible for treatment as property is constrained by certain natural limitations, in the sense of limitations not created by customary norms or law. If an object is so plentiful that there is no human interest in establishing rights to use or exploit it, it will not be regarded as eligible for treatment as property. Oxygen in the air has long been so regarded. If an object is viewed in predominantly negative ways, such that there is no interest in harvesting or utilizing it, like mosquitos or gnats, it will not be regarded as eligible for treatment as property. If an object is very difficult to define or delineate, such as abstract ideas, it will not be regarded as eligible for treatment as property. One could say in each case these objects are not “legal things,” in the sense of things that constitute the foundation of a system of property.

The law plays a variable role in determining what constitutes a thing eligible for treatment as property. With respect to movables and land, the law functions largely to backstop the delineations of things created by natural perception or customary norms. The creation of survey systems for identifying different plots of land, for example, greatly strengthens the identification of different tracts of land as things, relative to customary regimes based on

¹⁴ *State v. Shack*, 277 A.2d 369, 372 (N.J. 1971).

¹⁵ Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1701–08 (2012).

¹⁶ J.E. PENNER, *THE IDEA OF PROPERTY IN LAW* 111 (1997); FREDERICK POLLOCK, *A FIRST BOOK OF JURISPRUDENCE FOR STUDENTS OF THE COMMON LAW* 127 (3d ed. 1911), Frederick Pollock, *What Is a Thing?*, 10 L.Q. REV. 318, 318, 320–21 (1894); see also Michael J. Madison, *Law as Design: Objects, Concepts, and Digital Things*, 56 CASE W. RES. L. REV. 381 (2005).

¹⁷ See, e.g., Robert C. Ellickson, *The Inevitable Trend Toward Universally Recognizable Signals of Property Claims: An Essay for Carol Rose*, 19 WM. & MARY BILL RTS. J. 1015, 1022–32 (2011); Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73 (1985).

physical markings.¹⁸ When we get to the intangible rights important to modern economies, the law often plays a larger role, to the point that the law is entirely responsible for delineating some set of interests as things. The adoption of individual tradeable quotas (ITQs) for harvesting fish, for example, is entirely dependent on the enactment of a legal regime that defines the rights, allocates them among potentially interested parties, and provides a mechanism for their enforcement and exchange.¹⁹ Whether we are speaking of movables, land, or intangible rights, the law also plays a role in declaring certain things off limits for treatment as property, such as making it illegal to hold another person as a slave or to create exclusive rights in the distribution of the texts of laws or other government documents. Here property is disallowed not because treatment as things is not possible but because it is immoral or against public policy.

The fundamental principle that property concerns things is obviously important in differentiating property from other sorts of interests, such as the interest individuals have in protecting their own person from harm by others (protected by the law of tort and criminal law), the interest persons have in the enforcing promises made to them by others (protected primarily by the law of contract), and the interest individuals have in recognizing certain status relationships such as those between spouses and between parents and children (protected primarily by family law). It is often said that property is concerned with the rights and obligations of persons, but the critical qualification is that property concerns the rights and obligations of persons *with respect to things*. The presence of a thing is what distinguishes property from other types of interests of importance to persons. (And, as we will see, the rights are often communicated through the thing.)

Thinghood involves separation of various kinds. Much of the problem property solves is founded on the contingent connection between things and those with rights in them.²⁰ As we will see, possession is probably the earliest and remains in many ways the most important such connection. (See Section III.B.) But the fragility of the connection between persons and things forms the basis for the law's intervention against theft and fraud – and its elaborate but not too elaborate system of tracking and maintaining the connections between persons and their things. And because whether a thing counts as a thing is a matter of separation, and a thing can be more or less separated from its surrounding context thinghood is in a sense a matter of degree.²¹

¹⁸ See, e.g., Maureen E. Brady, *The Forgotten History of Metes and Bounds*, 128 YALE L.J. 872 (2019); Gary D. Libecap & Dean Lueck, *The Demarcation of Land and the Role of Coordinating Property Institutions*, 119 J. POL. ECON. 426 (2011).

¹⁹ Thomas W. Merrill, *Explaining Market Mechanisms*, 2000 U. ILL. L. REV. 275.

²⁰ DAVID HUME, A TREATISE OF HUMAN NATURE 487-488, 502-504 (L.A. Selby-Bigge ed., 2d ed. 1978); PENNER, *supra* note 16, at 111.

²¹ Henry E. Smith, *The Economics of Property Law*, in THE OXFORD HANDBOOK OF LAW AND ECONOMICS, VOLUME 2: PRIVATE AND COMMERCIAL LAW 148 (Francesco Parisi ed., 2017). On partial decomposability, see Simon, HERBERT A. SIMON, THE SCIENCES OF THE ARTIFICIAL (2d ed. 1981); see also Herbert A. Simon, *The Architecture of Complexity*, 106 PROC. AM. PHIL. SOC'Y 467, 477 (1962).

The centrality of things is also responsible for a core feature of the rights and obligations associated with property, namely that they apply to “all the world” without regard to whether anyone has personally agreed to be bound. Tellingly, this feature is often identified as the “in rem” nature of property. “In rem” literally means with respect to a thing. Rights and obligations are of course rights and obligations of persons.²² But when they concern property, the existence of these rights and obligations is transmitted in and through the thing. The identification of a thing as property communicates to perfect strangers that they have a duty not to take, intrude upon, or otherwise interfere with the thing. It is unnecessary to know who owns the thing or what the status of their ownership might be.²³ The same feature applies to the interests of persons in protecting their bodily integrity and reputation. But these interests are communicated through the status of persons as human beings. The rights and duties associated with property are communicated through things recognized as being subjects of the system of property.

The anchoring of property in discrete things also helps reduce the information costs associated with property systems more generally. Any system for organizing rights to assets that imposes duties on “all the world” presents a potentially enormous informational problem.²⁴ If everyone had to carry around a list of things they own, and communicate such a list to everyone they encounter, the informational burden would quickly become insurmountable. By reducing the inquiry to identifying things that are conventionally part of the system of property, these costs are dramatically reduced. Persons need only identify discrete things which are conventionally owned in order to avoid interfering with the rights of others, or to initiate further inquiries about ownership in order to engage in some kind of exchange of rights.

B. Right to Exclude and Possession

Closely related to thingness is a general principle of property – that it allocates to particular persons (including institutions) the right to exclude all the world from a thing.²⁵ This right is often implemented through notions of possession, or their analogues for intangibles.

The centrality of the exclusion right has been recognized by a wide variety of scholars and courts over time.²⁶ The functional significance of the right is that it allocates control over

²² Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions As Applied in Judicial Reasoning*, 26 YALE L.J. 710, 720-21 (1917).

²³ PENNER, *supra* note 16, at 75-76.

²⁴ See, e.g., Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 789-809 (2001).

²⁵ See, e.g., Thomas W. Merrill, *The Property Strategy*, 160 U. PA. L. REV. 2061 (2012).

²⁶ See, e.g., J.W. HARRIS, PROPERTY AND JUSTICE (1996); BEN MCFARLANE, THE STRUCTURE OF PROPERTY LAW 132-204 (2008); PENNER, *supra* note 16; Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV., 740-52 (1998); Thomas W. Merrill, *Property and the Right to Exclude II*, 3 BRIGHAM-KANNER PROP. RTS. CONF. J. 1 (2014); see also Shyamkrishna Balganesh, *Demystifying the Right to Exclude: Of Property, Inviolability, and Automatic Injunctions*, 31 HARV. J.L. & PUB. POL’Y 593, 602-05 (2008); Larissa Katz, *Exclusion and Exclusivity in Property Law*, 58 U. TORONTO L.J. 275 (2008); Smith, *supra* note 15, at 1704-05; James Y. Stern, *The Essential Structure of Property Law*, 115 MICH. L. REV. 1167 (2017).

the thing to designated persons. In order to use, enter, exploit, or develop the thing, all the world must obtain the permission of the person with the right to exclude. The person with the right to exclude can either deny, grant, or condition access to the thing in such a way as to determine how it will be used.

There has been considerable confusion about what it means to say that the right to exclude is fundamental to property. The right to exclude is not some kind of goal or value in and of itself – any more than the identification of some object as a thing is a goal or value in and of itself.²⁷ The exclusion right is a means to end, which is the allocation of the right to control assets to particular persons.²⁸ This dispersion of control is what makes property such a valuable social institution, whether by advancing individual autonomy, providing a basis for developing individual future plans, promoting the efficient use of resources, creating incentives for productive investment, or other valued ends. And, again, the right to exclude can serve these ends indirectly, as part of the overall complexity of property.²⁹

Nor does the importance of the right to exclude mean that the right to exclude is absolute or unqualified. The law has long recognized exceptional circumstances in which the right to exclude gives way to some kind of privilege of entry, whether it be the defense of necessity to trespass or the implied license given to firefighters to enter a burning building. Modern anti-discrimination and public accommodation laws provide other examples. The critical point is that property requires that some designated person be given enough exclusion right that it can be said that this person exercises significant discretionary control over the use of the thing.

How did property come to feature the right to exclude as a critical element of its architecture? There is both a functional and a historical explanation, which are mutually reinforcing. Both are grounded more or less in possession.

The functional explanation reverts again to the informational burden associated with any system of rights and duties that applies to all the world. The right to exclude communicates a very simple message to the world: keep off, don't take. Even persons with little or no formal education or young children can comprehend the message. If property were identified by a feature that lies closer to the goals or ends that a system of property is thought to achieve – such as the promotion of individual autonomy, the realization of life plans, the enhancement of efficient use of resources, or the encouragement of productive investment – only the most sophisticated members of society would be able to offer an opinion as to who is in charge of

²⁷ See, e.g., Smith, *supra* note 15, at 1705 (“Exclusion is at the core of this architecture because it is a default, a convenient starting point. Exclusion is not the most important or “core” value because it is not a value at all. Thinking that exclusion is a value usually reflects the confusion of means and ends in property law: exclusion is a rough first cut--and only that-- at serving the purposes of property.”).

²⁸ In this respect, our framework diverges from Kantian approaches, which take exclusion to be an aspect of the relevant interpersonal relationship. See, e.g., Arthur Ripstein, *Possession and Use*, in *PHILOSOPHICAL FOUNDATIONS OF PROPERTY LAW* 156 (James Penner & Henry E. Smith eds., 2013).

²⁹ Thomas W. Merrill, *The Property Prism*, 8 *ECON. J. WATCH* 247, 254 (2011).

what. And even then, they would likely disagree. The right to exclude translates into control over resources, and does so with a simple, easily communicated message.

A possible rejoinder is that courts, insofar as they adjudicate property disputes, are capable of processing a more complicated message than “keep off” and “don’t take.” No doubt this is true. But courts consider only a tiny fraction of the number of disputes about property that occur in the real world. Property norms operate millions of times a day in all corners of society without the intervention of learned scholars, lawyers, or judges. And the point about the potential for disagreement over the proper application of the goals or ends of a system of property is fully applicable to any proposal to have courts adjudicate property disputes by referring to these goals or ends. So courts are well advised to resolve cases involving trespass, conversion, and larceny without engaging in ruminations about who is most deserving or will make the best use of the thing. These torts – and the norms they reinforce – key off possession or its close analogues. And with rare exceptions, this is in fact how they proceed.

The historical explanation is that property norms started out as intuitions about possession and the right of persons who are in possession to maintain that possession against interference by others. Possessory norms could emerge from bilateral interactions between those desiring to use resources.³⁰ Establishing possession entails establishing and communicating exclusive control over a thing. And a right to possession is a right to exclude others from interfering with such exclusive control over a thing. Thus, insofar as norms about possession come before legal property systems are developed – and insofar as norms about possession continue to undergird legal property systems – the right to exclude will naturally transfer to legal norms about property.³¹

Possessory notions display a layered structure consistent with this history and the function such notions serve. As concrete notions of possession became less adequate to situations of greater specialization and more complex activity, they were supplemented with notions of constructive possession and rights to possess, all of which work in tandem to produce complex legal effects.³²

C. Hybrids of Exclusion and Governance

While exclusion is the starting point in delineating rights to things and is tightly interwoven with thinghood itself, the strategies for delineating property rights fall along a

³⁰ Samuel Bowles & Jung-Kyoo Choi, *Coevolution of Farming and Private Property*, 110 PNAS 8830 (2013); David Friedman, *A Positive Account of Property Rights*, 11(2) SOCIAL PHIL. & POL’Y 1 (1994). On the shape of possessory conventions in such frameworks, see HUME, *supra* note 20, at 484-501; ROBERT SUGDEN, *THE ECONOMICS OF RIGHTS, CO-OPERATION AND WELFARE* (2004).

³¹ Thomas W. Merrill, *Ownership and Possession*, in *LAW AND ECONOMICS OF POSSESSION* 9 (Yun-Chien Chang ed., 2015).

³² Henry E. Smith, *The Elements of Possession*, in *LAW AND ECONOMICS OF POSSESSION* 65 (Yun-Chien Chang ed., 2015).

spectrum from exclusion to governance.³³ Exclusion and governance are poles of a spectrum of strategies for delineating rights. A possessor's or owner's interest in using a clusters of attributes can be protected by giving that person control over access or control over use. Implementing this control involves selecting proxies for harm to the interest in use that can form the basis for violations of the right. In exclusion, the proxy is not formulated directly in terms of use and typically involves not crossing a boundary (trespass) or performing some clear action (taking).³⁴ As we move toward governance, the proxies for violation are more directly tied to use, as with easements, covenants, the law of nuisance, and land use regulation.³⁵

Because it refers fairly relatively directly to use, governance can be used as between neighbors (at the interface of packages of rights), and it can be used internally to govern the behavior of multiple persons with access to the same resource. This is especially important in common property (as opposed to open access property and classic private property).³⁶

Different resources will call for varying treatment in terms of exclusion and governance. Because some resources are difficult to bound, or to treat as separate things, they may be less amenable to exclusion and more suited to governance. "Fluid" resources have this feature, and we find heavy reliance on governance in areas like water law and intellectual property.³⁷ Also, where specialized functions are important, simple access control will typically not be enough. This is why entity property like condominiums and corporations place most of their emphasis on governance once separate functions (e.g., management vs. enjoyment) have been separated.³⁸ It is a misconception that the architectural theory of property has no place for governance: governance has been at its heart all along.³⁹

³³ See Henry E. Smith, *Exclusion Versus Governance: Two Strategies for Delineating Property Rights*, 31 J. LEGAL STUD. S453, S456–57 (2002).

³⁴ Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1323–32 (1993).

³⁵ See, e.g., Keith N. Hylton, *The Economics of Nuisance Law*, in RESEARCH HANDBOOK ON THE ECONOMICS OF PROPERTY LAW 323 (Kenneth Ayotte & Henry E. Smith eds., 2011); Thomas W. Merrill, *Trespass, Nuisance, and the Costs of Determining Property Rights*, 14 J. LEGAL STUD. 13 (1985); Henry E. Smith, *Exclusion and Property Rules in the Law of Nuisance*, 90 VA. L. REV. 965 (2004); J.E. Penner, *Nuisance and the Character of the Neighbourhood*, 5 J. ENVTL. L. 1, 14–25 (1993).

³⁶ ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990); see also Henry E. Smith, *Governing Intellectual Property*, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW: VOLUME 1: THEORY 47 (Ben Depoorter, Peter Menell & David Schwartz eds., 2019).

³⁷ See, e.g., Henry E. Smith, *Governing Water: The Semicommons of Fluid Property Rights*, 50 ARIZ. L. REV. 445 (2008); Henry E. Smith, *Semicommons in Fluid Resources*, 20 MARQUETTE INTELL. PROP. L. REV. 195 (2016).

³⁸ MERRILL & SMITH, *supra* note 10, at 641–799; THOMAS W. MERRILL & HENRY E. SMITH, *THE OXFORD INTRODUCTIONS TO U.S. LAW: PROPERTY* 123–28 (2010).

³⁹ Thus, Greg Alexander's governance property, Gregory S. Alexander, *Governance Property*, 160 U. PA. L. REV. 1853, 1855 n.3 (2012), is similar to what we have called "entity property." Alexander may miss this because he believes, wrongly, that governance only involves external relations. *Id.* at 1855 n.3. See Henry E. Smith, *The Persistence of System in Property Law*, 163 U. PA. L. REV. 2055, 2073 n.71 (2015).

D. Modularity

Related to hybrids of exclusion and governance is the role of modularity in property. The exclusion-governance set-up allows much interaction between sticks and between resource-related activities to occur “internally” to a property interest, with especially important and difficult interdependencies between such interests and other interests and context being handled at the “interface” through governance strategies.⁴⁰

Modularity runs even deeper in property law. Different things subject to the system of property can be combined or separated to form new things which are also regarded as property, without any need to inquire as to the status of the component elements that make up the whole. In keeping with the architectural theme, one can picture property as Legoland, in which blocks can be snapped together or taken apart in ways that suit the needs of those who have the appropriate rights to the individual blocks.

This feature of property obviously contributes in a major way to its functional value. Stones can be fixed to handles that make them into tools or weapons. Structures can be added to land which makes it habitable. Crops that grow on the land can be severed and sold separately as foodstuffs. Short stories that have been copyrighted by different authors can be assembled as anthologies, and so forth.

Like other general principles of property, the modular feature operates without controversy or explicit acknowledgment in most everyday applications. If A acquires as her own property pieces of wood, nails, and paint, and assembles these items into a painted chair, no one questions that the chair is now a thing that also belongs to A. Similarly, if B acquires some land, wooden forms, a shovel, and bags of cement, and assembles uses these items to build a foundation for a house on the land, no one questions that the foundation belongs to B as part of the thing which is the land.

Property achieves this feature of modularity through various accessionary doctrines.⁴¹ Typically, these come into play only when there is some reason to question the connectedness of two or more things held as property. Some accessionary doctrines have nearly universal application, such as the understanding that newborn animals belong to the owner of the mother, or that trees that grow from the soil belong to the owner of the land.⁴² Others have a more complex or contestable quality, such as the law of fixtures that determines whether an article of moveable property is sufficiently connected to the land that it should be regarded as being part of the land, or the *ad coelum* principle, which says that valuable minerals discovered underground belong to the owner of the surface.⁴³ In general, accessionary doctrines are designed to tell us

⁴⁰ Smith, *supra* note 15.

⁴¹ Thomas W. Merrill, *Accession and Original Ownership*, 1 J. LEGAL ANALYSIS 459 (2009).

⁴² *Id.* at 464-69.

⁴³ *Id.* at 467, 470-73.

what-goes-with-what in cases where there is some question or doubt about the answer.⁴⁴ But the existence of a relatively small number of contestable cases should not obscure the operation of the modularity principle, which silently applies in the vast majority of cases in which distinct things are assembled or taken apart without any question being raised about the continuity of respective property rights in things.

E. Differential Formalism

The modular structure and exclusion strategy make property more “formal” than it might otherwise be. As in other areas of private law, there is a lot of discussion and controversy around the issue of formalism. The Legal Realists, whose legacy we still live with, defined themselves in opposition to a supposedly earlier formalism.⁴⁵ In property as in contract law, formalists and contextualists often square off against each other, with the former emphasizing certainty and low transaction costs and the latter preferring more tailored and judicially expert decisions that employ parts of the context that relate to fairness.

The architectural theory of property points toward a more nuanced approach to formalism. Formalism can quite generally be regarded as relative invariance to context.⁴⁶ Thus computer languages and the language of first-order logic are more formal than natural languages like English and Japanese, because the latter require more context. Informal everyday mathematical notation likewise requires more shared context than that used for published proofs. Within a language like English, everyday speech requires a lot of context whereas in more impersonal contexts speech relies on less context – it is more formal.

In law generally, there is a tradeoff between communicating with a (typically) smaller, socially closer audience in a compressed way and a wider more impersonal audience in a more elaborate way.⁴⁷ The more elaborate version is more formal, because context cannot be assumed implicitly in these socially more distant contexts.

In the law of property, audience matters – and varies a lot by situation.⁴⁸ The classic in rem right is broadcast to all the world (or everyone in society). This generally calls for spelled out formalism rather than implicit contextually-contingent meaning. In some scenarios, such as easements and covenants, and the law of neighbors (e.g., nuisance) more context can be assumed and the law need not be so formal. Custom is an excellent testing ground: custom within a community can be very shorthand by depending on the shared knowledge of the community

⁴⁴ Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1766-77 (2007).

⁴⁵ See, e.g., NEIL DUXBURY, PATTERNS OF AMERICAN JURISPRUDENCE 9-159 (1995).

⁴⁶ Francis Heylighen, *Advantages and Limitations of Formal Expression*, 4 FOUNDATIONS OF SCI. 25 (1999).

⁴⁷ Henry E. Smith, *The Language of Property: Form, Context, and Audience*, 55 STAN. L. REV. 1105 (2003).

⁴⁸ See *id.*; see also Thomas W. Merrill, *Property and Sovereignty, Information and Audience*, 18 THEOR. INQUIRIES IN LAW 417 (2017).

members.⁴⁹ When custom is applied to non-members or is adapted into general law it generally has to be formalized more.

Finally, the contrast between contract and property is partly one of formalism. While formalism varies within both contracts and property, we expect generally property to be more formal than contract. For one thing, property rights typically last longer and so have to reach an audience that is temporally more distant.⁵⁰ And as said before, property rights avail against third parties who can be presumed to have even less shared background information than the typical contracting party. Boilerplate is in a sense a step on the road to the type of situation that is more common in property.⁵¹ Differential formalism is tightly connected to the architecture of property.

F. Standardization and the *Numerus Clausus*

Closely related to formalism is standardization, and our next general principle of property systems is the *numerus clausus*, meaning “closed number” of property forms. What this means is that property is held in one of a finite number of recognized forms. The principle appears most clearly in mature legal property systems, where we find the law limiting property to a number of reasonably well-defined legal forms, such as the fee simple, the life estate, the lease, the trust, and so forth. Presumably a similar principle applies in pre-modern societies, although documentation of this is sparse or nonexistent. For example, it is plausible in many such societies that property or possessory rights may be held only as collective property, the chief’s property, or individual property, or some similar division.

The *numerus clausus* manifests itself in different ways in different legal systems. In Roman law and modern civil law generally, the *numerus clausus* is generally an important constraint, although it differs in explicitness. In civil law systems that derive from the German Civil Code, the *numerus clausus* is an explicit restriction on the number and type of forms in which property can be held.⁵² In common law systems, the *numerus clausus* operates as a principle of interpretation, in which grants of property in deeds or wills will be interpreted as falling into one of the limited number of recognized legal forms.⁵³ Thus, even if the grantor

⁴⁹ Henry E. Smith, *Community and Custom in Property*, 10 THEOR. INQUIRIES IN LAW 5 (2009).

⁵⁰ Carol M. Rose, *What Government Can Do for Property (and Vice Versa)*, in THE FUNDAMENTAL INTERRELATIONSHIPS BETWEEN GOVERNMENT AND PROPERTY 209, 214-15 (Nicholas Mercuro & Warren J. Samuels eds., 1999).

⁵¹ Henry E. Smith, *Modularity in Contracts: Boilerplate and Information Flow*, 104 MICH. L. REV. 1175 (2006).

⁵² See BUNDESGESETZBUCH § 854; 3 MOTIVE ZU DEM ENTWURF EINES BÜRGERLICHEN GESETZBUCHES FÜR DAS DEUTSCHE REICH 3 (official ed. 1888); Jürgen Kohler, *The Law of Rights in rem*, in INTRODUCTION TO GERMAN LAW 227, 230 (Werner F. Ebke & Matthew W. Finkin eds. 1996); Yun-chien Chang, Nuno Garoupa & Martin Wells, *Drawing the Legal Family Tree: An Empirical Comparative Study of 108 Property Doctrines in 154 Jurisdictions*, paper presented at American Law and Economics Association Annual Meeting, NY, NY: NYU School of Law, Apr. 17, 2019.

⁵³ Bernard Rudden, *Economic Theory v. Property Law: The Numerus Clausus Problem*, in OXFORD ESSAYS IN JURISPRUDENCE 239, 241 (3d Series, John Eekelaar and John Bell, eds. 1987).

unambiguously tries to impose an idiosyncratic restriction on property, courts will disregard the intent and will squeeze the conveyance into one of the recognized forms. The court will then say it was the intent of the grantor to create the particular form to which the grant most closely conforms. Whether it exists as an explicit legal restriction or as a principle of interpretation, the *numerus clausus* appears to be a universal principle followed by all property systems. Even systems that purport to have an “open” catalog of property forms (*numerus apertus*) manage one way or another to set limits on the creation of new forms.⁵⁴ It is part of the architecture of property.

In mature legal systems that recognize a robust freedom of contract, the *numerus clausus* presents something of a puzzle. Any two individuals, A and B, can agree by contract to a limitless number of restriction on the use of their respective things. But in order to have such restriction “run” with the thing, such that it will be binding any successor in interest to A or B or otherwise bind third parties, the restrictions will have to conform to a recognized form. What is the reason for this restriction on freedom of contract, whereby parties must limit their aspirations to restrict the future use of their property to those permitted by one of a finite number of recognized forms?

Our explanation for the *numerus clausus* returns once more to information costs.⁵⁵ If property could be held in a limitless number of forms, then anyone interested in participating in a transaction of property rights would have to engage in a costly and time-consuming investigation to see if the thing in question is held in some idiosyncratic fashion. By “transaction,” we include not only purchases of property but also other types of conveyances such as leases and the creation of security interests in property in order to borrow money. In a world of limitless property forms, any potential purchaser, lessee, or secured lender would have to engage in a burdensome search before entering into the transaction to make sure the property was not encumbered by some restriction that could defeat their objectives. In contrast, if all property must be held in one of a finite number of legal forms, the parties can be confident that the thing can be restricted only in the ways permitted by the form to which it most closely corresponds. The *numerus clausus*, in other words, exists in order to limit an informational externality – the additional search costs that potential transactors would incur if property could be held in limitless and idiosyncratic forms.

The *numerus clausus* is of some relevance for other third parties as well. The reason that third parties are impacted by information costs is that they don’t want to be saddled with unwanted duties and liabilities. Thus, with respect to non-successor third parties, the problem of

⁵⁴ For an extended discussion and review of literature showing how Spain, Norway, and South Africa, constrain the number of property forms without an official *numerus clausus* (indeed an official *numerus apertus*), see Yun-Chien Chang & Henry E. Smith, Convergence and Divergence in Systems of Property Law: Theoretical and Empirical Analyses (December 11, 2018). Southern California Law Review, Vol. 92, No. 4, 2019, available at SSRN: <https://ssrn.com/abstract=3204524>.

⁵⁵ *Id.* at 24-42.

information costs is intertwined with the non-consensual nature of rights good against the world. Also, the forms that are allowed will (or should be) be the most valuable.⁵⁶

It is worth emphasizing that the architectural approach does not reduce property to a system for minimizing information costs. Information costs could be minimized by having one form or never allowing transfer. Instead information and other costs need to be (roughly) optimized in light of the purposes that property serves. Our model is a cost-benefit model.

As with exclusion and governance, standardization is not only not absolute – it does not operate in a vacuum. Standardization works in tandem with other notice giving devices like possession and title records. Title records do not completely solve the notice problem and remove the need for standardization. Information costs go beyond the problem of verifying rights and even – or especially – registries require information to be in a standardized format.⁵⁷

Strong evidence for the importance of standardization and its relation to “in rem”-ness comes from the patterns within areas of property law. Those aspects of property that are the most in rem are the most standardized, while the most in personam, are the least, with aspects that involve many definite parties or few indefinite parties – situations of intermediate information cost – somewhere in between in their degree of standardization.⁵⁸ This pattern shows up in such disparate areas as trusts, bailments, security interests, and landlord-tenant.

The trust allows for a lot of variation without major third party information costs. An interest in trust is a close functional substitute for an in rem right, but to the rest of the world it is not of legal relevance other than to third party purchasers with notice or who do not give value.⁵⁹

Closely related to standardization is interoperability. Modular packages of property rights like those over parcels of land combine well and scale up or down because their properties

⁵⁶ Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 39 (2000).

⁵⁷ See Henry E. Smith, *Standardization in Property Law*, in RESEARCH HANDBOOK ON THE ECONOMICS OF PROPERTY Law 148 (Kenneth Ayotte & Henry E. Smith eds., 2011). In this connection it worth noting that the German land registries are coupled with a strict *numerus clausus*; it is likely that the registrar performing what amounts to a mini quiet title action stands in for the set of in rem duty bearers and so cannot tolerate a lot of idiosyncrasy in property rights. BENITO ARRUÑADA, INSTITUTIONAL FOUNDATIONS OF IMPERSONAL EXCHANGE: THE THEORY AND POLICY OF CONTRACTUAL REGISTRIES (2012); Benito Arruñada, *Property Enforcement as Organized Consent*, 19 J.L. ECON & ORGANIZ. 401 (2003). Also telling is that when New Zealand sought to automate its Torrens style registry, the rights submitted had to be even more standardized than they were before. Benito Arruñada, *Leaky Title Syndrome?*, 2010 NEW ZEALAND L.J. 115 (April 2010).

⁵⁸ Merrill & Smith, *supra* note 24.

⁵⁹ See Merrill & Smith, *supra* note 24, at 847-49. The trust largely removes the need for a category of innominate property rights, which might well present greater third-party costs. Cf. HANOCH DAGAN & MICHAEL A. HELLER, THE CHOICE THEORY OF CONTRACTS (2017) (proposing a residual category of innominate contract rights).

are standardized.⁶⁰ The rights and duties in nuisance and lateral support work seamlessly for combined or divided parcels. This aspect of standardization helps implement modularity.

G. “Property Rule” Protection and Equity

A final general design principle is a preference for specific relief in cases involving disputes over property. To use the vocabulary introduced by Calabresi and Melamed, property is generally protected by “property rules” rather than “liability rules.”⁶¹ In large measure, this follows as a natural corollary of some of the other principles already mentioned. In order to protect the owner’s right to exclude others from her thing, as assembled or severed from other things, the law requires others to desist from interfering with her thing. Unlike the law of contract and the law of personal injury torts, the law of property resists the notion that one can “take and pay for” the property of another.

In contrast to some of the other principles, such as the centrality of things or the right to exclude, the preference for specific relief has had to struggle to emerge over time. In large measure, this was because of institutional limitations of the courts. Courts could readily issue judgments for damages, and enforce these with writs of execution or garnishment. But ordering a defendant to desist from interference raises more difficult questions of monitoring for compliance and potential actions to enforce compliance through contempt proceedings. To be sure, the early writs of novel disseisin and nuisance contemplated specific relief, in the form of restoration to possession or abatement of the nuisance. But the more general preference for specific relief began to fill out only with the emergence of the court of chancery, and its development of a more complete set of remedies including the injunction and the constructive trust. Tellingly, the jurisdiction of the court of chancery was long limited to enforcing rights of property.⁶² Only in the modern era have equitable remedies expanded to include other kinds of interests.

The preference for specific relief, at least in cases involving knowing interference with property rights, has a simple functional explanation, to wit, protection of the reliance interests of persons with respect to property.⁶³ The value of property has always been linked with notions of stability of expectation. People acquire property to pursue a variety of ends. The protection of property against deliberate interference is integral to allowing individuals to pursue these ends. Some ends may be quite idiosyncratic or fanciful. But more commonly, they are integrally

⁶⁰ Smith, *supra* note 15, at 1713.

⁶¹ Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 Harv. L. Rev. 1089 (1972).

⁶² Joseph R. Long, *Equitable Jurisdiction to Protect Personal Rights*, 33 YALE L.J. 115, 115 (1923).

⁶³ See, e.g., Richard A. Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091 (1997); Keith N. Hylton, *Property Rules and Defensive Conduct in Tort Law Theory*, 4 J. TORT L. 1 (2011); Carol M. Rose, *The Shadow of The Cathedral*, 106 YALE L.J. 2175, 2194-97 (1997); Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719 (2004).

important to the realization of individual autonomy, or family security, or a desire to undertake value-enhancing improvements.

Of course “property rule” and “liability rule” are not legal categories. Instead, one of the main methods of implementing property rule protection is the injunction, a creature of equity.⁶⁴ It turns out that traditional equity also embodies design principles that are an important aspect of the architecture of property. Equity has a structure – it is a second-order overlay on the regular law.⁶⁵ As such it is far more targeted but much more contextual than the regular law. Multipolar problems, conflicting rights, and opportunism are especially amenable to second-order solutions, and these are among the special concerns of equity from a functional standpoint. Having law and equity specialize allows equity to be more intense and law to be more formal, which in certain aspects has a particular importance for law.

Equity’s second-order contribution is targeted but pervasive. When it comes to building encroachments, injunctions are presumptive but the presumption can be overcome if the encroachment was innocent and there is disproportionate hardship (not equipoise). Disproportionate hardship is key to injunctions in nuisance – something missed by the court in *Boomer v. Atlantic Cement* in its “liability rule” opinion⁶⁶ – and equity is especially suited to reconciling conflicting presumptive rights between neighbors.⁶⁷ Equity also prevents the use of injunctions where someone is manufacturing a lawsuit.⁶⁸

IV. Further Implications

The architectural theory of property invites us to revisit some basic questions about what property theory is for in the first place.

At the most practical level, the architectural theory makes room for a new empiricism in property. The additive rule-by-rule or “heap” conception of property, including extreme versions of the bundle of rights, implicitly make some very strong “all else equal” assumptions. Analysis can focus on one piece of the system and assume that everything else stays the same. The architectural view makes us ask when and how much such assumptions can and should be made. Thus, some parts of property law are more detachable, such as the contractual aspects of

⁶⁴ Mark P. Gergen, John M. Golden & Henry E. Smith, *The Supreme Court’s Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. 203 (2012).

⁶⁵ Henry E. Smith, *Fusing the Equitable Function in Private Law*, in PRIVATE LAW IN THE 21ST CENTURY 173 (Kit Barker, Karen Fairweather & Ross Grantham eds., 2017); Henry E. Smith, *Equity as Second-Order Law: The Problem of Opportunism* (January 15, 2015), available at SSRN: <http://ssrn.com/abstract=2617413>.

⁶⁶ 257 N.E.2d 870 (N.Y. 1970). On how the court’s opinion went off the rails by ignoring the equitable defense of undue (or disproportionate) hardship, see Douglas Laycock, *The Neglected Defense of Undue Hardship (and the Doctrinal Train Wreck in Boomer v. Atlantic Cement)*, 4 J. TORT L. 3.

⁶⁷ John C.P. Goldberg & Henry E. Smith, *Wrongful Fusion: Equity and Torts*, in EQUITY AND LAW: FUSION AND FISSION 309, 315-18, 326-28 (John C.P. Goldberg, Peter Turner & Henry E. Smith eds., 2019).

⁶⁸ See, e.g., *Edwards v. Allouez Mining Co.*, 38 Mich. 46 (1878).

landlord-tenant; the implied warranty of habitability can be studied on its own (up to a point). By contrast, the notion of possession is so intertwined with the rest of property law that it would be difficult to change it without ripple effects. A higher-level prediction is that those aspects of property law that are more integrated into the system should be, all else equal, more difficult to change, whereas the more separable ones should be more amenable to alteration.⁶⁹ By and large we do find this pattern. Structural aspects of property law often converge between systems for functional reasons, such as the definition of things and the basics of conversion. However, more “stylistic” aspects diverge if they are more interconnected with other aspects of the legal system and converge if they are more isolated.⁷⁰ As in other human activities and artifacts, style is a characteristic way of doing things that could be otherwise. In property law, the common law relies more heavily on possession whereas civil law defines rights in terms of dominion. Or a lease can be a contract given some in rem features or can be defined as an in rem interest with special limits. Both structure and style relate to the architecture of property but in different ways. The architectural theory brings these questions to the fore.

In many ways, the architectural theory of property is a fulfillment of the promises of Legal Realism. It extends Realism’s functionalism and openness to interdisciplinary tools to the more systematic aspects of property, including its doctrines. With Llewellyn, the architectural perspective can view rules as means to ends and to ask them to prove their worth⁷¹ – but then gives them a chance to do so. The architectural view avoids confusing complication with true complexity and thus it avoids the “rigidification of rule and imagination” that supposedly follows from conceptualism.⁷² It suggests ways in which rules and doctrines should be changed in light of changes in complex conditions. Airplane overflights and the appropriability of intangibles will not leave trespass and conversion or perhaps even possession the same as before. Indeed, the dynamism of property law can be located not just in its evolving concepts but in their relationships.

Most importantly, the architectural view is a better fit with reality, in our complex but not chaotic world. A standard trope of Realism was that the modern world was too complex for the fusty old private law or the confines of conceptualism,⁷³ and it formed one of the rationales for

⁶⁹ Smith, *supra* note 39.

⁷⁰ Chang & Smith, *supra* note 54.

⁷¹ K.N. Llewellyn, *Some Realism about Realism—Responding to Dean Pound*, 44 HARV. L. REV. 1222, 1222 (1931).

⁷² Karl N. Llewellyn, *What Price Contract?—An Essay in Perspective*, 40 YALE L.J. 704, 705 (1931).

⁷³ See, e.g., THURMAN ARNOLD, *THE FOLKLORE OF CAPITALISM* 114-16 (1937); JAMES E. HERGET, *AMERICAN JURISPRUDENCE, 1870-1970: A HISTORY* 146-47 (1990); G. EDWARD WHITE, *THE EVOLUTION OF REASONED ELABORATION: JURISPRUDENTIAL CRITICISM AND SOCIAL CHANGE*, IN *PATTERNS OF AMERICAN LEGAL THOUGHT* 136, 139 (1978); see also RICHARD A. POSNER, *REFLECTIONS ON JUDGING* (2013) (arguing from complexity against formalism and for a new judicial realism).

the American Law Institute's Restatement projects.⁷⁴ Whatever the state of Realism today this inclination has survived well.⁷⁵ However, complexity is not an argument for complexity in the concepts themselves. The system has to manage complexity, which may (or may not) require simplicity at some point at the micro level of the system. Again, in complex systems local simplicity, such as simple intuitive rules (like keep out, don't take) can interact with other rules and context to create a highly complex set of system properties.⁷⁶

The architectural theory also poses more precise questions about the judicial role. Some principles like the *numerus clausus* are directly if implicitly about judicial self-restraint. More subtly, the point that some parts of the system are more integrated than others in the system of property law means that judicial intervention is easier in the latter than in the former. Some changes to the system are so fundamental that statutes may be required.⁷⁷ The architectural view points to the hybrid of property as both a made and spontaneous order⁷⁸ and tries to match one kind of evolution or the other to the landscape in question.

The architectural view is not a counsel of conservatism but of realism in the true sense. For example, property theorists were generally of the view that a statutory "right to roam" over unenclosed land was unambiguous progress. The possibility of cost did not figure in that literature, yet a subsequent empirical study found large and significant costs to creating a statutory right to roam.⁷⁹ While we need to wait to see whether such a result holds up in further studies, it is important to ask about both benefits and costs. Some costs stem from the interconnectedness of the "sticks" in the bundle: the roaming stick and the exclusion stick interact. While we see a major role for custom in property law and codifying this custom might be worth it, it is an empirical question whether any particular custom like the right to roam should be elevated to a statutory right. That it is an empirical question and one worth raising are highlighted on the architectural theory.

Finally, we come to a term about we which harbor some ambivalence. Our work has sometimes been grouped into a school of thought called the "New Essentialism,"⁸⁰ and we admit

⁷⁴ American Law Institute, Report of the Committee on the Establishment of a Permanent Organization for the Improvement of the Law 71-78 (1923); see Henry E. Smith, *Restating the Architecture of Property*, in 10 MODERN STUDIES IN PROPERTY LAW 19 (Sinéad Agnew & Ben McFarlane eds., 2018).

⁷⁵ Hanoch Dagan, *Pluralism and Perfectionism in Private Law*, 112 COLUM. L. REV. 1409 (2012).

⁷⁶ Andrew S. Gold & Henry E. Smith, *Sizing Up Private Law*, U. Toronto L.J. (forthcoming).

⁷⁷ Yun-chien Chang & Henry E. Smith, *An Economic Analysis of Civil Versus Common Law Property*, 88 NOTRE DAME L. REV. 1, 52-53 (2012); Merrill & Smith, *supra* note **Error! Bookmark not defined.**, at 58-68.

⁷⁸ F.A. HAYEK, LAW LEGISLATION AND LIBERTY 39 (1976).

⁷⁹ Jonathan Klick & Gideon Parchomovsky, *The Value of the Right to Exclude: An Empirical Assessment*, 165 U. PA. L. REV. 917 (2017); *id.* at 922 & n.18 ("Taking a markedly more guarded approach to the issue, Henry Smith cautioned that 'giving the right-to-roam stick to a neighbor or to the public affects the value of the remaining property.'"), *citing* Henry E. Smith, *Property Is Not Just a Bundle of Rights*, 8 ECON J. WATCH 279, 286 (2011).

⁸⁰ See Katrina Wyman, *The New Essentialism in Property*, 9 J. LEGAL ANALYSIS 183 (2017).

we have done our share to give this term some currency. By this term may be meant that a theory sees some feature, say thinghood or the right to exclude as essential to property, in the sense that it can form the basis of a definition. Or, more realistically, that these features distinguish property from other areas. Or that it is something about property that cannot be replicated by contract.⁸¹ Thus, rights to things good against the world cannot in a world of positive transaction costs be created through contract alone. All of these formulations get at something, but miss something – something essential – about the architecture of property. Like the architecture of buildings and cities, one cannot understand property except in terms of function and how that function is served. The complexity of the world in the relevant settings – persons interacting with respect to scarce resources – profoundly shapes property law and institutions. That complexity points towards some rationale for doctrines and features of property that are sometimes dismissed as mere formalism or arbitrary relics: they serve to manage complexity in a world of scarce resources – including the resources that can be devoted to defining rights and processing information about them. The architectural view has a built-in dynamism. The architectural view allows us to avoid making every question like every other – a microcosm of economic and political theory divorced from background conditions and reality itself. If that makes one an essentialist, then that's what we are.

V. Conclusion

The architectural theory of property brings property law back to the forefront. While not in any way denying the purposes property serves, it highlights how property achieves its objectives (or doesn't) in a world of complex interaction. It is the complexity of the world and the interactions the law has to manage that gives property law and institutions many of their characteristic contours – including their design principles and their inherent dynamism.

⁸¹ Henry Hansmann & Reinier Kraakman, *The Essential Role of Organizational Law*, 110 YALE L.J. 387, 393–94 (2000); Henry E. Smith, *The Economics of Property Law*, in 2 OXFORD HANDBOOK OF LAW AND ECONOMICS: PRIVATE AND COMMERCIAL LAW 148, 152–54 (Francesco Parisi ed., 2017).