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# The Importance of Viewing Property as a System

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## I. INTRODUCTION

Several global problems of extremes have raised fundamental questions about the viability of American capitalism and about the legal regime enabling it to exist and thrive—the American property system. One problem concerns the troubling and growing concentration of wealth in the hands of a few. This problem of extreme wealth exists not only in the United States but also at the global level, both within and between developed and developing countries. In the United States, for example, the 400 richest Americans saw their wealth triple or quadruple in size since the 1980s yet represent only .00025% of the country's population.[1]

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1. *See* Gabriel Zucman, *Global Wealth Inequality*, 11 ANN. REV. ECON. 109, 119 fig.1, 123 fig.3 (2019). Zucman defines wealth as all financial and non-financial assets

The 150 million adults in the bottom 60%, in contrast, experienced a decrease in wealth from 1987 (5.7%) to 2014 (2.1%) and collectively owned less than the 400 richest Americans.[2] A number of studies of different data sources have confirmed this trend of a sharp increase in the wealth share of the top 1% of Americans.[3] Though wealth distribution in other countries is more varied, many nations also have experienced significant concentrations of wealth.[4] In Russia, for instance, the transition from communism to capitalism resulted in an extremely high wealth concentration.[5] One important consequence of this problem of extreme wealth is the consolidation of political influence in the hands of a few, who can more easily fund their candidates and causes.[6]

A second related problem of extremes concerns the widening gap between high-income and low-income classes, aggravated by an increase in the low-income classes.[7] As lower income people lose their ability to earn and to accumulate wealth, they become more vulnerable to economic downturns and less able to climb up the income ladder or out of poverty.[8] This decline is due in part to the 2008 financial crisis, which devalued the main form of wealth of middle- and low-income people—their home.[9] The bigger the gap becomes, the more the sense of injustice and outrage grows, producing calls for change. In the United States, those calls have

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"over which households can enforce ownership rights and that provide economic benefits to their owners, net of any debts." *Id.* at 112. Gabriel Zucman has been described as "America's top wealth detective." Ben Steverman, *The Wealth Detective Who Finds the Hidden Money of the Super Rich*, BLOOMBERG BUSINESSWEEK (May 23, 2019, 2:00 AM), https://www.bloomberg.com/news/features/2019-05-23/the-wealth-detective-who-finds-the-hidden-money-of-the-super-rich [https://perma.cc/3RP8-8KYW]. For an introduction to the disagreement among economists on the extent of the inequality problem, see *Economists Are Rethinking the Numbers on Inequality*, ECONOMIST (Nov. 28, 2019), https://www.economist.com/briefing/2019/11/28/economists-are-rethinking-the-numbers-on-inequality [https://perma.cc/K3NR-MAPE].

2. Christopher Ingraham, *Wealth Concentration Returning to 'Levels Last Seen During the Roaring Twenties,' According to New Research*, WASH. POST (Feb. 8, 2019, 9:12 AM), https://www.washingtonpost.com/us-policy/2019/02/08/wealth-concentration-returning-levels-last-seen-during-roaring-twenties-according-new-research/?noredirect=on&utm_term=.844162deb303 [https://perma.cc/2H53-UU3M]; *USA*, WORLD INEQUALITY DATABASE, https://wid.world/country/usa/ [https://perma.cc/8CRA-6XKY].

3. *See* Zucman, *supra* note 1, at 110–11.

4. *See id.* at 111.

5. *Id.*

6. Ingraham, *supra* note 2.

7. *See id.*

8. *See id.*

9. *See* THOMAS PIKETTY, CHRONICLES ON OUR TROUBLED TIMES 1–2 (Seth Ackerman trans., 2016); *see also* David Harvey, *Neoliberalism as Creative Destruction*, 610 ANNALS AM. ACAD. POL. & SOC. SCI. 22, 22–24, 29–32 (2007) (asserting that neoliberalism is restoring power and dominance to the wealthy class that lost power to social democracy movements).

included such wealth redistribution devices as an increase in the minimum wage,[10] Medicare for All,[11] a more progressive tax code, and a millionaire's tax.[12] Unless changes occur, the gap could continue to widen to a point that would threaten social and political cohesion.

In addition to these problems of extreme wealth and extreme poverty, the United States and the world are facing potentially catastrophic environmental harm resulting from climate change.[13] An overwhelming percentage of the world's climate scientists agree that greenhouse gas emissions must be reduced significantly—and soon—in order to avoid reaching a tipping point, where the Earth's climate system moves to a new state that will be much less hospitable to life as we know it.[14] Warming

10. *See* Heather Boushey, *Understanding How Raising the Federal Minimum Wage Affects Income Inequality and Economic Growth*, WASH. CTR. FOR EQUITABLE GROWTH (Mar. 12, 2014), https://equitablegrowth.org/understanding-the-minimum-wage-and-income-inequality-and-economic-growth/ [https://perma.cc/FD6S-HGRH].

11. *Health Care as a Human Right – Medicare for All*, BERNIE SANDERS, https://berniesanders.com/issues/medicare-for-all/ [https://perma.cc/NT73-4NA9]; Jeff Stein, *Sen. Kamala Harris's 2020 Policy Agenda: $3 Trillion Tax Plan, Tax Credits for Renters, Bail Reform, Medicare for All*, WASH. POST (Jan. 21, 2019, 8:40 AM), https://www.washingtonpost.com/politics/2019/01/21/sen-kamala-harriss-policy-agenda-trillion-tax-plan-tax-credits-renters-bail-reform-medicare-for-all/ [https://perma.cc/Q369-UUWZ].

12. *See* Liz Goodwin, *Elizabeth Warren Proposes Wealth Tax and Lays Down 2020 Marker*, BOS. GLOBE (Jan. 24, 2019, 8:57 PM), https://www.bostonglobe.com/news/politics/2019/01/24/elizabeth-warren-will-propose-wealth-tax-very-rich/9PYJIr0xLrdSjvXX7h0szM/story.html [https://perma.cc/KKA6-JDCA]; Stein, *supra* note 11; Robert Reich, *Why We Need a Wealth Tax*, ROBERT REICH (May 14, 2019), https://robertreich.org/post/184864571375 [https://perma.cc/M88W-TNT6].

13. *See* Stephen Leahy, *Climate Study Warns of Vanishing Safety Window–Here's Why*, NAT'L GEOGRAPHIC (Mar. 12, 2019), https://www.nationalgeographic.com/environment/%202019/03/%20climate-change-model-warns-of-difficult-future/ [https://perma.cc/DN7S-S8VM].

14. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT 4 (2015), https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf [https://perma.cc/Y666-CVZW]; U.S. GLOBAL CHANGE RSCH. PROGRAM, CLIMATE SCIENCE SPECIAL REPORT 14, 35 (2017), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf [https://perma.cc/CP6U-U39B] [hereinafter CLIMATE SCIENCE SPECIAL REPORT]; Leahy, *supra* note 13. The National Climate Assessment released in November 2018 concludes that the dangers posed by climate change are worsening. U.S. GLOBAL CHANGE RSCH. PROGRAM, 2 FOURTH NATIONAL CLIMATE ASSESSMENT: IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES 34–71 (2018), https://nca2018.globalchange.gov/chapter/1/ [https://perma.cc/8ADK-ZUBD]; *see also* Brady Dennis & Chris Mooney, *Major Trump Administration Climate Report Says Damage Is 'Intensifying Across the Country,'* WASH. POST (Nov. 23, 2018, 4:49 PM), https://www.washingtonpost.com/energy-environment/2018/11/23/major-trump-administration-climate-report-says-damages-are-intensifying-across-country/ [https://perma.cc/8RQ5-

oceans and temperatures lead to more water in the atmosphere, the melting of land and sea ice, rising sea levels, and more intense weather events in whatever form they occur.[15] Category 5 hurricanes will develop more quickly and frequently, snowstorms will cover larger areas and produce greater accumulations, polar air will plunge more deeply, and arid conditions caused by shifting ocean and atmospheric currents will lead to longer droughts and more intense wildfires.[16]

All three problems of extreme are occurring largely unchecked because of the excesses of the American form of capitalism and the now dominant economic theory of property that allows capitalism to operate virtually unconstrained.[17] The current American strand of capitalism is a free market, neoliberal approach that stresses the importance of marketplace transactions and the decision-making of rational, self-interested actors who are often free-riding on others.[18] The economic theory of property underlying American and other western-style property systems legitimates the power of owners to decide, largely on their own, how to use and manage their property.[19] That theory encourages the disaggregation of resources into increasingly smaller units for the purpose of creating greater returns, though not necessarily in the form of actual goods and products.[20] Indeed, much of the new wealth is held as finance capital

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H7K8]. In December 2019, two experts warned that, because of deforestation and fires, the Amazon is now facing a tipping point. *See* Chris Mooney & Brady Dennis, *Top Scientists Warn of an Amazon 'Tipping Point,'* WASH. POST (Dec. 20, 2019, 3:14 PM), https://www.washingtonpost.com/climate-environment/top-scientists-warn-of-an-amazon-tipping-point/2019/12/20/9c9be954-233e-11ea-bed5-880264cc91a9_story.html [https://perma.cc/FUP8-YEPX].

15. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 14, at 5–7; CLIMATE SCIENCE SPECIAL REPORT, *supra* note 14, at 231.

16. *See* CLIMATE SCIENCE SPECIAL REPORT, *supra* note 14, at 231, 277; JOSEPH ROMM, CLIMATE CHANGE: WHAT EVERYONE NEEDS TO KNOW 73–74, 80–84, 118–23 (2016). *See generally* UNION OF CONCERNED SCIENTISTS, WHEN RISING SEAS HIT HOME: HARD CHOICES AHEAD FOR HUNDREDS OF US COASTAL COMMUNITIES (2017).

17. *See* STEVEN PEARLSTEIN, CAN AMERICAN CAPITALISM SURVIVE? WHY GREED IS NOT GOOD, OPPORTUNITY IS NOT EQUAL, AND FAIRNESS WON'T MAKE US POOR 33–39 (2018) (discussing how self-interest, rational expectations, and a zealous commitment to efficient markets hijacked Adam Smith's economic theory).

18. *See* Robert Kuttner, *Neoliberalism: Political Success, Economic Failure*, AM. PROSPECT (June 25, 2019), https://prospect.org/economy/neoliberalism-political-success-economic-failure/ [https://perma.cc/CC65-DH6P].

19. For a financial expert's explanation of the relationship between private property and capitalism, see Sean Ross, *How Are Capitalism and Private Property Related?*, INVESTOPEDIA (June 25, 2019), https://www.investopedia.com/ask/answers/040615/how-are-capitalism-and-private-property-related.asp [https://perma.cc/5YZF-GGJJ].

20. *See id.*

and, to a lesser extent, as social capital.[21] Each smaller property unit, in turn, includes the gatekeeping or decision-making power accompanying individual ownership. Because of the focus on the individual decision-maker and the economic incentives guiding decision-making, the American systems of property and capitalism have acquired a distinctly predatory character that, if left unchecked over time, could undermine political and social cohesion and destroy the integrity of the Earth's biophysical systems.[22]

With its focus on individual rights and its exclusion-based perspective, the American property system is not now set up to encourage an outward-regarding or system-wide view of life. Alternative property arrangements, like naturally occurring commons and hybrid arrangements having both private and public property characteristics, tend to be ignored or viewed with suspicion. Though statutes and regulations could constrain the exercise of an owner's decision-making power, significant limitations would be necessary to address the problems of extremes. These limitations could, in turn, face challenges, both legal and political,[23] including constitutional claims under the takings clauses of federal and state constitutions. Even if the challenges ultimately fail, they would slow implementation of solutions addressing the underlying problems. Further, the underlying norms of common law property still would not change.

Can—or should—the American property system adapt to curb the excesses inherent in the dominant form of capitalism? Those extolling the virtues of privatization of resources would likely answer in the negative. Such a response would ignore the core functions and infrastructure of the

21. Restrictive covenants facilitate capitalization of social capital by, for example, promoting and protecting shared interests in certain living arrangements. *See* JOSEPH WILLIAM SINGER, PROPERTY 222–23, 253 (5th ed. 2017) [hereinafter SINGER, PROPERTY]. Finance capital is created, for instance, by mortgage investment practices. *See* Joseph William Singer, *Foreclosure and the Failures of Formality, or Subprime Mortgage Conundrums and How to Fix Them*, 46 CONN. L. REV. 497, 507–12 (2013) (discussing banking practices in the subprime mortgage market that created finance capital for the originating lender and serious risk of nonpayment for many others). A new type of securitization of real estate involves rental payments from single-family homes and exemplifies the trend toward overreliance on financial asset property. *See* Faisal Chaudhry, *Property as Rent*, ST. JOHN'S L. REV. (forthcoming) (manuscript at 1), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3374554 [https://perma.cc/2XQA-T4NM].

22. *See* Harvey, *supra* note 9, at 22–23, 33–39.

23. For an example of a legal challenge delaying regulation of greenhouse gas emissions and the political challenges raised by the intense lobbying efforts of fossil fuel companies to prevent greenhouse gas emission regulation, see Massachusetts v. EPA, 549 U.S. 497, 512 (2007).

American institution of property. This Article discusses the structure of property that enables property law to evolve over time, reacting to changing conditions, recognizing informal customs and usages, and otherwise taking into account important feedbacks. It explains how property provides an ordering system of concepts and principles that define and govern relations between a society and its resources at an individual and collective level. As an ordering system, property performs the important functions of allocating, distributing, and managing interests in the society's resources according to accepted norms and principles. The in rem nature of property rights gives holders their power over third parties, while constitutional provisions protect property owners from government overreach.[24] Basic operating principles and norms then guide the decision-making of the property owners—the gatekeepers—in ways that again reflect accepted norms. But when those norms and principles ignore physical realities, when they clash with other values fundamental to the political structure of the society, when they conflict with modern scientific truths and understandings, it is time for the property system to reevaluate some of its core operating principles and guiding norms. Such a reform effort, however, requires a deeper understanding of the importance of viewing property as a system.

## II. PROPERTY AS AN ORDERING SYSTEM

A search for property's hidden structure requires understanding how property is an ordering system. Private property orders daily life in ways that promote economic activities while protecting individual liberty and autonomy. Property promotes economic activity through its delegation of power and its incentive structure.[25] By a simple delegation of decision-making authority, property law gives the owner of a resource the power to decide how and when to hold, use, transfer, and care for the resource. The owner's individual preferences are shaped by property's internal incentives, which are tied to a particular society's political and social values. Under the American system, the scale of decision-making traditionally has focused on the owner's personal interests and the boundaries of the particular property,[26] even though the impacts of the use may have a

24. For a private property advocate's perspective on the relationship between private property rights and the Constitution, see Roger Pilon, *Property Rights and the Constitution*, *in* CATO HANDBOOK FOR POLICYMAKERS 173, 173–90 (8th ed. 2017), https://www.cato.org/sites/cato.org/files/serials/files/cato-handbook-policymakers/2017/2/cato-handbook-for-policymakers-8th-edition-16_0.pdf [https://perma.cc/JS4J-BNSM].

25. *See* Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163, 1165–69 (1999).

26. *Id.*

much greater footprint.[27] The information costs of property owners are controlled by core operating principles that limit the flow of information. The numerus clausus principle, for example, restricts the types and categories of property interests allowed, thus controlling the options and information that prospective property owners must consider.[28] Easement law also controls information that property owners should weigh in deciding whether to grant an easement in their land by tying the use right to the physical boundaries of the original benefitted estate and banning expansion of that land beyond those boundaries.[29] Without this ban, prospective owners of the burdened land would not be able to foresee how large the benefitted land could become.

In a democratic society, the liberty and autonomy interests of property owners are protected not only from other members of society but also from government itself.[30] The Takings Clause of the United States Constitution prevents the government from taking property for public use without payment of just compensation, while the Due Process Clause protects property interests from government deprivation without due process of law.[31] The in rem character of property rights acts as property's powerbase, giving possessors rights that are good against the world except for a party with a superior claim.[32] The peaceful possessor typically does not need an armed force to protect her rights, only strong and independent courts dispersed among the states and applying the states' respective property laws.

The in rem nature of property reflects a fundamental distinction between property and contract rights. Contracts produce interests that are generally only valid between those at the bargaining table as well as subsequent parties voluntarily brought into privity of contract.[33] Property rights, in

27. If the property is intangible, the boundaries would primarily be legal or technological.

28. Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 8 (2000) (discussing the numerus clausus principle). Estates in land, for instance, only include a limited number of types and forms. *See id.* at 12–14.

29. *See, e.g.*, Penn Bowling Recreation Ctr., Inc. v. Hot Shoppes, Inc., 179 F.2d 64, 66 (D.C. Cir. 1949).

30. U.S. CONST. amends. V, XIV.

31. *Id.*

32. *See* McAvoy v. Medina, 93 Mass. (11 Allen) 548, 549 (1866); Armory v. Delamirie (1722) 93 Eng. Rep. 664, 664; 1 Strange 505, 505; J. E. PENNER, THE IDEA OF PROPERTY IN LAW 23, 26–27, 68, 70–71, 75–76 (1997) (discussing the in rem nature of property rights).

33. *See* PENNER, *supra* note 32, at 23.

contrast, can bind third parties not at the bargaining table and not a successor-in-interest simply because of the in rem character of the rights.[34] Third parties normally cannot go onto the land of another without the permission of the owner—even though the third parties never agreed to the acquisition of rights by the landowner—because of the owner's rights, which include the power to exclude.[35] Assuming the relevant statute of limitations has not run, a subsequent possessor of personal property cannot prevail against a prior possessor who did not voluntarily relinquish his rights, not even when the prior possessor's rights are based on finding the property.[36] As against the subsequent possessor, the prior possession is peaceful and superior.[37] Through the in rem character then, a default ordering system of priorities is established for resolving conflicts.[38]

Even covenants between the original parties to a transaction can acquire an in rem character if the covenants meet certain requirements designed to identify those covenants so closely connected to the use and possession of the property that they are considered to be part of the ownership interests.[39] In addition to a properly created and qualifying property relationship, today typically done through a conveyance, common law property requires that the original parties intend for the covenants to run with the land and be part of the ownership interests in the land.[40] The covenant also must touch and concern the land, directly affecting use of the property or directly enhancing or restricting the value of the property.[41] These requirements act as sieves to ensure that the wheat is separated from the chaff, allowing those covenants intended to affect and control the use of the land to pass through to bind or benefit remote parties subsequently

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34. *Id.*

35. *See* Jacque v. Steenberg Homes, Inc., 563 N.W.2d 154, 159 (Wis. 1997) (protecting the essential right to exclude against an intentional trespass with an award of punitive damages even though no real damage occurred); *see also* Adams v. Cleveland-Cliffs Iron Co., 602 N.W.2d 215, 218–19, 221 (Mich. Ct. App. 1999) (discussing and deciding to maintain the important differences between trespass actions protecting the right to exclude and nuisance actions protecting the right of use, reasoning that an owner should not have to justify exercising the right to exclude).

36. Clark v. Maloney, 3 Del. (3 Harr.) 68, 69 (Del. Super. Ct. 1840); Anderson v. Gouldberg, 53 N.W. 636, 637 (Minn. 1892). But if the statute of limitations to recover possession has run, the subsequent possessor may have acquired a superior interest through adverse possession. *See generally* Songbyrd, Inc. v. Estate of Grossman, 23 F. Supp. 2d 219, 222–23 (N.D.N.Y. 1998).

37. *Clark*, 3 Del. (3. Harr.) at 70.

38. For further examples of how the in rem character shapes operating rules and manages property rights, see *infra* notes 41–45, 108–21, and accompanying text.

39. *See* Lawrence Berger, *A Policy Analysis of Promises Respecting the Use of Land*, 55 MINN. L. REV. 167, 172–73 (1971).

40. *See id.* at 178.

41. *See* SINGER, PROPERTY, *supra* note 21, at 253–55.

acquiring interests in the tract or in related property—for instance, when subdivided lots are developed under a common plan. So, for example, a covenant to refund a security deposit included in the prime lease would run with the land and bind successor landlords if the security deposit could only be used to repair the leasehold premises or cover payment of unpaid rent. But if the security deposit instead was used as a bargaining chip to induce a party to agree to the lease, the covenant would not have enough of a tie to the property relationship in the leasehold to warrant being treated as a covenant running with the land and would instead be an interest that lies in contract.[42] Covenants that meet the tests and pass through property's sieves for running with the land help to decrease the costs of property transactions by eliminating the need for future negotiations.[43]

Informal arrangements also may lead to recognition of a limited type of in rem interest and to formalization of internal norms. For example, when one party induces another to rely and make substantial investments in property, thinking that the relationship would result in a more permanent use right, courts have found ways to effectuate the contemplated arrangement.[44] If the first party then tries to deny any permanence to the use, the party who relied might be able to enforce the arrangement in equity as creating a sort of property interest. In some cases, the interest might even become transferable, binding a successor-in-interest.[45] Such results promote desired behavioral goals, encouraging cooperation between neighbors or transacting parties.

Property's powerbase, internal incentive structure, and information-cost controls enable it to self-organize and self-regulate. Henry Smith developed an information cost theory of property that explains property's structure.[46]

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42. *See* Mullendore Theatres, Inc. v. Growth Realty Invs. Co., 691 P.2d 970, 972 (Wash. Ct. App. 1984).

43. Though covenants also could create legal boundaries for intangible property, like software, that bind third parties, courts so far have preferred to use contract principles in those situations. *See, e.g.*, ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1450 (7th Cir. 1996).

44. *See* Edward Yorio & Steve Thel, *The Promissory Basis of Section 90*, 101 YALE L.J. 111, 135 (1991).

45. *See, e.g.*, Holbrook v. Taylor, 532 S.W.2d 763, 766 (Ky. 1976). *See generally* JOHN G. SPRANKLING, UNDERSTANDING PROPERTY LAW § 32.07 (3d. ed. 2012) (discussing irrevocable licenses or easements by estoppel).

46. Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1693, 1716, 1725 (2012) [hereinafter Smith, *Property as the Law of Things*]. Through the *Fourth Restatement of Property* project, Smith proposes to capture the architecture of property, and thus the complexity of the system, by revealing the concepts, principles, and organization of the system as well as the interactions of the parts and the coherence of the

Modules established by core concepts organize property's complex system by regulating the flow of information to promote efficient transactions and decision-making.[47] Information not relevant to a particular situation is walled off by the modular structure through property rules and features.[48] These modules are based on preset packages of rights that have developed over time and regulate interactions by limiting portals of entry between the external world and the property system.[49] The modular structure thus streamlines interactions, limiting choices an interested party may consider.[50] Restricting the forms that property interests may take, in turn, promotes standardization.[51] Property's networks of communication—the marketplace and the courts—then help property to self-organize and self-regulate in a social system sense.[52] Those networks pass on information shaped by internal norms and rules through the modules to interested parties.[53] The marketplace serves as the main network for communicating economic information, while the courts provide the primary means of communicating legal rules and standards.[54] Property thus is the central system in a democracy for integrating power over resources into daily life through its structure, norms, and behavioral rules.[55]

The internal norms and options embedded in property's decision-making pathways allow the system to operate with minimal government intervention by making assumptions about default rules and strategic choices.[56] Property,

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whole. *See* Henry E. Smith, *Restating the Architecture of Property*, *in* 10 MODERN STUDIES IN PROPERTY LAW 19, 21–26 (Ben McFarlane & Sinead Agnew eds., 2019) [hereinafter Smith, *Restating the Architecture of Property*].

47. Smith, *Restating the Architecture of Property*, *supra* note 46, at 21–26.

48. *See* Smith, *Property as the Law of Things*, *supra* note 46, at 1701–02, 1708; Merrill & Smith, *supra* note 28, at 26–38.

49. Smith, *Property as the Law of Things*, *supra* note 46, at 1706–10, 1716–18, 1725–26 (describing the "LEGO-like interface" of property forms). For a discussion of the dialectical processes involved in the evolution of property interests and principles, see Lynda L. Butler, *The Resilience of Property*, 55 ARIZ. L. REV. 847, 899–908 (2013) [hereinafter Butler, *Resilience of Property*].

50. *See* Smith, *Property as the Law of Things*, *supra* note 46, at 1707–08, 1711–12, 1720–21, 1725–26.

51. *Id.* at 1707–08, 1710–13.

52. Lynda L. Butler, *Property as a Management Institution*, 82 BROOK. L. REV. 1215, 1242 (2017) [hereinafter Butler, *Property as Management*].

53. *See* Butler, *Resilience of Property*, *supra* note 49, at 886–90; Butler, *Property as Management*, *supra* note 52, at 1242.

54. *See* FRITJOF CAPRA & PIER LUIGI LUISI, THE SYSTEMS VIEW OF LIFE: A UNIFYING VISION 308–14 (2014) (discussing the networks of communication, origins of power, and types of structures in social systems).

55. *See* Butler, *Property as Management*, *supra* note 52, at 1242.

56. *See* Lee Anne Fennell, *Options for Owners and Outlaws*, 1 BRIGHAM-KANNER PROP. RTS. CONF. J. 239, 241–48 (2012); David Kennedy, *Some Caution About Property Rights as a Recipe for Economic Development*, ACCT., ECON. & L., Jan. 2011, at 1, 4

for example, assumes that a tenant, as possessor of the leasehold premises, bears the risks of gains and losses associated with the exercise of possessory rights.[57] More generally, property assumes that people are rational actors and prefer more rather than less wealth, and that private rights are generally superior to public or common rights.[58] These preferences are shaped and reinforced by the American legal system's strong tradition of individual rights and the dominant economic theory now justifying private property rights.[59] Over time, however, the embedded options and norms lose their connection to the original defining context and acquire a significance of their own, framing choices and obscuring the underlying meaning.[60] As the connection to context is lost, the norms and options speak for themselves, driving behavioral patterns even when physical realities and knowledge have changed.[61] The constitutional protections accorded property rights then build in a rigidity and inertia that make necessary change very difficult to achieve.[62] Though it is possible to alter the pathways of embedded options once feedbacks are detected, the problem of rigidity, created in part by constitutional protection of economic expectations, raises serious obstacles.[63]

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(2011). For an examination of how scripts or embedded options guide decision-making and can increase transaction costs, see Gregg P. Macey, *Coasean Blind Spots: Charting the Incomplete Institutionalism*, 98 GEO. L.J. 863, 884–89, 896–908 (2010). *See generally* IAN AYRES, OPTIONAL LAW: THE STRUCTURE OF LEGAL ENTITLEMENTS (2005).

57. *See, e.g.*, Smith v. McEnany, 48 N.E. 781, 781 (Mass. 1897); Paradine v. Jane (1647) 82 Eng. Rep. 897, 898; Aleyn, 27, 28.

58. *See* Kennedy, *supra* note 56, at 2–9 (introducing the argument that strong property rights are linked to economic growth). For an explanation of the assumptions and conditions underlying Adam Smith's theory of the invisible hand and how the power of a strong legal regime dislodges capital from those assumptions and conditions, see KATHARINA PISTOR, THE CODE OF CAPITAL: HOW THE LAW CREATES WEALTH AND INEQUALITY 1–15 (2019).

59. *See* Bruce Ackerman, *Constitutional Politics/Constitutional Law*, 99 YALE L.J. 453, 537 (1989) (discussing the federalists' efforts to protect individual rights through the Contracts and Taking Clauses); Butler, *Property as Management*, *supra* note 52, at 1223–50 (discussing property's management role).

60. Butler, *Resilience of Property*, *supra* note 49, at 886; *see* Kennedy, *supra* note 56, at 5; Macey, *supra* note 56, at 905.

61. Macey, *supra* note 56, at 903–06.

62. Butler, *Resilience of Property*, *supra* note 49, at 888.

63. *Id.* at 889.

## III. PROPERTY'S FUNCTIONS AND OPERATIONS

Property's self-organizing and self-regulating features enable the system to serve three important functions: allocating rights and interests in a society's resources; distributing those rights and interests consistent with the society's fundamental political and social norms; and managing the rights and interests effectively and fairly to resolve and minimize conflicts. The primary norm guiding the allocation function is efficiency. Under the neoliberal economic theory of property, the norm of efficiency promotes self-interested decision-making and encourages maximization of individual welfare, with little if any consideration given to third party, public, or other external interests.[64] The false equivalency of social welfare with individual welfare, in particular, has led the property system to ignore important public and noneconomic interests, especially in shared resources.[65] Equating individual self-interest with social welfare made sense when Adam Smith first developed his "invisible hand" theory of the market.[66] As Smith explained, allowing individuals to pursue their self-interests promoted social welfare because each individual "endeavours to employ his capital as near home as he can, and consequently" to the benefit of the local economy.[67] The individual "know[s] better the character and situation of the persons whom he trusts, and if he should happen to be deceived, he knows better the laws of the country from which he must seek redress."[68] Further, individuals pursuing their own self-interests would rationally choose the option yielding the greatest value to themselves and therefore are "led by an invisible hand to promote an end which was no part of [their] intention."[69]

This reasoning, however, ignores current changes in the market and in the natural and legal systems that have affected the conditions required for Smith's invisible hand to work.[70] Those changes include the rise of a global market that is now "only loosely tied to specific states."[71] The rise is due in large part to the removal by nation-states of legal barriers to entry and the states' recognition of the applicability of foreign laws.[72] The

64. *See* Butler, *Property as Management*, *supra* note 52, at 1258–59.
65. *See id.*
66. *See* 2 ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 178–81 (9th ed. 1799).
67. *Id.* at 178.
68. *Id.*
69. *Id.* at 181.
70. PISTOR, *supra* note 58, at 6.
71. *Id.* at 7.
72. *Id.*

building blocks of capital, in other words, have now been "[d]islodg[ed] . . . from the legal systems that begot them."[73]

Smith used the conditions of his time to develop his concept of the invisible hand. Today we must do the same and update our understanding of how nature, property law, and the market interact. In particular, western-style societies must recognize that the operation of the invisible hand depends on the character and quality of the legal rules at play.[74] Once economic actors acquired the ability to choose their legal regime without moving assets, people, or legal entities, they became able to opt in or out of different regimes in varying business contexts, depending on their individual interests, without regard for a particular state's social welfare.[75] The failure to recognize the conditions required for Smith's invisible hand to work well has led to serious problems of extremes.[76] Lacking appropriate considerations of scale, the efficiency norm drives the behavior of property owners in a predatory direction, promoting a concentration of wealth and an unrelenting exploitation of natural resources at significant social and environmental costs.[77] The assumptions underlying the economic theory of property have not been checked regularly for accuracy, despite important changes in socio-ecological systems and in scientific understandings.

One example of property's predatory predisposition can be found in *Fontainebleau Hotel Corp. v. Forty-Five Twenty-Five, Inc.*[78] In *Fontainebleau* the owner of valuable oceanfront property planned to build in a way that intentionally blocked the sun from reaching the neighboring hotel's pool area for much of the day.[79] The owner of the neighboring hotel sought to enjoin the construction, arguing that it would cast such a large shadow

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73. *Id.*
74. *Id.*
75. *Id.* at 7–8.
76. *See* Lynda L. Butler, *Property's Problem with Extremes*, 55 WAKE FOREST L. REV. 1, 14–15, 17–20 (2020).
77. *See* Butler, *Property as Management*, *supra* note 52, at 1264 (discussing property's problem of scale). For an example of the unrelenting exploitation of natural resources, see Douglas A. Kysar, *Sustainable Development and Private Global Governance*, 83 TEX. L. REV. 2109, 2110–11 (2005) (discussing Coca-Cola's exploitation of groundwater in India to the point of causing water shortages); Gayatri Raghunandan, *A Look at the Legal Issues Plachimada's Struggle for Water Against Coca-Cola Has Brought Up*, WIRE (Aug. 20, 2017), https://thewire.in/law/coca-cola-plachimada-kerala-water [https://perma.cc/KH8M-UNGX].
78. 114 So. 2d 357 (Fla. Dist. Ct. App. 1959).
79. *Id.* at 358.

that the beach and pool area would be unfit for its guests.[80] The Florida court rejected the claim, agreeing with other American jurisdictions that the English doctrine of ancient lights did not apply and therefore the complaining landowner could not acquire a right to the unobstructed flow of air and sunlight by implication or prescription.[81] Yet if the same landowner owned both hotel properties, the landowner would have found a way to maximize use of the two properties—perhaps by sharing an expanded pool and spa facility—and might even have supported the enactment of a shadow ordinance to govern building construction along the valuable beachfront. Incorporating a stronger norm of cooperation into the obligation of neighboring landowners would have better mirrored the result that a single landowner would have achieved. It also would have imposed a constraint on malicious and willful conduct taken to interfere with the beneficial use of neighboring property, especially with a landowner's right to a reasonable expectation of gain.[82] Malicious interference, in other words, could have been curbed without recognizing a right to receive sunlight by prescription or by implication.

Another example involves the construction of very tall condominium buildings along Central Park in New York City.[83] These buildings have or will produce shadows that extend for three-fourths of a mile and last for hours, significantly reducing temperatures and harming vegetation in the Park.[84] The buildings are benefitting from an important public resource—

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80. *Id.*

81. *Id.* at 359–60; *see* THOMAS W. MERRILL & HENRY E. SMITH, PROPERTY: PRINCIPLES AND POLICIES 1020–21 (3d ed. 2017) (discussing the doctrine of ancient lights followed by English courts and uniformly rejected by American jurisdictions). With its smaller land area, English courts were more concerned about the quality of life in urban areas, and taller buildings would mean less light. *See* Evan Nicole Brown, *In England, the Right to Daylight Can Be a Legal Matter*, ATLAS OBSCURA (Jan. 24, 2019), https://www.atlasobscura.com/articles/right-to-light-law [https://perma.cc/8C4R-E6TW]. The United States, in contrast, was a much larger country, so common law property focused on promoting development. *See id.*

82. For cases recognizing a property owner's nonpossessory right to a reasonable expectation of gain from the owner's property, see Keeble v. Hickeringill (1707) 103 Eng. Rep. 1127, 1127–28; 11 East 573. 574–76; Int'l News Serv. v. Associated Press, 248 U.S. 215, 240 (1918).

83. *See* Jenna McKnight, *Wave of Super-Tall Towers in Manhattan Sparks Protests Over Shadows*, DEZEEN (Nov. 11, 2015), https://www.dezeen.com/2015/11/11/supertall-skinny-skyscrapers-towers-manhattan-new-york-shop-architects-robert-stern-rafaely-vinoly-jean-nouvel-portzamparc-controversy-protest/ [https://perma.cc/KU2S-3VG8].

84. *See id.*; Emily Nonko, *The Super-Tall Towers Transforming NYC's Skyline*, N.Y. POST (Jan. 23, 2019, 7:44 PM), https://nypost.com/2019/01/23/the-super-tall-towers-transforming-nycs-skyline/ [https://perma.cc/P9CE-K2BD]. The author and urban activist Jane Jacobs described the shadows from the super tall towers as "a great eraser of human beings." JANE JACOBS, THE DEATH AND LIFE OF GREAT AMERICAN CITIES 106 (1961); *see also* Matthew Haag, *How Luxury Developers Use a Loophole to Build Soaring Towers for*

Central Park—without accounting for the interference with the public's enjoyment of the Park or for the long-term harm to the Park's ecosystems.[85] A twenty-degree drop in temperature on a cold windy day matters. The developers of these condominium projects benefit by the substantial increase in price they can charge for selling units that offer an unrestricted view of Central Park. One buyer paid more than $238 million for a 24,000 square-foot unit, while two units in another skyscraper project sold for $100.5 and $91.5 million, respectively.[86] One building, Central Park Tower, will be one of the tallest residential skyscrapers in the world, rising 1,550 feet.[87] By 2022, thirteen skyscrapers will tower over the south end of Central Park, creating a "striped" look when the sun shines on that area of the Park.[88] Surely, common law courts could, in a public nuisance action, force developers to consider serious adverse impacts when they are planning to exploit the value of a public resource in harmful ways.

A predatory approach also can be seen in the practices of the owners of coal mines in Pennsylvania.[89] Because Pennsylvania law recognized three separate estates in a tract of land—the surface, mineral, and support estates[90]—the owners of coal mines could sell just the surface estate, reserving the other two estates, and still have the power to mine to the point of the collapse of the surface estate. An early legislative effort to protect surface estates from subsidence faced a successful constitutional challenge brought by the owner of a coal mine.[91] In *Pennsylvania Coal Company v. Mahon*, the United States Supreme Court recognized, for the

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*the Ultrarich in N.Y.*, N.Y. TIMES (Apr. 20, 2019), https://www.nytimes.com/2019/04/20/nyregion/tallest-buildings-manhattan-loophole.html [https://perma.cc/Z63A-VUQ9].

85. Christopher Tramutola, *New York: A Dark Cloud Over City Parks*, TOPOS (Sept. 5, 2014), https://www.toposmagazine.com/new-york-dark-cloud-city-parks/ [https://perma.cc/Q8H8-JWAJ].

86. *See* Nonko, *supra* note 84. Sales of the high-priced luxury units have slowed considerably. *See* Derek Thompson, *Why Manhattan's Skyscrapers Are Empty*, ATLANTIC (Jan. 16, 2020), https://www.theatlantic.com/ideas/archive/2020/01/american-housing-has-gone-insane/605005/ [https://perma.cc/SGU4-HFCE].

87. Amy Dobson, *Tallest Residential Building in the World Reveals New Details–Including 100th-Floor Amenity Level Overlooking New York City*, FORBES (Jan. 24, 2020, 12:41 PM), https://www.forbes.com/sites/amydobson/2020/01/24/tallest-residential- building-in-the-world-reveals-new-detailsincluding-100th-floor-amenity-level-overlooking-new-york-city/#87e919d299c1 [https://perma.cc/S5PC-NNRY].

88. Nonko, *supra* note 84; McKnight, *supra* note 83.

89. *See* Carol M. Rose, Mahon *Reconstructed: Why the Takings Issue Is Still a Muddle*, 57 S. CAL. L. REV. 561, 563–65 (1984).

90. Smith v. Glen Alden Coal Co., 32 A.2d 227, 234–35 (Pa. 1943).

91. *See* Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415–16 (1922).

first time, that a regulation could go too far, creating a situation functionally equivalent to physical confiscation.[92] In *Mahon*, the Court concluded that a law causing the loss of all commercially practicable use of the remaining mineral estate presented such a situation.[93] Years later, the Court finally stopped this harmful mining practice when a coal company challenged a similar statute.[94] In *Keystone Bituminous Coal Association v. DeBenedictis*, the Court upheld the law without directly reversing *Mahon*.[95] The Court reasoned that the coal left in place only represented 2% of the coal as a whole and that the support estate really had no meaning or value other than in relation to the surface or mineral estate.[96]

In some jurisdictions that recognize only two estates—the mineral and the surface estates—a presumption of dominance instead is made in favor of the holder of the mineral estate when that interest has been severed from the surface estate.[97] The holder of the mineral estate, in effect, is viewed as having an implied easement of surface use.[98] This presumption of dominance serves the same purpose as the three-estate system, imposing much of the risk of loss or damage on the owner of the surface estate. Though both practices shape the expectations of the mineral estate holders, ordinary buyers of surface estates might not foresee or expect that their surface estate could face subsidence or limitations of such magnitude that they could not effectively use the land. If the goal is to allow mining that eventually could damage or significantly restrict the surface estate, then surely a more transparent and equitable approach exists. Couldn't, for example, the company lease, instead of sell, the surface estate under terms that would end the lease after a set period of time chosen because it reflects when the coal company's experts predict the surface estate is expected to collapse or otherwise suffer serious limitations? This approach would shape the reasonable expectations of the holders of the mineral and the surface estates in a more transparent and fair way.

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92. *Id.*

93. *Id.* at 412–13, 416.

94. *See* Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 474 (1987).

95. *Id.*

96. *See id.* at 498, 500–01. The Court defined the denominator for measuring economic loss to be the property as a whole, refusing to interpret *Mahon* as requiring the Court to focus on each pillar of coal. *Id.* at 497–98.

97. *See* Acker v. Guinn, 464 S.W.2d 348, 352 (Tex. 1971); Prop. Owners of Leisure Land, Inc. v. Woolf & Magee, Inc., 786 S.W.2d 757, 760 (Tex. Ct. App. 1990).

98. *See* Jones v. Getty Oil Co., 458 S.W.2d 93, 95 (Tex. Civ. App. 1970), *aff'd*, 470 S.W.2d 618 (Tex. 1971). *See generally* JOHN S. LOWE, OIL AND GAS LAW IN A NUTSHELL (6th ed. 2014) (stating that if the mineral estate is severed from the surface estate, the surface owner's rights are subject to the mineral owner's usage of the surface to reasonably produce minerals).

The distribution and management functions of property can provide checks on the destructive tendencies of the neoliberal efficiency norm. Traits critical to a resilient property system—one that promotes system integrity—include: the capacity to interact with ecological and other systems to monitor feedbacks and identify problems; the ability to adapt through self-organization and self-regulation; and the power to respond by absorbing change and persisting, without becoming unstable.[99] To nurture these traits, the property system must recognize the need for flexibility, inclusiveness, and innovation, as well as a diversity of property arrangements and a redundancy of functions.[100] To date, however, the American property system primarily focuses on promoting the efficient allocation of interests to private parties.[101] This approach made sense when the property system first developed in America; land and water resources were abundant, wildlife filled the airs, lands, and waters, and the settlers' primary goal was survival.[102] Times have changed, however, with the limits of natural resources now understood and the costs of unconstrained land development well documented.[103] Despite new physical realities and scientific understandings, business continues as usual, assuming away real costs in the name of efficiency and individual property rights.

The management function of property, in particular, can help to ensure that the property system is resilient enough to handle change, whether gradual or sudden, foreseeable or unexpected.[104] Because the property regime links ecological and social systems in ways that can have longstanding impacts, the approach of property to managing rights and interests is critical to the integrity of socio-ecological systems. Dealing with problems of extremes will require significant reforms, so it would be easy to doubt the role that the property system could play in helping to solve the problems. After all, common law property is set up to handle incremental change,[105] not the type of comprehensive or sudden change that might be needed to combat extreme problems. Yet if changes in internal norms and assumptions of common law property are made, those reforms will guide all individual property owners to make more sustainable management decisions and

99. *See* Butler, *Resilience of Property*, *supra* note 49, at 894–95.
100. *Id.*
101. *See id.* at 879.
102. *See id.* at 906.
103. *Id.* at 907–08.
104. *Id.* at 891–92 (discussing resilience in the context of ecosystems).
105. *See id.* at 900–03.

would have, in the aggregate, a much greater impact. Further, without changes to the norms and operating principles of property, externally imposed reforms would meet resistance and pushback, and the reasonable expectations of property owners would not shift in a more sustainable direction. Historically, property has adapted in part through its tolerance for informal customs and practices, which have made the system more inclusive and allowed experimentation to occur, at the fringe, without formal recognition.[106] These experiments have provided important information about pressure points in the formal system and readied the system for more significant reform.[107]

Once reasonable expectations of property owners are reshaped through the management function to consider external interests affected by a property owner's choices, the distribution function then can act more effectively as a safety valve to ensure fairness on an individual basis while also avoiding moral outrage and instability on a system-wide basis. Such outrage and instability are likely to result when the integrity of political, social, and biophysical systems is seriously threatened by out-of-date rules and principles. One example of the distribution function working to avoid system instability occurred in landlord/tenant law in the twentieth century. Legal principles governing residential leases had not kept up with changes in building construction and mechanical systems, nor with the plight of urban tenants who no longer used their home to make a living or raise food for survival.[108] Yet, until the 1970s, residential tenants still assumed the risk of living in uninhabitable premises.[109] The courts typically explained that tenants had the duty to inspect the premises for suitability and, as possessors, assumed the risk of defects arising later in the lease.[110] Some exceptions were made when the defects caused substantial interference with use and enjoyment and the tenant could not reasonably be expected to notice the defects in a timely manner.[111] Under those exceptions, though, the tenant's remedy was to vacate the premises.[112] To make matters worse, tenants

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106. *See id.* at 901.

107. *Id.* at 898–99.

108. *See* SINGER, PROPERTY, *supra* note 21, at 476–77.

109. *See id.*

110. *See* Paradine v. Jane (1647) 82 Eng. Rep. 897, 897; Aleyn 27, 27. *See generally* Richard H. Chused, Saunders *(a.k.a.* Javins*)* v. First National Realty Corporation, *in* PROPERTY STORIES 123, 127–35 (Gerald Korngold & Andrew P. Morriss eds., 2d ed. 2009) (discussing landlord/tenant law prior to reform).

111. *See* Charles E. Burt, Inc. v. Seven Grand Corp., 163 N.E.2d 4, 6 (Mass. 1959).

112. *See id.* (discussing when a breach of the covenant of quiet enjoyment could constitute a constructive eviction). *Compare* Sutton v. Temple (1843) 152 Eng. Rep. 1108, 1109; 12 M. & W. 52, 55 (following caveat lessee, which imposes the risk of defects in the condition of the premises on the tenant unless the parties otherwise agree), *with* Smith

who signed a lease with a covenant to repair basically became insurers of the premises.[113]

These tensions came to a boil in federal court in the District of Columbia when the court considered whether to continue to follow the traditional caveat lessee approach to residential leases for tenants living in urban slums.[114] In *Javins v. First National Realty Corporation*, the United States Court of Appeals for the District of Columbia Circuit considered the unsanitary conditions facing urban tenants living in housing with over 1,000 code violations.[115] Reasoning that the traditional approach promoted neither the reasonable expectations of urban tenants nor the policies of modern housing codes, the court concluded that a residential lease in the District imposed an implied warranty of habitability on the landlord.[116] This implied warranty obligated the landlord to maintain the premises in habitable condition throughout the lease.[117] The court further explained that most urban tenants no longer had the ability or the means to repair defective conditions in modern residential complexes.[118] Complicated mechanical systems shared by an entire building and the development of specialized expertise dealing with those systems made repairs by the tenants unlikely and impracticable.[119] Without the action of this court, squalid living conditions in the District were likely to lead to further social unrest.[120] Eventually legislatures followed the example of the judiciary and adopted versions of the Uniform Residential Landlord/Tenant Act.[121]

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v. Marrable (1843) 152 Eng. Rep. 693, 694; 11 M. & W. 6, 7–9 (creating an exception for a short-term furnished lease).

113. Even if the residence were destroyed, the tenant would still owe the rent because the traditional common law courts used the independent covenant model. SINGER, PROPERTY, *supra* note 21, at 477–78.

114. *See* Javins v. First Nat'l Realty Corp., 428 F.2d 1071, 1072–73 (D.C. Cir. 1970).

115. *Id.* at 1073; *see* Chused, *supra* note 110, at 123, 127–35 (providing background on the *Javins* dispute).

116. *Javins*, 428 F.2d at 1072–74.

117. *Id.* at 1082.

118. *Id.* at 1078–79.

119. *Id.* at 1074, 1077–79.

120. *See* Chused, *supra* note 110, at 135 (discussing the social unrest in Washington, D.C. around the time of the litigation).

121. *See* Christopher Wm. Sullivan, Note, *Forgotten Lessons from the Common Law, the Uniform Residential Landlord and Tenant Act, and the Holdover Tenant*, 84 WASH. U. L. REV. 1287, 1311–12 (2006). In 2015, the Uniform Law Commission approved a revised version. *See* REVISED UNIF. RESIDENT LANDLORD & TENANT ACT (UNIF. L. COMM'N 2015).

A second example of the distribution function in operation involves the use of common law notions of equity and fairness to promote equal access to basic public services. Those principles include theories treating some services provided by private parties as "governmental in nature" because of the significance of the services to the public in general.[122] The services could concern an essential government function, become essential because of a special privilege conferred by government on a private party—for example, the power of eminent domain—or involve a type of monopoly power due to the nature of the service.[123] The "public" nature of the activity being conducted by the private party, in other words, had provided "unique privileges and liberties" to the private party that became the source of a duty to serve the public equally.[124] Over hundreds of years, English and American courts have used common law concepts like "property clothed with a public interest" to address serious problems arising from the provision of government-type services by private companies.[125] The courts applied the concepts, in various forms, to rates charged for essential goods like grain, access to facilities such as inns and mills, modes of transportation such as toll roads and railroads, and the provision of basics needed for survival like drinking water.[126]

Property's operating principles also provide ways to check problems caused by property transactions and uses. The numerus clausus concept limits the choice of property forms available to parties, working in the shadows to control options and thus reduce information costs.[127] Another principle, ratione soli, gives landowners the first option to capture wild animals or use other natural resources on their land.[128] Yet another, the seemingly obscure ad coelum doctrine, gives the right to use the subsurface and the air space above a tract to the landowner.[129] For a long time, the doctrine described landowners' rights in absolute terms, declaring their rights as extending up to the heavens and down to the depths of the Earth.[130] More recently, as technological advances have made new uses of the air and underground possible, courts have reexamined the doctrine's definition

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122. *See* CHARLES M. HAAR & DANIEL WM. FESSLER, THE WRONG SIDE OF THE TRACKS: A REVOLUTIONARY REDISCOVERY OF THE COMMON LAW TRADITION OF FAIRNESS IN THE STRUGGLE AGAINST INEQUALITY 146–48, 200–08 (1986).

123. *See id.* at 145–51, 199–221 (discussing when property became "clothed with a public interest").

124. *Id.* at 201.

125. *Id.* at 120–21, 145–48, 200–03, 206, 224–25.

126. *Id.* at 145–48, 200–07.

127. *See supra* note 28 and accompanying text.

128. *See* Goodard v. Winchell, 52 N.W. 1124, 1124–25 (Iowa 1892).

129. *See* Hinman v. Pac. Air Transport, 84 F.2d 755, 757 (9th Cir. 1936).

130. *See id.*; Edwards v. Sims, 24 S.W.2d 619, 620 (Ky. Ct. App. 1929).

of landowners' rights.[131] The invention of the airplane, for instance, led to the recognition that flight might not occur at all under the absolutist view if the consent of every landowner involved in a flight route were required.[132] The landowners' air rights under the ad coelum doctrine thus were redefined in more practical terms to involve the right to the airspace that is connected to the enjoyment of the land, which at least includes the airspace that the landowner is occupying and using.[133] Some courts have similarly reexamined the doctrine for subsurface rights.[134] New subsurface uses like hydraulic fracking and Elon Musk's tunnel project in Los Angeles may further test the limits of the doctrine's applicability to subsurface rights.[135]

Other operating principles help to resolve disputes, often with remarkable clarity and simplicity. Nemo dat, or the good title rule, promotes the in rem character of property rights, allowing owners or possessors to inject their property into the stream of commerce without losing their rights by limiting the interests of subsequent transferees to the rights of their transferor.[136] Under the common law good title rule, a seller or transferor generally cannot transfer a greater interest than he or she has.[137] Another concept, relativity of title, often works in concert with the good title rule to provide a simple but powerful dispute resolution principle that protects the interests of the prior peaceful possessor of tangible property against a subsequent possessor, even if the prior possessor is not the true owner.[138] The interests of the finder, for example, prevail over the interests of the subsequent possessor who is not the true owner or who does not claim

131. *See Hinman*, 84 F.2d at 757.
132. *See id.* at 758.
133. *Id.* at 757–58.
134. *Compare Edwards*, 24 S.W.2d at 620–21 (majority opinion), *with id.* at 621–22 (Logan, J., dissenting).
135. *See* Alana Semuels, *When Elon Musk Tunnels Under Your Home*, ATLANTIC (Nov. 15, 2018), https://www.theatlantic.com/technology/archive/2018/11/los-angeles-elon-musk-tunnels-under-neighborhood/575725/ [https://perma.cc/3RM7-EQEH]; *see also* CHRISTOPHER WRIGHT & DANIEL NYBERG, CLIMATE CHANGE, CAPITALISM, AND CORPORATIONS 32 (2015) (describing fracking as an example of corporate "blindness" to ecological disaster). For an example of the conflict created when fracking became viable and homeowners did not own the mineral rights below their surface estate, see John Murawski, *Lack of Mineral Rights Puts Some Homebuyers in Legal Limbo*, WINSTON-SALEM J. (Nov. 13, 2012), https://journalnow.com/news/state/lack-of-mineral-rights-puts-some-homebuyers-in-legal-limbo/article_64a17c86-2d9a-11e2-8f9b-0019bb30f31a.html [https://perma.cc/LV9F-NEUV].
136. MERRILL & SMITH, *supra* note 81, at 882–83.
137. *See id.*
138. *See* SINGER, PROPERTY, *supra* note 21, at 825.

through the true owner. Further, the subsequent possessor may not divert attention away from his inferior claim by challenging the title of the prior possessor.[139] This concept takes a relational approach to defining property rights, varying the result depending on the parties to the dispute and promoting the importance of possession in the property system.

Even disputes involving interests in shared or unowned resources can be governed by the relativity of title concept. Under the common law riparian doctrine traditionally applicable in the water-rich East, shorefront landowners have correlative rights in the adjacent waterway, entitling them to make reasonable use of the waters subject to the same rights in other riparian landowners.[140] Upstream riparians thus have the first opportunity to conduct a reasonable but not unlimited use.[141] When the resources involve intangible intellectual property, the rights of a creator who cannot fully protect her creation because of the nature of her business or activity may still receive some protection against commercial exploitation by competitor third parties, but not generally against the public.[142] In *International News Service v. Associated Press*, the Court stressed that the key perspective in resolving the dispute before it was not the rights of the claimant as against the public, but rather the rights of the claimant as against the defendant, a competitor in the business of gathering the news.[143]

Anti-fragmentation devices are also built into property's operating rules to help prevent excessive segmentation.[144] Over hundreds of years, English and American property regimes have developed tools to deal with physical and conceptual fragmentation. The Statute Quia Emptores, for example, was adopted to stop subinfeudation of feudal estates in land, while intestate succession laws clarified the passage of property upon the death of the owner.[145] The common law estates of dower and curtesy and their statutory replacements, the forced share provisions, save a portion of a decedent's estate for the surviving spouse.[146] Enclosure laws balance the relationship

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139. *See* Armory v. Delamirie (1722) 93 Eng. Rep. 664, 664; 1 Strange 505, 505; Anderson v. Gouldberg, 53 N.W. 636, 637 (Minn. 1892).

140. *See* Robert H. Abrams, *Riparian Right*, BRITANNICA (Sept. 6, 2007), https://www.britannica.com/topic/riparian-right [https://perma.cc/498B-X7LK].

141. Lynda L. Butler, *Allocating Consumptive Water Rights in a Riparian Jurisdiction: Defining the Relationship Between Public and Private Interests*, 47 U. PITT. L. REV. 95, 171 (1985).

142. *See* Int'l News Serv. v. Associated Press, 248 U.S. 215, 216 (1918).

143. *Id.* at 239 ("The fault in the reasoning lies in applying as a test the right of the complainant as against the public, instead of considering the rights of complainant and defendant, competitors in business, as between themselves.").

144. Heller, *supra* note 25, at 1169.

145. *See id.* at 1171.

146. *See id.* at 1170–71; JESSE DUKEMINIER & JAMES E. KRIER, PROPERTY 400 (3d ed. 1993).

of landowners in rural areas with members of the community engaged in activities like hunting and grazing that could benefit from open lands.[147] The laws, for example, indicate whether land enclosure is based on a fencing-in or fencing-out default rule.[148] Boundary related legal principles also define the appropriate scale of boundedness in various contexts ranging from minimum lot sizes for residential development to real estate taxation of individual tracts and application of the unitary tract concept as a way to gauge community understandings about tract ownership in various legal contexts.[149] Other rules, like the Rule against Perpetuities and the policy against dead hand control, deal with temporal fragmentation,[150] while organizations recognized under common interest community laws address problems of social fragmentation by linking lot owners having shared property interests.[151]

Property's structure and operating principles thus provide ways to check some of the problems caused by property transactions and use. These checks, however, will not be enough—without change—to deal with property's problem of extremes. The type of constraints needed will depend on the reasons for the property system's failure to control the development of extremes.

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147. The concept of common lands, for example, protected the public's interests in hunting, fishing, and fowling in some of the original colonies. *See, e.g.*, LYNDA LEE BUTLER & MARGIT LIVINGSTON, VIRGINIA TIDAL AND COASTAL LAW 162–88 (1988) (discussing the development of the commons concept in England, colonial Virginia, and the Commonwealth of Virginia). Some courts also protected customs that allowed hunters to follow game onto unenclosed rural lands. *See, e.g.*, Baker v. Howard Cnty. Hunt, 188 A. 223, 227–28 (Md. 1936) (discussing the relative rights of landowners and fox hunters); M'Conico v. Singleton, 9 S.C.L. (2 Mill) 244, 246 (1818) (discussing the right to hunt on unenclosed land).

148. MERRILL & SMITH, *supra* note 81, at 370–73.

149. *See* Heller, *supra* note 25, at 1173. The unitary tract concept, for example, is important in deciding the extent to which the doctrine of constructive adverse possession applies to lands under common ownership when a portion is occupied by an adverse possessor. *See* 9 MICHAEL ALLAN WOLF, POWELL ON REAL PROPERTY § 68.01–.02 (2020); *see also* SPRANKLING, *supra* note 45, at 455, 460–61. The concept is also important to defining riparian land. Butler, *supra* note 141, at 122–23.

150. *See* Heller, *supra* note 25, at 1178–81.

151. *See* David C. Drewes, Note, *Putting the "Community" Back in Common Interest Communities: A Proposal for Participation-Enhancing Procedural Review*, 101 COLUM. L. REV. 314, 315–16 (2001).

## IV. REORDERING FOR SYSTEM INTEGRITY

Dealing with property's problem of extremes will require fundamental reforms to property's norm-based assumptions and incentive structure. Each problem of extremes has its own causal connection with the property system that will shape the nature of change. All three are fueled by the freeriding incentives of the economic theory of property rights controlling western-style property systems. When the problem involves the type of catastrophic environmental harm that could result from climate change, the freeriding is global in nature and, in the view of the 2018 Nobel Prize winning economist William Nordhaus, the "fundamental reason for the lack of progress" in combatting climate change.[152] To compound the problem, "the potential impacts of extreme events—what are known as 'tail events' . . . [may be] so surprising, so outside everyday observations, that we are unprepared to deal with them."[153] That is, the tail events "come from the far tail, or most unlikely part, of a probability distribution."[154] Solving extreme problems that undermine the stability of political, social, and biophysical systems requires a reexamination and reframing of the norms and principles of the institution of property—one of our core ordering and management systems.[155]

One important reordering must involve strengthening norms of cooperation to overcome or constrain predatory instincts encouraged by the neoliberal economic theory of property. The destructiveness furthered by malicious or bad faith use of property should not be part of the rights of property owners. No one should have the right to seriously harm or endanger the well-being of the whole or the integrity of common or shared systems. One way to restrain destructive tendencies is to stop equating net individual welfare with net social welfare. This step is especially necessary when the integrity of the whole is harmed by the use of a part—such as by promoting coal mining when less harmful energy sources exist—or when the property owner is freeriding off shared or common resources without accounting for substantial costs to those resources—e.g., the Central Park skyscrapers.

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152. William D. Nordhaus, *A New Solution: The Climate Club*, N.Y. REV. (June 4, 2015), https://www.nybooks.com/articles/2015/06/04/new-solution-climate-club/ [https://perma.cc/5LDZ-826N] (reviewing GERNOT WAGNER & MARTIN L. WEITZMAN, CLIMATE SHOCK: THE ECONOMIC CONSEQUENCES OF A HOTTER PLANET (2015)).

153. *Id.*

154. *Id.*

155. Several scholars describe the reframing of moral values of governance systems as a necessity and recognize climate change not only as a physical threat, but also as a threat to "the legitimacy and stability of governance systems and actors." Katrina Brown, W. Neil Adger & Joshua E. Cinner, *Moving Climate Change Beyond the Tragedy of the Commons*, 54 GLOB. ENV'T CHANGE 61, 61 (2019), https://www.sciencedirect.com/science/article/pii/S0959378018313116?via%3Dihub [https://perma.cc/999B-QHLU].

Because of changes in the legal, economic, and natural systems, it is important to recognize that the conditions necessary for effective operation of Adam Smith's invisible hand have been undermined.[156] Thus, in determining whether a property owner's proposed use promotes net social welfare, the decision-making process now should include meaningful consideration of third party and public interests. Becoming more outward-regarding when common or shared resources are involved would, in turn, lead to stronger norms of cooperation.

Another way to strengthen norms of cooperation is to eliminate presumptions or preferences in favor of one private property owner when shared or common resources are involved and other property interests in the same or connected resources could be damaged or destroyed. For example, although a legal presumption or rule may have shaped the expectations of the favored coal mine owner in *Mahon* and other similar cases, the owners of affected surface estates would not necessarily foresee use of the mines to the point of destroying the surface estate,[157] especially not when the original sale of the surface land occurred long before technological advances allowed more extensive mining. Instead, the law should encourage the traditionally preferred property owner to pursue alternative arrangements that would accommodate both users or at least minimize harm and loss of investment. A less permanent property interest in the surface land—for example, a lease for a fixed term with the term set by the party with the superior information about plans for future mining—would discourage significant and potentially wasted investment in the surface estate.

The Central Park building projects exemplify all too clearly how social utility can differ from individual utility.[158] To the developer, the project is all about profiting from sales—about selling as many luxury condominium units as allowed under sound engineering principles and under the law. An unrestricted view of Central Park significantly increases the price of a luxury unit, especially when the unit is on one of the top floors.[159] To the public, however, the project is not about providing expensive housing for the ultra rich but rather about harming a treasured public resource that is

156. *See supra* notes 70–77 and accompanying text (discussing some of those changed conditions).

157. *See supra* notes 89–96 and accompanying text.

158. *See supra* notes 83–88 and accompanying text.

159. *See* Caroline Biggs, *Rooms with a View (and How Much You'll Pay for Them)*, N.Y. TIMES (May 10, 2019), https://www.nytimes.com/2019/05/10/realestate/rooms-with-a-view-and-how-much-youll-pay-for-them.html [https://perma.cc/39LN-XGXV].

important to the well-being of millions of people and that is a substantial draw for tourism and other economic activities.[160] Thus, when evaluating the utility of public and private interests, the comparison should not simply weigh the considerable revenues generated by sales of the condominiums with the difficult-to-measure value of the park to the public. Rather it should also consider the benefits to end users—the buyers of the units versus the millions of people who would be burdened by significant harm to the Park.

A second important reform must address property's problem of scale—that is, the limited perspectives taken by property owners in making decisions about their property. Part of the problem is the quantitative methodologies used to evaluate individual and social welfare. Besides assuming that preferences and values can be measured quantitatively and that good data can be found, these tools underestimate or overlook interests not easily measured in economic terms. As Laurence Tribe explained years ago: "[Q]uantitative decision-making techniques . . . reduce[] entire problems to terms that misstate their underlying structure, typically collapsing into the task of maximizing some simple quantity an enterprise whose ordering principle is not one of maximization at all."[161] Doug Kysar critiques the main quantitative tool, cost-benefit analysis, in evaluating climate change policymaking and concludes that it is "an unacceptably crude device for guiding policy choices in the context of a massively complex and morally imbued problem such as global climate change."[162] Consider, by way of comparison, the decision-making process used by numerous climate scientists in preparing the reports of the Intergovernmental Panel on Climate Change. A much more complex process, it includes evaluating relevant scientific studies, formulating possible conclusions, running multiple modeling scenarios to test those conclusions, and then using a consensus approach not only in making decisions but also in assessing the wording of the conclusions and the level of confidence to be attached to the conclusions.[163] Although it would be unreasonable to expect ordinary property owners to

160. *See* McKnight, *supra* note 83.

161. Laurence H. Tribe, *Policy Science: Analysis or Ideology?*, 2 PHIL. & PUB. AFFS. 66, 97 (1972).

162. Douglas A. Kysar, *Climate Change, Cultural Transformation, and Comprehensive Rationality*, 31 B.C. ENV'T AFFS. L. REV. 555, 558 (2004).

163. *See, e.g.*, Press Release, Intergovernmental Panel on Climate Change, IPCC Starts Meeting to Finalize Working Group II Report (Mar. 25, 2014), https://archive.ipcc.ch/pdf/press/140325_WGII_press_release.pdf [https://perma.cc/PG9N-3KJ4] (discussing the process used); LISA V. ALEXANDER ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS 4 (2013), https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf [https://perma.cc/FR8B-8Q83] (discussing the models and evidence, with quantitative and qualitative assessments).

follow such a process, a reframing of underlying property norms and principles would guide property owners to include stronger norms of cooperation and to recognize outward-regarding interests.

Another reform would expand the reach of the norm of preservation used in managing certain property arrangements involving interests divided over time to situations involving conflicting interests in shared resources or common systems. In the area of landlord/tenant law, for example, the doctrine of waste prevents a tenant from harming the long-term interests of the landlord.[164] Under the doctrine the tenant is obligated to return the premises to the landlord basically in the same condition, reasonable wear and tear excepted.[165] Life estate holders similarly owe a duty not to commit waste to the future interest holder, and even improvements to the estate causing a substantial change could result in liability.[166] Surely a duty to preserve critical biophysical resources and ecosystem services to the degree needed to sustain life and protect the integrity of the whole for present and future generations would make as much sense. If traditional property law could realize the importance of protecting property rights from too much fragmentation, then a modern property system should be able to draw upon its evolutionary tools to address problems of excess threatening the integrity of the Earth system as well as the social and ecological systems dependent on it.

## V. CONCLUSION

The structure and operating principles of property are subtle—so subtle that property is often viewed primarily as a way to allocate interests in resources and promote efficiency through marketplace transactions. Yet property also performs important distribution and management functions that address relational interests not only among private parties but also between property owners and their government. Property, in other words, plays an important role in defining the power relationship between individual property owners and their government, as well as between property owners and members of society. The paradox of property is that it is both a fundamental individual right and a fundamental part of our social systems,

164. *See* Jedediah Purdy, *The American Transformation of Waste Doctrine: A Pluralist Interpretation*, 91 CORNELL L. REV. 653, 658 (2006).

165. *See* Brokaw v. Fairchild, 237 N.Y.S. 6, 14–15 (N.Y. Sup. Ct. 1929).

166. *See id.*; Melms v. Pabst Brewing Co., 79 N.W. 738, 741 (Wis. 1899); *see also* Purdy, *supra* note 164, at 658.

broadly defined. It is time to resolve that paradox by recognizing property's dependence on the Earth system as well as property's role in defining our relationship with economic and political systems. The key to taking this step is to view property as a system with a complex infrastructure and embedded norms and operating principles that fail to reflect current biophysical and social conditions.