

ARTICLES

SHARING THE CLIMATE

*Rashmi Dyal-Chand**

Property law responds poorly to the lived reality of the climate crisis. In particular, it fails to address the uncontrollable negative externalities endemic to this crisis. Today, we need and share resources from which it would be ineffective and harmful to exclude our neighbors. Yet exclusion remains the cornerstone of much of American property law. In turn, the principle of autonomy—broadly defined to signify privacy, self-sufficiency, and even self-isolation—prioritizes exclusion as its functional embodiment in property law.

This Article develops a climate-crisis-facing property law—one that recognizes the need to manage resources owned both exclusively and in common in such a way as to protect the long-term value and integrity of those resources as well as the infrastructure that enables their continued enjoyment. Focusing particularly on relationships between property-owning neighbors, it develops a concept of deliberative co-management whereby neighbors would have rights to co-manage portions of each other's property. Deliberative co-management could allow neighbors to create and co-manage spaces for channeling floodwaters in the face of sea level rise and for responding more effectively to wildfires. As importantly, deliberative co-management has the potential to change social relations—built on exclusion, autonomy, and isolation—that current property rules have helped to develop and entrench. By encouraging communication and ultimately trust, deliberative co-management can be a powerful systemic response to the climate crisis.

* Professor, Northeastern University School of Law; Affiliate Professor of Public Policy and Urban Affairs, Northeastern University. I am grateful to Greg Alexander, Maya Bornstein, Molly Brady, Katherine Brumund, Hanoch Dagan, Avihay Dorfman, Benjamin Ericson, Claudia Haupt, Alexander Loughran Lamothe, Joseph McClintock, Aly McKnight, Julian Montijo, Hayley Reifeiss, Joseph William Singer, James Charles Smith, Milo Vieland, and the participants in the 2021 Progressive Property Conference, the Boston College Law School Spring 2022 Faculty Workshop, and my Sharing Property course for extremely helpful comments to the manuscript. I received superb research assistance from Emily Garrett, Keely Lovato, and Rohan Vakil. Finally, I thank the editors of the *Columbia Law Review* for their exceptional—and collaborative—work on this manuscript.

INTRODUCTION	582
I. TRADITIONAL PROPERTY LAW AND THE CHALLENGE OF CRISIS.....	586
A. Crisis and Uncontrollable Externalities	587
B. The Operational Challenge.....	595
C. The Rhetorical Challenge.....	599
II. DOCTRINAL RULES FOR CLIMATE SHARING.....	602
A. The Law of Neighbors as Friends.....	605
B. Sharing Nuisances, Sharing Easements: Modern Manifestations of the Commons.....	610
C. Reasonable Use as Doctrine and Symbol.....	612
III. PROCEDURAL AND POLICY TOOLS FOR CLIMATE SHARING.....	617
A. Procedural Catalysts for Communication	617
1. Mediation.....	617
B. Law Reform for Systemic Change	620
C. The Role of the State: Goal Definition and Facilitation.....	622
IV. CONCEPTUALIZING RIGHTS OF ACCESS AND CO-MANAGEMENT AMONG NEIGHBORS.....	626
V. TWO PRAGMATIC EXAMPLES.....	636
A. Wildfire Response	637
B. Planning for Flooding.....	639
CONCLUSION.....	645

INTRODUCTION

In 2018, the opening vignette of a Bloomberg article titled “The Fighting Has Begun Over Who Owns Land Drowned by Climate Change” described a Louisiana property owner who, in the course of patrolling his partially submerged property with a motorboat, chased a trespassing tourboat down the bayou.¹ Several years later, headlines such as this have been replaced by increasingly urgent warnings about a “climate-driven housing crisis” in which rising seas are causing “America’s coastal housing market to dive”² mixed with reports of what can only be described as irrationally exuberant bets by purchasers across the globe on real estate that

1. See Christopher Flavelle, *The Fighting Has Begun Over Who Owns Land Drowned by Climate Change*, Bloomberg Businessweek (Apr. 25, 2018), <https://www.bloomberg.com/news/features/2018-04-25/fight-grows-over-who-owns-real-estate-drowned-by-climate-change> [<https://perma.cc/66MR-8GQJ>].

2. See Christopher Flavelle, *Florida Sees Signals of a Climate-Driven Housing Crisis*, N.Y. Times (Oct. 12, 2020), <https://www.nytimes.com/2020/10/12/climate/home-sales-florida.html> (on file with the *Columbia Law Review*) (last updated Mar. 2, 2021).

may or may not be habitable in the near future.³ Stories such as these bespeak the ongoing reliance on traditional property rights and expectations in a world rendered much more fragile by climate change. At the same time, they reveal the increasing futility of traditional property rules to protect those rights and expectations.

This Article argues that it is imperative for property law to develop durable, systemic responses to the climate crisis. It acknowledges that the climate crisis imposes clear limits on our economic behavior, both as a society and as individuals in a society. We can no longer act on the unfettered belief that our individual acquisition and exploitation of resources will straightforwardly produce social benefits. The externalities we have produced through this behavior have contributed significantly to our current state of crisis. Though lawmakers have modified property rights in moments of crisis,⁴ these changes have been temporary and piecemeal, leaving intact the broader structures of ownership and exclusion that have buttressed the American vision of property ownership as a manifestation of autonomy—broadly defined.⁵ This vision of ownership fails to recognize the lived reality of the climate crisis, and it fails to anticipate the challenge of future such crises. Instead, a property law that is responsive to the climate crisis and that prioritizes the diffusion of this crisis must grapple deeply with the connection between individual ownership and large-scale—indeed systemic—externalities and the harms they produce.⁶ It must provide mechanisms for recognizing and managing these harms.

Because individual property ownership contributes significantly to the climate crisis,⁷ climate response must address individual ownership. Such

3. See, e.g., Shawna Kwan, Property Tycoons Ignore Flood Risk on Hong Kong's Last Frontier, *Bloomberg CityLab* (Feb. 8, 2021), <https://www.bloomberg.com/news/features/2021-02-08/hong-kong-property-developers-ignore-new-territories-flood-risk> [<https://perma.cc/LSQ2-LZVM>] (describing how Hong Kong developers continue to expand into the New Territories despite the high risk of flooding); Casey Tolan, High Ground, High Prices: How Climate Change Is Speeding Gentrification in Some of America's Most Flooding-Vulnerable Cities, *CNN* (Mar. 3, 2021), <https://www.cnn.com/interactive/2021/03/us/climate-gentrification-cnnphotos-invs/> [<https://perma.cc/3VUJ-YU4K>] (describing the phenomenon of climate gentrification in which wealthy people move to areas that are less prone to flooding, thereby driving up housing prices).

4. See Nestor M. Davidson & Rashmi Dyal-Chand, Property in Crisis, 78 *Fordham L. Rev.* 1607, 1619–20 (2010).

5. See *infra* sections I.A–C.

6. See *infra* section I.A (discussing the negative externalities produced by the climate crisis, including wildfires and their consequences such as reduced air quality; droughts and their consequences for water quality; sea level rise and its consequences such as flooding and land loss; heat waves; and innumerable other effects).

7. Eric Biber, Law in the Anthropocene Epoch, 106 *Geo. L.J.* 1, 47–48 (2017) (noting that individual property ownership is an ineffective resource management tool because it fails to take account of the impacts individual property owners' decisions have beyond their property line); Robert H. Cutting, "One Man's Ceilin' is Another Man's Floor": Property Rights as the Double-Edged Sword, 31 *Env't L.* 819, 819 (2001) (describing how courts and

a response must operate at the level of neighbors who own and control property—and who produce positive and negative externalities. This Article argues that property law should incorporate principles of deliberation and co-management by which neighbors would share management of resources that are individually owned but that contribute to the common enjoyment of a shared infrastructure. By defining a space for sharing information as well as management responsibilities among neighbors, the Article provides a pragmatic means for addressing widespread externalities. It also defines a literal and figurative space for developing trust and empathy: Neighbors who co-manage resources that they each need must see each other's perspectives and needs. In developing the concept of deliberative co-management, the Article relies on analyses undertaken by property scholars who have articulated the importance of defining more space for property law to operate between the two archetypes of absolute dominion and the commons.⁸ Some of these scholars have argued, for example, that property law must expand the spectrum by developing new models for commons relationships.⁹ While acknowledging the importance of doing so, this Article contributes to the conversation by expanding the part of the spectrum inhabited by individual property-owning neighbors. By encouraging communication, empathy, and ultimately trust, deliberative co-management can be a powerful systemic response to a range of crises.

Relationships among neighbors may initially seem marginal to the urgent challenge of addressing crises, and to some (meaningful) extent they are marginal—at least where emergency crisis response and management is concerned. Even beyond the short term, crisis-facing law reform

legislatures have defined property rights in terms of private boundaries rather than property rights held by a collectively affected group).

8. See Gregory S. Alexander & Eduardo M. Peñalver, *Community and Property: Properties of Community*, 10 *Theoretical Inquiries L.* 127, 129 (2009) (offering a property law theory “based on an ontological conception of community that views the individual and community as mutually dependent”); Gregory S. Alexander, *Governance Property*, 160 *U. Pa. L. Rev.* 1853, 1858 (2012) [hereinafter Alexander, *Governance Property*] (arguing that governance property is the dominant form of property ownership today, and is defined by multiple people sharing property rights under rules of internal governance, as opposed to individual exclusive ownership or common ownership); Hanoch Dagan & Michael A. Heller, *The Liberal Commons*, 110 *Yale L.J.* 549, 553 (2001) (describing the liberal commons as a “type of ownership distinct from both private and commons property, but drawing elements from each”); Eduardo M. Peñalver, *Property as Entrance*, 91 *Va. L. Rev.* 1889, 1894 (2005) [hereinafter Peñalver, *Property as Entrance*] (proposing “a different conception of the means by which property mediates between the individual and the community: property as entrance”); Joseph William Singer, *No Right to Exclude: Public Accommodations and Private Property*, 90 *Nw. U. L. Rev.* 1283, 1297 (1996) (arguing that the ongoing problem of racial discrimination by retail stores could be addressed by “[a]dopting a general doctrine that requires all businesses open to the public to serve the public”).

9. Hanoch Dagan and Michael Heller in particular have imagined more space for commons resource management. See Dagan & Heller, *supra* note 8, at 552–53.

must include the development of environmental laws, wage and labor policies, family and education policies, antidiscrimination laws, and tort rules (among many other rules, laws, and policies) that prioritize stability and reduce the vulnerabilities exacerbated by the climate crisis. Broader law reform within and well beyond property law is crucial.

Nonetheless, this Article argues that reimagining neighborly relations can ultimately work a deep systemic change in and beyond property law. Today, rights among neighbors are governed largely by rules of exclusion that serve as legal manifestations of the deeply engrained value of autonomy.¹⁰ Exclusion serves as the means by which individuals can preserve and protect their own privacy and self-sufficiency.¹¹ These exclusionary rules, however, pay scant attention to the externalities that neighbors create when those externalities contribute to systemic crises.¹² These same basic rules of exclusion govern the rights of power companies, carmakers, and agricultural enterprises in their acquisition of property rights and the externalities they produce.¹³

It remains absolutely essential that policymaking at the national and international levels targets the extraordinary power of elite players who have contributed disproportionately to crises. Without such interventions, the climate crisis, which has reached existential proportions, cannot be managed. Indeed, without such interventions, the property reforms proposed here will be meaningless.

The question for this Article is how to develop a systemic response within the field of property law that attends to the smaller players as well, while creating space and complementarity for such regulatory interventions. At issue today is the basic question of the ongoing viability of the particular model of ownership that American property law recognizes. By proposing reforms to that model, this Article demonstrates that individual neighbors can contribute to managing crisis. Such a contribution can be rhetorically forceful—and also pragmatically valuable, as this Article demonstrates by using two examples as proving grounds. Not least of all, this mechanism can serve as a means of democratizing, expanding, and systematizing our responses to the climate crisis. More ambitiously, it can provide a regulatory foundation for a crisis-facing vision of autonomy that protects values such as privacy while creating space for the development of empathy and trust.

This Article begins in Part I by examining how the climate crisis challenges traditional property norms and doctrines. It argues that a core characteristic of the crisis is the proliferation of uncontrollable negative externalities. Such externalities pose both an operational and a rhetorical

10. See *infra* section I.B (discussing exclusion in property law and its implications for resource and environmental management).

11. See *infra* section I.C.

12. See *infra* section I.A.

13. See *infra* section I.A.

challenge to property rules that prioritize the right of exclusion anchored by norms of autonomy. Parts II and III follow this examination by considering the range of substantive and procedural devices that can serve as foundations for developing a more robust, crisis-facing property law. Part III also surveys law reform and policy measures that could enhance these devices and the unique role of local governments in facilitating their use.

Part IV then builds on this foundation by developing the concept of deliberative co-management, a device for involving individual property-owning neighbors in proactively responding to the climate crisis. In so doing, Part IV considers the values that autonomy serves in times of crisis, and the extent to which it is necessary to revise our understanding of exclusion as a manifestation of a more crisis-facing autonomy. Part V examines the viability of neighborly deliberation in addressing two contemporary climate-induced challenges. The first challenge is the increasingly constant problem of wildfire response in the western United States. The second challenge concerns the management of floodwaters in the face of rising sea levels. Finally, the conclusion reflects briefly on the broader utility of deliberative co-management in responding to a range of crises. Thus far, property law has been a great deal less relevant than it ought to be in responding to our new age of crisis.¹⁴ This Article calls for updating property law in light of our new normal.

I. TRADITIONAL PROPERTY LAW AND THE CHALLENGE OF CRISIS

The climate crisis challenges law generally, which is one reason why scholars have a responsibility to examine the impact of crisis across all fields of law. To fulfill that responsibility, we must consider the unique challenges posed to the rules and norms in our own fields. This work will require us to undertake empirical and theoretical examinations of many features of crisis.¹⁵ Yet some features of crisis are so omnipresent *and so*

14. A little over a decade ago, Nestor Davidson and I published an article in the wake of the Great Recession hypothesizing that while incremental legal development is the norm in property law, crises can force abrupt changes in rules and norms. See Davidson & Dyal-Chand, *supra* note 4, at 1637 (describing the effect of crises on traditional property norms). In the years that followed, there was a brief period of significant innovation in property rules and then a reversion to many of the pre-recession rules and norms. This pattern manifests with other crises also, as is evidenced by legal developments since John Lovett's article on the impact of Hurricane Katrina. John A. Lovett, Property and Radically Changed Circumstances, 74 *Tenn. L. Rev.* 463 (2007). This Article builds a normative argument on the descriptive foundation that Davidson and I laid, contending that we now need a property law for a relatively permanent state of crisis.

15. See, e.g., Lisa Benjamin, The Road to Paris Runs Through Delaware: Climate Litigation and Directors' Duties, 2020 *Utah L. Rev.* 313, 323 ("Climate change challenges legal orders, and this dynamic is further highlighted within the realm of corporate law and its application to carbon-major corporations."); Biber, *supra* note 7, at 45 (discussing the impact of climate change on several areas of law, including tort, property, constitutional, administrative, and criminal law); Douglas A. Kysar, What Climate Change Can Do About

relevant to legal rulemaking in a field, that they are the “low-hanging fruit” for purposes of crisis analysis and response. For property, the low-hanging fruit is the proliferation of uncontrollable negative externalities that appear endemic to the climate crisis. Given the centrality of such externalities to the crisis and the stark challenge they present for traditional property law, this Article focuses largely on this particular feature of the climate crisis. Section I.A begins by examining the proliferation of negative externalities in the climate context as well as property law responses to the climate crisis. Section I.B examines a significant operational challenge that such externalities pose for property law. Section I.C discusses a major rhetorical challenge that systemic externalities pose, particularly to more libertarian versions of autonomy. By elaborating the problem of uncontrollable externalities for property law, this Part provides a foundation for the development of climate-crisis-facing property rules undertaken in the remainder of this Article.

A. *Crisis and Uncontrollable Externalities*

The basic economic concept of negative externalities, namely harmful costs or effects on third parties, is partially captured by cross-disciplinary definitions of crisis such as the following: “a specific, unexpected, non-routine event or series of events that creates high levels of uncertainty and a significant or perceived threat to high priority goals.”¹⁶

Even this basic definition conveys the effects of global climate change. While many kinds of human activity have contributed to global warming since the Industrial Age, it is uncontroversial that a few industries have played an outsized role in catalyzing the current climate crisis.¹⁷ One reason why these industries have produced such enormous profits for their major players is that they have not been forced to limit greenhouse gas

Tort Law, 41 *Env't L.* 1, 2 n.3 (2011) [hereinafter Kysar, Tort Law] (discussing the impact of climate change on tort law); David Markell & J.B. Ruhl, *An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?*, 64 *Fla. L. Rev.* 15, 15 (2012) (“[T]he story of climate change in the courts has not been one of courts forging a new jurisprudence, but rather one of judicial business as usual.”).

16. Timothy L. Sellnow & Matthew W. Seeger, *Theorizing Crisis Communication* 7 (2013) (citation omitted).

17. The fossil fuel industry has been found to disproportionately account for the majority of greenhouse gas emissions in the last few decades. See Tess Riley, *Just 100 Companies Responsible for 71% of Global Emissions, Study Says*, *Guardian* (July 10, 2017), <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change> [https://perma.cc/ES9N-WLXS]; Douglas Starr, *Just 90 Companies Are to Blame for Most Climate Change, This ‘Carbon Accountant’ Says*, *Science* (Aug. 25, 2016), <https://www.sciencemag.org/news/2016/08/just-90-companies-are-blame-most-climate-change-carbon-accountant-says> [https://perma.cc/Q7GV-BXAX].

emissions from their activities.¹⁸ Consequently, the costs of such emissions are borne by human society as a whole. Moreover, while those costs will be enormous under any conceivable scenario, it is also apparent that the effects of climate change are at this point uncontrollable to a meaningful extent. Sea levels will rise;¹⁹ rivers will flood;²⁰ hurricanes, tornadoes, fires, and droughts will increase in frequency and intensity.²¹

As this parade of scientifically incontestable horrors makes clear, these effects will extensively, and in some cases irrevocably, harm many property rights.²² Many owners will experience declines in property values as well as limitations on their ability to use and transfer their property.²³ Some will lose their property altogether.²⁴ Moreover, they are not the kinds

18. Howard A. Latin, *Climate Change Regulation and EPA Disincentives*, 45 *Env't L.* 19, 30–31 (2015) (“EPA ignored the widely recognized fact that the market prices of energy from fossil fuel-burning power plants are greatly distorted because the energy industries benefit from large government subsidies and massive harmful externalities inflicted on our society.” (footnotes omitted)).

19. See Paul Voosen, ‘There’s No Scenario That Stops Sea Level Rise in This Century,’ *Dire U.N. Climate Report Warns*, *Science* (Sept. 25, 2019), <https://www.sciencemag.org/news/2019/09/there-s-no-scenario-stops-sea-level-rise-century-dire-un-climate-report-warns> [<https://perma.cc/B35W-F7Z2>].

20. See Working Grp. I of the Intergovernmental Panel on Climate Change, *Summary for Policymakers 14–15* (2007), <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-spm-1.pdf> [<https://perma.cc/W8JK-FV2L>] (predicting that worsening climate change will affect the frequency and severity of tropical cyclones, melt sea ice and snow cover, and produce widespread changes in precipitation amounts).

21. *Id.*

22. Biber, *supra* note 7, at 46 (“The Anthropocene will create pressures for property systems . . . and the impacts of those impairments on human and natural systems. However, that increased rate of response in property systems will in turn put pressure on doctrinal rules such as takings claims for compensation by the government to property owners . . .”).

23. The nuisance lawsuits describe these harms in significant detail. See *infra* notes 29–31; see also Keith W. Rizzardi, *Rising Seas, Receding Ethics? Why Real Estate Professionals Should Seek the Moral High Ground*, 6 *Wash. & Lee J. Energy Climate & Env't* 402, 431 (2015) (“For the insurance industry, there is no doubt that sea level rise is real. Insured losses for the global insurance industry due to weather related events have risen dramatically: from \$6.4 billion per year in the 1980s to \$40 billion for the first decade of the 2000’s.” (footnote omitted)).

24. Rizzardi, *supra* note 23, at 438 (“For the people who live and work on the coastlines, the buyer’s expectation of property ownership as a long-term investment that accrues equity eventually will be replaced by a new model of property ownership as a depreciating asset with a limited time horizon.”); see also *Background on: Climate Change and Insurance Issues*, *Ins. Info. Inst.* (Nov. 1, 2019), <https://www.iii.org/article/background-on-climate-change-and-insurance-issues> [<https://perma.cc/VTQ7-8QBF>] (“Property losses of all kinds are most likely to rise as the frequency and severity of extreme weather events increase . . .”); Danielle Torrent Tucker, *Climate Change Has Caused Billions of Dollars in Flood Damages, According to Stanford Researchers*, *Stan. News* (Jan. 11, 2021), <https://news.stanford.edu/2021/01/11/climate-change-caused-one-third-historical-flood-damages/> [<https://perma.cc/HU6B-4M3E>] (“In a new study, Stanford researchers report that intensifying precipitation contributed one-third of the financial costs of flooding in the

of disasters that are best addressed by individual property owners controlling their own property use. The climate crisis lays bare the infrastructure on which property owners rely. It moves from the background to the tenuous foreground the extent to which all of our property values depend on our access to breathable air, drinkable water, and unflooded land.²⁵ If we want access to these resources, we cannot turn inward to our own private spaces. As scholars in fields such as environmental law and public health law have observed, it is not possible to fence in clean air to breathe.²⁶ Nor is it possible to fence out extreme temperatures, hurricanes, or droughts. The right of exclusion is of little value in such circumstances.²⁷ By the same token, our expressions of freedom and autonomy are dependent on our ongoing access to these resources.

Indeed, despite the centrality of exclusion and autonomy in traditional property law, a brief review of key legal responses to climate change reveals the limited value of exclusion in this realm. Arguably the first major attempt to use property rights to redress climate harms was litigation that sought to develop *ex post* liability rules intended to force key actors to internalize some of the negative externalities that their business activities had produced.²⁸ Such efforts have continued, gathering both plaintiffs (including state and local governments, nonprofit organizations, shareholders, and even children) as well as public support.²⁹ The iconic examples

United States over the past three decades, totaling almost \$75 billion of the estimated \$199 billion in flood damages from 1988 to 2017.”).

25. Biber, *supra* note 7, at 47–48 (“[I]n the Anthropocene there will be significant spillovers from the aggregation of individual actions historically thought of as having only local impacts.... The scale of the impacts of many more property owner decisions will be much larger, making property less ideal as a resource management system.”).

26. See Cutting, *supra* note 7, at 822–23 (analyzing the inherent conflict between property law’s adherence to political boundaries and the transboundary nature of ecological resources such as water and air, as well as the impossibility of internalizing all harmful effects of private land); Lindsay F. Wiley, *Moving Global Health Law Upstream: A Critical Appraisal of Global Health Law as a Tool for Health Adaptation to Climate Change*, 22 *Geo. Int’l Env’t L. Rev.* 439, 444 (2010) (positing that the negative, transboundary effects of climate change may be a powerful motivator in refocusing global health law on “upstream” determinants of health, such as social, economic, and environmental factors).

27. Overusing the right to exclude may even exacerbate the degradation of common resources and the ecosystems that maintain them. Lynda L. Butler, *Property’s Problem With Extremes*, 55 *Wake Forest L. Rev.* 1, 22–23 (2020) (“Habitat support generally will not figure into the rational actor’s decision-making calculus, nor will flood control, nutrient recycling, the integrity of food webs, and water purification. Eventually . . . ecosystems will begin to collapse and man-made efforts to replace them will be too costly, inadequate, or simply ineffective.” (footnote omitted)).

28. See Kysar, *Tort Law*, *supra* note 15, at 2 n.3 (discussing the scholarship on climate change litigation and tort-based claims, especially nuisance).

29. See, e.g., *Am. Elec. Power Co. v. Connecticut*, 564 U.S. 410, 418 & n.3 (2011) (including as plaintiffs California, Connecticut, Iowa, New York, Rhode Island, and Vermont, as well as the City of New York and three nonprofit land trusts); *Juliana v. United States*, 947 F.3d 1159, 1159, 1165 (9th Cir. 2020) (including as plaintiffs twenty-one minors,

are the proliferation of public and private nuisance lawsuits against major oil and gas companies, power companies, and others in key industries.³⁰ As of now, however, most of these lawsuits have failed to force the defendants even to pay damages, let alone to take meaningful action to reduce their emissions.³¹ While the results may well be disappointing, they evince a recognition that individual property rights built on exclusion and autonomy are not the right property tool for addressing the problem of climate change.³² To the extent a successful nuisance claim is a manifestation of an owner's right to exclude, albeit one that involves more balancing of rights,³³ a decade of jurisprudence suggests that our rights of exclusion take a back seat to the value of the infrastructure that the polluters provide. More basically, these results are a recognition that it is not feasible to use nuisance as a metaphorical fence for keeping out climate-related harms.³⁴

the nonprofit organization Earth Guardians, and a representative for future generations); *Fentress v. Exxon Mobil Corp.*, 304 F. Supp. 3d 569, 572 (S.D. Tex. 2018) (including as plaintiffs a class of current and former Exxon employee-shareholders); Maysa Zorob & Antonella Angelini, *Are Shareholders the New Champions of Climate Justice?*, Bus. & Hum. Rts. Res. Ctr. (June 25, 2019), <https://www.business-humanrights.org/en/are-shareholders-the-new-champions-of-climate-justice> [<https://perma.cc/W99T-5P3U>] (discussing the recent rise in shareholder-led lawsuits against corporations for false or misleading statements about climate change).

30. See, e.g., *Am. Elec. Power Co.*, 564 U.S. at 418 (suing several of the largest electric power companies in the United States); *City of New York v. Chevron Corp.*, 993 F.3d 81, 86 (2d Cir. 2021) (suing Chevron, ConocoPhillips, Exxon Mobil, Shell, and BP); *Fentress*, 304 F. Supp. 3d at 569 (suing Exxon Mobil); *Native Village of Kivalina v. Exxon Mobil Corp.*, 663 F. Supp. 2d 863, 868 n.1 (N.D. Cal. 2009) (same); *California v. Gen. Motors Corp.*, No. C06-05755, 2007 WL 2726871, at *1 (N.D. Cal. Sept. 17, 2007) (suing several major automakers).

31. See, e.g., *Am. Elec. Power Co.*, 564 U.S. at 415 (holding that the plaintiffs' federal nuisance claim was displaced by the Clean Air Act); *Native Village of Kivalina*, 663 F. Supp. 2d at 883 (determining that the plaintiffs' federal nuisance claim was barred by the political question doctrine); *Gen. Motors Corp.*, 2007 WL 2726871, at *16 (dismissing a federal nuisance claim as a nonjusticiable political question).

32. See Henry E. Smith, *Exclusion and Property Rules in the Law of Nuisance*, 90 Va. L. Rev. 965, 976–78 (2004) [hereinafter Smith, *Exclusion and Property Rules*] (explaining the difficulties with “crude delegation” of resources in traditional exclusionary rules).

33. *Id.* at 976 (“Nuisance employs this exclusion regime when it comes to gross invasions of clear boundaries, but supplements the exclusion regime with fine-tuned governance rules.”).

34. In private nuisance cases, courts have regularly refused to grant injunctions against defendants whose actions result in harmful pollutants or other impediments to the use and enjoyment of the plaintiffs' private property. See, e.g., *Boomer v. Atl. Cement Co.*, 257 N.E.2d 870, 875 (N.Y. 1970) (awarding damages but no injunction for harms caused by the Atlantic Cement Company); *Madison v. Ducktown Sulphur, Copper & Iron Co.*, 83 S.W. 658, 667 (Tenn. 1904) (awarding damages but no injunction to plaintiffs' private nuisance claim against Ducktown's manufacturing process, which resulted in the harmful pollution of plaintiffs' land). Prior to the promulgation of modern environmental regulation, states achieved some success in public nuisance suits by obtaining injunctions against companies

In contrast to ex post lawsuits against major sources of pollution, recent state and local regulations have been more potent in addressing climate impacts. For example, a number of states in the Northeast have banned or heavily regulated the installation by individual property owners of sea walls and beach fencing on the grounds that such individual, piecemeal attempts to protect property from sea level rise result in greater damage to the common good.³⁵ Sea walls and beach fences redirect and channel water to unprotected property, thereby increasing its force and the resulting harm to such property.³⁶ These regulations arguably fall on the opposite end of the spectrum of property regulations from nuisance lawsuits. By preemptively prohibiting property owners from redirecting tides and other sources of water flow, they are successful ex ante rules that function as “property rules” in the classic *Cathedral* typology.³⁷ Yet, by limiting the property owners’ rights to exclude, they are consistent with the results of many nuisance lawsuits.³⁸ This analysis is not intended to suggest that incursion on the right of exclusion is driving court decisions or state and local regulations. Rather, it reveals that the right of exclusion is simply less relevant to contemporary responses to the climate crisis. In the face of such widespread externalities, regulatory considerations understandably turn to the imperative of protecting the infrastructure—streets, sidewalks, and electricity, for example—that all owners (and nonowners) need.³⁹

that polluted state land. Compare *Georgia v. Tenn. Copper Co.*, 206 U.S. 230, 238–39 (1907) (issuing an injunction against defendant to prevent further pollution-related harm to Georgia land), with *Am. Elec. Power Co.*, 564 U.S. at 428–29 (finding that the Clean Air Act displaced the federal common law and thus declining to set a cap on defendants’ greenhouse gas emissions), and *Massachusetts v. Env’t Prot. Agency*, 549 U.S. 497, 521, 528–29 (2007) (holding that the Clean Air Act gave the EPA authority to regulate emissions of greenhouse gasses and that Massachusetts had standing to challenge the EPA’s failure to do so).

35. See Michael Schwirtz, *Dispute in Hamptons Set Off by Effort to Hold Back Ocean*, N.Y. Times (Apr. 17, 2013), https://www.nytimes.com/2013/04/18/nyregion/south-ampton-homeowners-build-barricades-to-hold-back-sea.html?_r=0 (on file with the *Columbia Law Review*) (discussing the conflict between beachfront property owners implementing uncoordinated mitigation techniques against beach erosion and sea level rise that inadvertently damage neighboring property).

36. See *infra* section V.B (discussing the harmful effects that flood walls can have on neighboring properties).

37. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 Harv. L. Rev. 1089, 1092 (1972) (classifying remedies in nuisance lawsuits into two major categories). “Property rules” provide absolute entitlements in the form of no liability or injunctive relief, while “liability rules” result in damages or a “purchased injunction” in order to continue engaging in the nuisance-causing activity. *Id.*

38. See *supra* note 23.

39. See *infra* notes 281–284 and accompanying text; see also Rashmi Dyal-Chand, *Pragmatism and Postcolonialism: Protecting Non-Owners in Property Law*, 63 Am. U. L. Rev. 1683, 1692–93 (2014) (discussing rights of access by nonowners); Robert C. Ellickson, *The Law and Economics of Street Layouts: How a Grid Pattern Benefits a Downtown*, 64

The fault-lines in traditional property law that even this brief sampling of crisis response reveals are cracks in the foundation of exclusion. At the same time, however, exclusion, buttressed by the underlying norm of autonomy, remains the starting point in regulation of property rights in the face of crisis. While bans on sea walls and beach fences do indicate some recognition of the common good, the regulatory focus is on creating limited exceptions to the owner's rights of exclusion and self-protection.

Perhaps the clearest manifestation of this perspective is in constitutional law, most prominently the law of regulatory takings. The lines of cases on physical invasion and on complete deprivation of economic value, including *Loretto v. Teleprompter Manhattan CATV Corp.*,⁴⁰ *Lucas v. South Carolina Coastal Council*,⁴¹ and most recently *Cedar Point Nursery v. Hassid*,⁴² are reminders of the difficulty of recombining property interests once they are initially distributed. *Kelo v. City of New London*⁴³ and particularly its state-level statutory aftermath⁴⁴ contribute to the ongoing judicial and legislative distrust of coordinated policymaking measures that have the potential to impinge upon individual property rights.

Traditional property law's adoption of the owner's perspective also drives a number of second-order assumptions. For example, limitations on ownership rights have regularly been justified partially on the basis of unequal bargaining power or even charity or the "golden rule," as in the famous New Jersey case *State v. Shack*.⁴⁵ Such a perspective both limits the

Ala. L. Rev. 463, 493–97 (2013) (discussing natural disasters as a catalyst for proposals to change street layouts).

40. 458 U.S. 419, 441 (1982) (holding that a New York law requiring landlords to permit a cable television company to install cable boxes and wires on their buildings resulted in a "permanent physical occupation" constituting a taking).

41. 505 U.S. 1003, 1027, 1031–32 (1992) (holding that a South Carolina statute prohibiting the building of permanent habitable structures in coastal zones deprived the plaintiff's parcels of all economically beneficial use and thus constituted a taking).

42. 141 S. Ct. 2063, 2072 (2021) (holding that a California regulation allowing labor organizations a right to access an agricultural owner's property to solicit support for unionizing its employees constituted a per se physical taking).

43. 545 U.S. 469, 489–90 (2005) (holding that a city's exercise of eminent domain, for the purpose of economic development, with respect to a large area of land comprised of more than 100 privately owned properties qualified as a "public use" within the meaning of the Takings Clause of the Fifth Amendment).

44. See Lynn E. Blais, *Urban Revitalization in the Post-Kelo Era*, 34 *Fordham Urb. L.J.* 657, 659–60 (2007) ("Since *Kelo* was decided, thirty-four states have adopted some responsive legislation or constitutional amendment. These new laws, to varying degrees and using various mechanisms, limit the power of state and local governments to use eminent domain to facilitate economic redevelopment projects." (footnote omitted)); Ilya Somin, *The Limits of Backlash: Assessing the Political Response to Kelo*, 93 *Minn. L. Rev.* 2100, 2102 (2009) ("Forty-three states have enacted post-*Kelo* reform legislation to curb eminent domain.").

45. 277 A.2d 369, 373–74 (N.J. 1971) (quoting 5 Richard R. Powell & Patrick J. Rohan, *Powell on Real Property* § 746 (1970) (holding that the defendants did not trespass on a large, privately owned farm when they entered for the purpose of providing services to two

breadth of the exceptions themselves and the circumstances in which such exceptions should arise. This type of regime exhibits no capacity to encourage dialogue among equals—owner to owner. Where conflicts among equals arise, current rules default to exclusionary rights. For example, despite the overwhelming case for transitioning more fully to solar energy, *Prah v. Maretti*⁴⁶ still represents a minority rule. In *Prah*, the Wisconsin Supreme Court held that the plaintiff successfully alleged nuisance because the defendant had obstructed his access to sunlight as a source of clean energy.⁴⁷ Similarly, by providing limited rights of access to state agents for purposes of protecting those with less property or power, our current system prioritizes rights of exclusion.⁴⁸ As section I.C describes, these reactions signify a particular vision of autonomy that venerates personal freedom and abhors the possibility of coercion by one’s neighbors or the state.

Moreover, these lessons force a social recognition about our growing inequality gap that even the most powerful statistical and economic analyses from the last decade have been unsuccessful in achieving.⁴⁹ For many decades, courts and scholars have catalogued the ways in which rights of exclusion contribute to economic and racial inequality, for example by means of exclusionary zoning,⁵⁰ racially restrictive covenants,⁵¹ and access

migrant workers who worked and lived on the farm). In property law circles, this case is famous for defining a broad public policy exception to trespass. Yet the holding can be interpreted as depending on the imperative of protecting a group of individuals who were “rootless,” “isolated,” “unorganized,” and “without economic or political power.” *Id.* at 372; see also *Javins v. First Nat’l Realty Corp.*, 428 F.2d 1071, 1078–79 (D.C. Cir. 1970) (reading the warranty of habitability into all leases in part because of the inequality in bargaining power between landlords and tenants).

46. 321 N.W.2d 182, 192 (Wis. 1982); Sara C. Bronin, *Solar Rights*, 89 B.U. L. Rev. 1217, 1254 (2009) (“Whatever the criticisms, and despite the publicity, *Prah* has not had a significant impact on solar access law.”).

47. *Prah*, 321 N.W.2d at 242.

48. Cf. Christopher Serkin, *Passive Takings: The State’s Affirmative Duty to Protect Property*, 113 Mich. L. Rev. 345, 346 (2014) (arguing that “the government’s failure to regulate, or its failure to act to protect private property, . . . [can] amount to an unconstitutional taking”). Serkin applies his argument to the example of sea level rise. *Id.* at 388–401.

49. See generally Thomas Piketty, *Capital in the Twenty-First Century* (2017) (providing an extraordinarily detailed analysis of wealth inequality in modern capitalist systems); T.M. Scanlon, *Why Does Inequality Matter?* 95–99 (2017) (discussing the conflict between addressing inequality and infringing on individual liberty).

50. See, e.g., *S. Burlington Cnty. NAACP v. Twp. of Mount Laurel*, 336 A.2d 713, 724 (N.J. 1975) (invalidating Mount Laurel’s “system of land use regulation[s], [which] ma[de] it physically and economically impossible to provide low and moderate income housing in the municipality”).

51. See generally Richard R. W. Brooks & Carol M. Rose, *Saving the Neighborhood: Racially Restrictive Covenants, Law, and Social Norms* (2013) (detailing the use of racially restrictive covenants to exclude Black and Brown families from majority white neighborhoods).

to housing⁵² and education.⁵³ As a systemic matter, deep inequalities threaten us all not only because our retirement funds were built on repayment of subprime mortgage loans.⁵⁴ They threaten us also because poverty and unequal access to clean air and energy,⁵⁵ stable housing,⁵⁶ and reliable medical care⁵⁷ contribute to the spread of crises and the depletion of the

52. See generally Jeannine Bell, *Hate Thy Neighbor: Move-In Violence and the Persistence of Racial Segregation in American Housing* (2013) (detailing the use of violence to exclude Black families in particular from access to housing in majority white neighborhoods).

53. See, e.g., LaToya Baldwin Clark, *Education as Property*, 105 Va. L. Rev. 397, 402 (2019) (“[S]takeholders regard education as a property right bearing the essential functions of property, including the right to exclude. Through exclusion, suburban school district officials allow taxpayers to insulate a ‘good’ education for their communities’ children and those children alone.”).

54. In this realm too, however, systemic racism resulted in particularly harsh effects for some. Emma Coleman Jordan, *The Hidden Structure of Inequality: The Federal Reserve and a Cascade of Failures*, 2 U. Pa. J.L. & Pub. Affs. 107, 109, 153–54 (2017) (questioning the Federal Reserve’s claim of inequality neutrality following the Great Recession, which resulted in a steep decline in housing prices and retirement accounts).

55. New research on the COVID-19 outbreak links increased mortality with prior exposure to air pollution, a risk that is particularly concerning for low-income people of color who are more likely to live in highly polluted areas. See Lisa Friedman, *New Research Links Air Pollution to Higher Coronavirus Death Rates*, N.Y. Times (Apr. 7, 2020), <https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html> (on file with the *Columbia Law Review*) (last updated Apr. 17, 2020); Misti Crane, *Low-Income, Black Neighborhoods Still Hit Hard by Air Pollution*, Ohio St. News (Aug. 10, 2019), <https://news.osu.edu/low-income-black-neighborhoods-still-hit-hard-by-air-pollution/> [<https://perma.cc/5LCL-TFA7>]; Jonathan Lambert, *Study Finds Racial Gap Between Who Causes Air Pollution and Who Breathes It*, NPR (Mar. 11, 2019), <https://www.npr.org/sections/health-shots/2019/03/11/702348935/study-finds-racial-gap-between-who-causes-air-pollution-and-who-breathes-it> [<https://perma.cc/PM5E-Q2ZX>].

56. The COVID-19 pandemic has highlighted the dangers of inequitable housing, as recommendations to remain at home and practice social distancing are impossible to heed for those experiencing housing instability. See Phil Ciciora, *Housing Instability Undermines Public Health Response to COVID-19 Pandemic*, Ill. News Bureau (June 11, 2020), <https://news.illinois.edu/view/6367/809501> [<https://perma.cc/NZY3-J3D4>]; Jenny Schuetz, *America’s Inequitable Housing System Is Completely Unprepared for Coronavirus*, Brookings (Mar. 12, 2020), <https://www.brookings.edu/blog/the-avenue/2020/03/12/americas-inequitable-housing-system-is-completely-unprepared-for-coronavirus/> [<https://perma.cc/949L-L8TR>].

57. Unequal access to affordable healthcare, health insurance, and primary care providers has exacerbated the spread and severity of COVID-19 within the United States. Increased unemployment stemming from business closures and stay-at-home orders has worsened these conditions by depriving millions of employer-sponsored health insurance in the midst of a public health crisis. See David Blumenthal & Shanoor Seervai, *Coronavirus Is Exposing Deficiencies in U.S. Health Care*, Harv. Bus. Rev. (Mar. 10, 2020), <https://hbr.org/2020/03/coronavirus-is-exposing-deficiencies-in-u-s-health-care> [<https://perma.cc/JKP8-JV66>]; Keith A. Reynolds, *Coronavirus: New Report Shows Grim View of Health Insurance Loss*, Med. Econ. (Apr. 3, 2020), <https://www.medicaleconomics.com/news/coronavirus-new-report-shows-grim-view-health-insurance-loss> [<https://perma.cc/SK58-HQVU>]; Delaram J. Taghipour & Sony Salzman, *Black Americans ‘Epicenter’ of*

infrastructure that we all need.⁵⁸ As these examples demonstrate, such threats, and their numerous consequences, are (at times immeasurably) exacerbated for many of those who are Black and Brown.

B. *The Operational Challenge*

The proliferation of negative externalities resulting from climate change challenges traditional property law because it marginalizes the legal value of exclusion. The challenge is both operational and rhetorical in nature. Understanding the operational challenge requires a deeper inquiry into the value of exclusion to property law. In operational terms, the most persuasive justification for exclusion appears to be that exclusion lowers transaction costs because it “is a key shorthand method of delineating rights that saves on the transaction costs of delineating and processing information about rights in terms of uses and users.”⁵⁹ The contemporary scholars most associated with this justification are Thomas Merrill and Henry Smith, who have elaborated an information-cost theory of exclusion rights and remedies. Smith argues that this theory has the following advantage:

[T]hose who have to respect the right—the duty holders—need not know anything about the[] [owner’s] uses The duty holder need only know to keep off. Finally, the one delineating the right need not know much about or even the identity of the duty holders; the right is to exclude the rest of the world.⁶⁰

Merrill and Smith argue that this form of anonymity is built into many features of traditional property law, such as the numerus clausus principle and the availability of injunctive relief.⁶¹

Coronavirus Crisis Made Worse by Lack of Insurance, ABC News (Apr. 9, 2020), <https://abcnews.go.com/Health/make-covid-19-tests-treatment-easy-access-black/story?id=70048090> [<https://perma.cc/NX5J-WXDD>].

58. The COVID-19 pandemic has brought these realities into sharp relief, as cities have rushed to house, feed, and provide medical care to homeless individuals in an effort to reduce the virus’s spread. See Marissa J. Lang, Justin Wm. Moyer & Nitasha Tiku, Cities Struggle to Protect Vulnerable Homeless Populations as Coronavirus Spreads, Wash. Post (Mar. 20, 2020), https://www.washingtonpost.com/local/cities-struggle-to-protect-vulnerable-homeless-populations-as-coronavirus-spreads/2020/03/20/1144249c-67be-11ea-b5f1-a5a804158597_story.html (on file with the *Columbia Law Review*); Christine Mai-Duc, Alicia A. Caldwell & Stephanie Armour, U.S. Tries to House Its Homeless in a Hurry to Prevent Coronavirus Outbreaks, Wall St. J. (Apr. 3, 2020), <https://www.wsj.com/articles/u-s-tries-to-house-its-homeless-in-a-hurry-to-prevent-coronavirus-outbreaks-11585906202> (on file with the *Columbia Law Review*).

59. Henry E. Smith, Self-Help and the Nature of Property, 1 J.L. Econ. & Pol’y 69, 79 (2005).

60. *Id.* at 78.

61. See, e.g., Thomas W. Merrill & Henry E. Smith, Optimal Standardization in the Law of Property: The Numerus Clausus Principle, 110 Yale L.J. 1, 25–27 (2000) [hereinafter Merrill & Smith, Optimal Standardization] (arguing that the principle of numerus clausus serves to reduce information-processing costs); Henry E. Smith, Property and Property

It is important to begin by acknowledging that stable property rights have been—and continue to be—a cornerstone of American economic regulation.⁶² Relatedly, both autonomy and its doctrinal embodiment in the form of exclusionary rights continue to serve important and valuable roles today. Yet as Smith also acknowledges, the so-called “exclusion strategy” only works for some forms of property and in some circumstances.⁶³ Thus, access to resources such as clean air and water typically require what Smith labels “governance” rules, which allow for the management of resources in “nonstandard ways that entail greater precision or complexity in delineating use rights than is possible using exclusion.”⁶⁴

On Smith’s own terms, then, core aspects of the climate crisis, which involve access to air and water, can only be managed using governance rules. But this crisis poses a much greater challenge to the exclusion strategy than just in these limited respects. While Smith argues that exclusion is an ideal strategy for responding to “uncertainty over uses” because it delegates “to the owner the choice of how to use the asset, thus avoiding the need to specify uses at any stage,”⁶⁵ the climate crisis imposes uncertainties that both qualitatively and quantitatively defy the ability of individual owners to manage uncertainty by means of exclusion rights. The information that is relevant, and the costs of gathering that information, are different in a crisis. For example, the signaling function of a “no trespass” sign is (at best) beside the point. To the contrary, what owners need during a crisis is information about uses that have produced the harms they experience. Concomitantly, as section I.C discusses, climate response

Rules, 79 N.Y.U. L. Rev. 1719, 1720–23, 1753–55 (2004) [hereinafter Smith, Property and Property Rules] (describing how property rules retain information cost advantages through various mechanisms).

62. See Abraham Bell & Gideon Parchomovsky, A Theory of Property, 90 Cornell L. Rev. 531, 538 (2005) (“Property law both recognizes and helps create stable relationships between persons and assets, allowing owners to extract utility that is otherwise unavailable.” (footnote omitted)); Michael A. Heller, The Boundaries of Private Property, 108 Yale L.J. 1163, 1165 (1999) (“[P]eople often create wealth when they break up and recombine property in novel ways”); Thomas W. Merrill & Henry E. Smith, The Property/Contract Interface, 101 Colum. L. Rev. 773, 792 (2001) [hereinafter Merrill & Smith, Property/Contract Interface] (discussing the unique value of in rem property rights).

63. Henry E. Smith, Governing Water: The Semicommons of Fluid Property Rights, 50 Ariz. L. Rev. 445, 445 (2008) [hereinafter Smith, Governing Water]. Admittedly, Smith argues that the circumstances in which governance rules should apply are relatively narrow, and that in general, with respect to most tangible and intangible “things,” exclusion rules are appropriate. Smith, Property and Property Rules, *supra* note 61, at 1753–54, 1766 (“If the benefits from delineation are high enough as well, then the optimal degree of precision can be high enough that it becomes worth policing governance-style signals or tolerating some deterioration (or both). But this will be reserved for special situations where the basic exclusionary regime is not enough.”).

64. Merrill & Smith, Property/Contract Interface, *supra* note 62, at 797.

65. Smith, Property and Property Rules, *supra* note 61, at 1728.

requires the development of a crisis-facing vision of autonomy. This vision requires a different lens on information in several important respects.

Most prominently for purposes of this Article, only with a more macroeconomic understanding of property ownership and access can we examine the systemic uncertainties posed by uncontrollable externalities enough to regulate them. Kenneth Boulding perhaps made this point most boldly—and presciently—when he commented decades ago that “[i]t seems to be very hard to organize a long-run crisis.”⁶⁶ As Boulding noted, the assumption that individual ownership of resources avoids resource depletion better than commons ownership, thus leading to greater overall social welfare, has been grounded in our ability to produce externalities without having to internalize them.⁶⁷ Now that we are facing a world with clear limits on the longevity of our infrastructure, as Boulding foretold,⁶⁸ that assumption is highly questionable. The climate crisis reveals several features of information costs, or more broadly, information challenges, that appear endemic to this crisis.

Scale. One of the information challenges is the scale of information required. Because of the vast proliferation of uncertainty, the information that even ordinary or small-scale owners need is much more extensive and detailed, extending well beyond the facts about their own property, neighborhood, or even town. It is clear, for example, that coastal property owners today must understand the causes and effects of regional sea level rise in order to plan appropriately.⁶⁹ They cannot simply put up a beach fence and keep making it higher. The impact of sea level rise is too complex and systemic. Ownership depends extensively on the actions of many others.

Speed. The speed with which new information is required also makes the task of information gathering more difficult—and more essential. Because our use of resources during crisis is dramatically affected by external events and uncertainties, we require more information more quickly in order to make decisions about how best to protect ourselves and our prop-

66. Kenneth E. Boulding, *Spaceship Earth Revisited*, in *Valuing the Earth: Economics, Ecology, Ethics* 311, 311 (Herman E. Daly & Kenneth N. Townsend eds., 1993) (examining the metaphor of Earth as a spaceship with a limited pool of shared resources).

67. See *id.* at 311–12. Indeed, this latter assumption seems to drive a great deal of property law even in the absence of empirical support for the claim that individual ownership leads to greater social welfare than commons arrangements. Cf. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* 18–21 (1990) (proposing the commons model as an empirically efficient way to manage natural resources within a community).

68. See generally Kenneth E. Boulding, *The Economics of the Coming Spaceship Earth*, in *Valuing the Earth: Economics, Ecology, Ethics* 297, 298 (Herman E. Daly & Kenneth N. Townsend eds., 1993) (analogizing human infrastructure and society to a biological organism that is susceptible to aging and that cannot be maintained indefinitely).

69. See *infra* section V.B for an extended discussion of this issue.

erty. Climate nuisance lawsuits exemplify this informational challenge because they implicitly acknowledge the difficulty of balancing rights based on the flow of information.⁷⁰

Source. As the American transition of presidential power in 2021 revealed, it is increasingly evident that we also need information from sources we can trust even as our sources of information are multiplying and diversifying.⁷¹ Moreover, the imperative of understanding how we harm others through our own resource use may require us to share common sources of information. Common and trustworthy sources of information can help to clarify the nature and extent of risks and uncertainties associated with crisis.

Interconnection. The overlapping nature of crises today, compounded by the cyclical nature of crisis response,⁷² makes it more imperative for information gathering to occur across crises. Thus far, policymaking has addressed each crisis as if it is unconnected to any other. It is only recently, for example, that some commentators have observed that if policymakers viewed the crisis of police violence as tantamount to a public health crisis such as the COVID-19 pandemic, they might more effectively address structural racism.⁷³ Recent commentary also has noted the connections between these crises and the climate crisis.⁷⁴ Similarly, there appears to be only a dawning recognition of the impact of the climate crisis on macroeconomic stability.⁷⁵ These are all-too-rare acknowledgements that the law must address current crises as deeply connected in cause and effect.

70. See, e.g., *Connecticut v. Am. Elec. Power Co.*, 582 F.3d 309, 382–84 (2d Cir. 2009) (reviewing some of the informational challenges involved in regulating climate change). The Supreme Court reversed, largely on grounds of displacement and preemption. *Am. Elec. Power Co. v. Connecticut*, 564 U.S. 410, 429 (2011).

71. See Eric Deggans & David Folkenflik, *A Look at How Different U.S. Media Outlets Covered the Pro-Trump Riot on Capitol Hill*, NPR (Jan. 7, 2021), <https://www.npr.org/2021/01/07/954562181/a-look-at-how-different-u-s-media-outlets-covered-the-pro-trump-riot-on-capitol-> [<https://perma.cc/T57M-6HQJ>] (“[W]hat you saw and your understanding of the [January 6th, 2021] events may depend on where you tuned in . . .”).

72. See Davidson & Dyal-Chand, *supra* note 4, at 1609.

73. See, e.g., Len Strazewski, *Why Police Brutality Is a Matter of Public Health*, AMA (June 8, 2020), <https://www.ama-assn.org/delivering-care/health-equity/why-police-brutality-matter-public-health> [<https://perma.cc/H6VJ-FGHG>].

74. See *supra* notes 54–58.

75. Peter Conti-Brown & David A. Wishnick, *Technocratic Pragmatism, Bureaucratic Expertise, and the Federal Reserve*, 130 *Yale L.J.* 636, 689 (2021) (“If left unaddressed at a global level, experts predict that climate change is likely to create a wide range of such real-economy shocks.”); Lael Brainard, Governor, Fed. Reserve Sys. Bd. of Governors, *Why Climate Change Matters for Monetary Policy and Financial Stability*, Address at “The Economics of Climate Change” Research Conference Sponsored by the Federal Reserve Bank of San Francisco (Nov. 8, 2019), <https://www.federalreserve.gov/newsevents/speech/brainard20191108a.htm> [<https://perma.cc/8XXH-46DA>] (“As was the case with mortgages before the financial crisis, correlated risks from [climate-related] trends could

For all these reasons, in a crisis, information costs related to uncertainty cannot be so easily reduced for individual owners. Instead, crisis creates information costs that can exacerbate, or perhaps even create, negative externalities. Importantly, therefore, crisis challenges traditional property law not only by rendering exclusion rights less relevant but also by highlighting another respect in which exclusion rights are harmful. For example, the anonymity protected by exclusion rights may *hinder* the ability to quickly and comprehensively obtain relevant information about property uses and the risks they create.

This is one reason why it is imperative to develop crisis-facing property rules. It may be reasonable for property owners and even property scholars to question whether it is necessary to reform property in the face of crisis, or whether, instead, rejoining the Paris Climate Agreement and other more centralized actions at the federal or state level will suffice in crisis management. But in reality, the operation of traditional property may well impede crisis management, an observation that is increasingly obvious in contexts such as wildfire and other disaster responses.⁷⁶

C. *The Rhetorical Challenge*

Turning now to the rhetorical challenge to traditional property law posed by the climate crisis, perhaps the greatest threat is to certain visions of autonomy. The principle of autonomy has anchored American property law, justifying the prioritization of individual property owners' ability to acquire and harness resources for individual gain.⁷⁷ Property is the canvas on which individual autonomy has been developed and preserved.⁷⁸ The conceptualization of autonomy has varied across jurisdictions, political contexts, and time. For example, lawmakers regularly recognize that individuals may work cooperatively with others to achieve individual gains for those involved in a collective.⁷⁹ But the paradigmatic owner in this vision

have an effect that reaches beyond individual banks and borrowers to the broader financial system and economy.”).

76. See *infra* Part V for extended examples illustrating this point.

77. Thomas W. Merrill & Henry E. Smith, What Happened to Property in Law and Economics?, 111 *Yale L.J.* 357, 360–61 (2001) [hereinafter Merrill & Smith, What Happened to Property]; see also James Y. Stern, The Essential Structure of Property Law, 115 *Mich. L. Rev.* 1167, 1172 (2017) (arguing that a mutually exclusive structure of property rights—meaning that no two people can have contradictory property rights—is the best framework for understanding property rights and exclusivity).

78. Peñalver, Property as Entrance, *supra* note 8, at 1890 (“Property rights enjoy almost mythical status within American political thought in large part because of this commonly accepted connection to individual freedom.”).

79. See Alexander, Governance Property, *supra* note 8, at 1879 (discussing examples of governance property, such as business partnerships, in which the primary purpose is individual wealth maximization); Dagan & Heller, *supra* note 8, at 572–73 (discussing examples in which cooperation, including in a commons, produces economic gain).

is typically the self-reliant individual.⁸⁰ The paradigmatic resource is physical, finite, and capable of capture,⁸¹ a paradigm that has even been exported to intellectual property law on the justification that social welfare will improve if virtual fences are erected around nonrivalrous resources.⁸² The paradigmatic ideals are privacy, self-sufficiency, and even self-isolation—which together embody the negative right to be left alone.⁸³ The paradigmatic vision of property rights is the Lockean ideal of just desert.⁸⁴ Crucially, this vision is understood as a means of protecting both the individual's freedom of action and freedom from coercion by one's neighbors and the government alike.⁸⁵

The doctrinal embodiment of this paradigm returns us to exclusion because it involves a fortified model of ownership that serves a signaling function for nonowners to “keep out” in order to preserve the efficiency and integrity of the process of individual wealth maximization.⁸⁶ Thus, as

80. See Robert C. Ellickson, *Property in Land*, 102 *Yale L.J.* 1315, 1317 (1993) [hereinafter Ellickson, *Property in Land*] (“Defenders of private ownership of land argue that it promotes individual liberty . . .”).

81. See Smith, *Exclusion and Property*, supra note 32, at 978 (“Property gives the right to exclude from a ‘thing,’ enforceable against everyone else—it is an in rem right . . .”).

82. See Shyamkrishna Balganesh, *Common Law Property Metaphors on the Internet: The Real Problem With the Doctrine of Cybertrespass*, 12 *Mich. Telecomm. & Tech. L. Rev.* 265, 314–15 (2006) (noting that arguments favoring excludability as a characteristic of nonrivalrous intangible resources derive from the belief that excludability adds and preserves value); Amy Kapczynski & Talha Syed, *The Continuum of Excludability and the Limits of Patents*, 122 *Yale L.J.* 1900, 1908–15 (2013) (discussing arguments favoring excludability as a feature of intangible resources).

83. See Peñalver, *Property as Entrance*, supra note 8, at 1891–92 (“Many property theorists, particularly those sympathetic to the libertarian tradition, argue that property grants its owners the power to engage in the stronger form of exit, thereby preserving a wide range of individual liberties.”); see also Jedediah Purdy, *People as Resources: Recruitment and Reciprocity in the Freedom-Promoting Approach to Property*, 56 *Duke L.J.* 1047, 1054 (2007) (explaining how property law enforces “autonomy over a certain sphere of one’s own choices and possessions and corresponding protection in that sphere from the intruding demands of others”).

84. See Joseph William Singer, *Democratic Estates: Property Law in a Free and Democratic Society*, 94 *Cornell L. Rev.* 1009, 1020 (2009) [hereinafter Singer, *Democratic Estates*] (“John Locke is the ultimate Founding Father. In our national myth, we conveniently set aside . . . the little problems of conquest of Indian nations, the enslavement of Africans, and the unequal status of women. We imagine instead . . . [p]roperty is there for the taking and, once acquired, legitimately kept until transferred . . .”).

85. See Ellickson, *Property in Land*, supra note 80, at 1352 (“[P]rivate property, by insulating owners from expropriations by neighbors and state officials, provides an economic security that may embolden owners to risk thumbing their noses at the rest of the world.”); Amy Sinden, *The Tragedy of the Commons and the Myth of a Private Property Solution*, 78 *U. Colo. L. Rev.* 533, 535–36 (2007) (describing rhetoric embracing private property solutions as a defense against government overreach).

86. See Gregory S. Alexander, *The Social-Obligation Norm in American Property Law*, 94 *Cornell L. Rev.* 745, 747 (2009) [hereinafter Alexander, *Social-Obligation*] (“The core image of property rights, in the minds of most people, is that the owner has a right to

Eduardo Peñalver has observed, property law prioritizes the right to exclude as a prerequisite to autonomy: This stick in the property bundle is what allows us to preserve a space where we can retreat.⁸⁷ It is what allows us to, in Robert Ellickson’s words, “thumb [] [our] noses at the rest of the world.”⁸⁸ Indeed, the rights of exclusion and ownership more broadly are not just rights as against neighbors, employees, and those with whom the owner is in close or contractual relationships. Rather, such rights are in rem—rights against the world.⁸⁹

Today, however, the value, relevance, and very meaning of autonomy are qualitatively different as a result of the permanence of crisis. The climate crisis makes plain that even as a rhetorical anchor, autonomy is an inadequate and inaccurate principle for modern property law unless accompanied by a recognition that our autonomy depends on an increasingly fragile infrastructure. This infrastructure includes natural resources, such as air and water, as well as human-made resources, such as sewer pipes, utility lines, and parks.⁹⁰ While visions of autonomy that emphasize the values of privacy and freedom from coercion may be both cherished and realizable still today, those that emphasize the need for property as a basis for achieving self-reliance are simply more pragmatically attenuated. This is a particular threat to the more libertarian versions of autonomy or freedom.⁹¹ The ideal of freedom from governmental coercion may still

exclude others and owes no further obligation to them.”); Thomas W. Merrill, *Property and the Right to Exclude*, 77 *Neb. L. Rev.* 730, 730 (1998) (arguing that the right to exclude is the sine qua non of private property ownership); Smith, *Exclusion and Property Rules*, supra note 32, at 972–73 (“The right to exclude is best understood as a gatekeeper right—the owner’s right to determine the use of the thing, and is protected by common law actions such as ejectment, trespass, and nuisance.” (footnote omitted)).

87. Peñalver, *Property as Entrance*, supra note 8, at 1891 (“In its most ambitious form, exit constitutes the power to reside in self-sufficient isolation within one’s property.”).

88. Ellickson, *Property in Land*, supra note 80, at 1352.

89. Merrill & Smith, *The Property/Contract Interface*, supra note 62, at 777 (“Property rights, on the other hand, are in rem—they bind ‘the rest of the world.’”); see also Merrill & Smith, *What Happened to Property*, supra note 77, at 360 (“Property rights historically have been regarded as in rem. In other words, property rights attach to persons insofar as they have a particular relationship to some thing and confer on those persons the right to exclude a large and indefinite class of other persons (‘the world’) from the thing.”).

90. See Cameron Peterson & Rebecca Winterich-Knox, *Massachusetts Needs a Net Zero Building Code*, *CommonWealth* (Jan. 7, 2020), <https://commonwealthmagazine.org/energy/massachusetts-needs-a-net-zero-building-code/> [<https://perma.cc/GV89-426L>] (advocating for changes in the state building code to address the climate crisis); City of Boston, *Climate Resilience Initiatives 118–28*, https://www.boston.gov/sites/default/files/imce-uploads/2017-01/crb_-_focus_area_ri.pdf [<https://perma.cc/TBY3-HV8B>] (last visited Oct. 25, 2021) (discussing a range of updates to infrastructure that will be advisable in the face of climate change).

91. See, e.g., James M. Buchanan, *Property as a Guarantor of Liberty I* (1993) (arguing that liberty is the foremost concern driving property rights); James W. Ely, Jr., *The Guardian of Every Other Right: A Constitutional History of Property Rights* 174 (1998) (arguing that property rights further individual liberty); Robert C. Ellickson, *Property in Land*, supra note

hold rhetorical value. However, property owners can no longer deny the role of government in protecting both those increasingly fragile physical resources that are privately owned and the publicly owned infrastructure that supports them. To the extent that American property law has been built upon Lockean notions of desert and freedom of action, it is now imperative to develop property rules that recognize our dependence on an infrastructure that enables our autonomy.

The reality is that we all depend on each other in ways that property law simply has not acknowledged before. We are all neighbors now. Indeed, we are at times nuisance-causing neighbors. But because our property rules do not define neighbors and neighborliness broadly, they do not fully accommodate our uses of our own—and each other’s—property in the ways that neighbors must. Currently, our property rules manifest a tension between the rhetoric of self-reliance and freedom from coercion on the one hand and the reality of shared needs on the other. Our task today, therefore, is to understand what autonomy signifies in an age of relatively permanent crisis. It is only prudent to ask which attributes of autonomy should be preserved and which should be diminished as we attempt to develop a revised and pragmatic understanding of autonomy for our current context. This Article begins the process of developing a more realistic vision of autonomy for an age of crisis.⁹²

II. DOCTRINAL RULES FOR CLIMATE SHARING

As this Part describes, much of the doctrinal foundation already exists for developing crisis-facing property rules that can operate at the level of individual neighbors. With relatively limited and straightforward adjustments, these substantive rules could serve to significantly improve property

80, at 1353 (explaining that the ability to rely on one’s own land and labor provides private landowners with a powerful tool to curtail governmental regulation of private property); Richard A. Epstein, Notice and Freedom of Contract in the Law of Servitudes, 55 S. Cal. L. Rev. 1353, 1354 (1982) (arguing that the only role of public regulation needed in the law of servitudes should be to provide notice by recordation).

92. In so doing, it draws upon more extensive discussions of the limitations of autonomy. See, e.g., Hanoch Dagan, A Liberal Theory of Property 68–71 (2020) [hereinafter Dagan, A Liberal Theory of Property] (discussing a range of limitations on autonomy, and therefore on the use of property to achieve autonomy); Hanoch Dagan, Autonomy and Property, in *Research Handbook on Private Law Theories* 185, 185–202 (Hanoch Dagan & Benjamin C. Zipursky eds., 2020) [hereinafter Dagan, Autonomy and Property] (same); see also Alexander, Social-Obligation, *supra* note 86, at 765 (“[A] proper concern for human autonomy requires looking beyond mere functionings to include the capabilities that various social matrices generate for their members.”); Eduardo M. Peñalver, Land Virtues, 94 Cornell L. Rev. 821, 870 (2009) (“[T]he cooperative pursuit of human flourishing must give way at crucial moments in order to create the space necessary for individuals to foster the goods of practical reason and autonomy. The key challenge is to strike the right balance between our obligations toward others and our inclination to favor our own interests” (footnote omitted)); Singer, Democratic Estates, *supra* note 84, at 1054 (discussing the value of autonomy as preserving individuals’ “freedom to determine the shape of their own lives, in a manner consistent with a similar freedom for others”).

law's utility and durability in the face of the climate crisis. Section II.A describes the nascent American law of neighbors, which this Article argues can and should be recognized, consolidated, and expanded as a basis for establishing rights of property access and use in times of crisis. Section II.B reviews legal devices for regulating the commons, semicommons, and co-owned property, concluding that these devices are transferrable for the task of managing crisis-related harms that often lie at the intersection of nuisance and easements law. Section II.C surveys a range of property rules that rely on concepts of reasonable use, reliance, and justified expectations, arguing that these flexible doctrines provide important and concrete substance for fashioning crisis response within property law.

Before canvassing the substantive rules that can provide a foundation for deliberative co-management among neighbors, it may be useful to provide a few brief examples that should establish both the feasibility and the normative value of this concept. One way to describe the physical and legal manifestation of neighborly co-management rights would be to think of it as an easement by special right. Such an easement could be in the boundary space between two adjacent properties in order to create a channel for managing floodwaters.⁹³ It could be a right of access to sunlight, as was recognized in *Prah*.⁹⁴ It could be a requirement to share a driveway and parking area in order to reduce the amount of pavement and increase the proportion of permeable surface area in a neighborhood. More expansively, it could be a right to use a neighbor's roof space for installation of solar panels or a neighbor's field for installation of a wind turbine, where such uses contribute to an energy microgrid.⁹⁵ In any of these cases, the

93. See *infra* section V.B.

94. 321 N.W.2d 182, 191 (Wis. 1982); see also Bronin, *supra* note 46, at 1252 (discussing the *Prah* decision); Gregory Sergienko, Property Law and Climate Change, *Nat. Res. & Env't*, Winter 2008, at 25, 25 (same).

95. See Kimberly E. Diamond & Ellen J. Crivella, Wind Turbine Wakes, Wake Effect Impacts, and Wind Leases: Using Solar Access Laws as the Model for Capitalizing on Wind Rights During the Evolution of Wind Policy Standards, 22 *Duke Env't L. & Pol'y F.* 195, 195–97 (2011) (arguing for a more unified policy that encourages wind turbine construction); Ben Hoen, Joseph Rand, Ryan Wiser, Jeremy Firestone, Debi Elliott, Gundula Hübner, Johannes Pohl, Ryan Haac, Ken Kaliski, Matt Landis & Eric Lantz, National Survey of Attitudes of Wind Power Project Neighbors: Summary of Results, Berkeley Lab Elec. Mkts. & Pol'y Grp. (Nov. 2019), https://emp.lbl.gov/sites/default/files/wind_neighbors_survey_summary_nov2019v5_final.pdf [<https://perma.cc/GWJ6-QT96>] (summarizing the current literature on wind power projects); Muhammad F. Zia, Mohamed Benbouzid, Elhoussin Elbouchikhi, S. M. Muteen, Kuaanan Techato & Josep M. Guerrero, Microgrid Transactive Energy: Review, Architectures, Distributed Ledger Technologies, and Market Analysis, 8 *IEEE Access* 19410, 19411 (2020) (describing the nature of an energy microgrid); see also Energy Democracy: Advancing Equity in Clean Energy Solutions 8 (Denise Fairchild & Al Weinrub eds., 2017) (“Energy democracy seeks to reframe energy from being a commodity that is commercially exploited to being a part of the commons, a natural resource to serve human needs, but in a way that respects the Earth and the ecosystem services provided by the biosphere.”); Shalanda H. Baker, *Anti-Resilience: A Roadmap for*

purpose of such an easement would be to create a presumptive right between neighbors to co-manage some definable portion of property that is individually owned where there is a definable shared interest in preserving ongoing access to, and use of, ecological or other infrastructure that is essential to ongoing enjoyment of a neighbor's individually owned property.

Certainly, such a right, whether called an easement or something else, would be limited by the individual owners' rights of use and enjoyment of their own property.⁹⁶ Moreover, the primary intention here is to force joint deliberation of the management of such spaces rather than any particular regime of use rights.⁹⁷ These brief examples, however, ought to help clarify the conceptual innovation. In some respects, it is a proposal that seeks to bridge the current doctrinal, and especially the remedial, chasm between nuisance and easements as doctrines governing neighborly relations. It is a template for co-managing individual rights of access and use where all owners can legitimately claim a nuisance or an easement. It is also a statement of presumptive rights, upon the fulfillment of certain conditions, rather than a vision dependent on acts of charity. Finally, it is a correction of overbroad interpretations of the right of exclusion as a fundamental, unqualified, dominant, or presumptive right of ownership.⁹⁸

Importantly, the conceptual innovation is not just a move from presumptive rights of exclusion to rights of co-management between neighbors, traditionally defined. It also defines neighbors more broadly. This

Transformational Justice Within the Energy System, 54 *Harv. C.R.-C.L. L. Rev.* 1, 19 (2019) ("Embedding equity into the law by providing opportunities for traditionally burdened groups to actively participate as true economic and democratic stakeholders in the state's transition could have unlocked the transformative potential of the state's wholesale adoption of clean energy."); Jennie C. Stephens, *Energy Democracy: Redistributing Power to the People Through Renewable Transformation*, 61 *Env't. Sci. & Pol'y for Sustainable Dev.* 4, 4-5 (2019) ("Advancing the vision of the energy democracy movement requires prioritizing local and community-controlled renewables and scaling-up and mainstreaming cooperative-model, publicly owned energy infrastructure.").

96. See *infra* Part IV (discussing basic rules for deliberation).

97. At the same time, this analysis does support continuing examination by scholars of the value of property use as a key right of ownership. See Rashmi Dyal-Chand, *Human Worth as Collateral*, 38 *Rutgers L.J.* 793, 793-96 (2007) (comparing and contrasting the relative value of property use and property collateralization); Rashmi Dyal-Chand, *Useless Property*, 32 *Cardozo L. Rev.* 1369, 1373-74 (2011) (arguing for a reprioritization of use rights over transfer rights in property doctrine); Shelly Kreiczer-Levy, *Consumption Property in the Sharing Economy*, 43 *Pepp. L. Rev.* 61, 63 (2015) (discussing the increasing importance of use in the context of the sharing economy); Joseph William Singer, *The Reliance Interest in Property*, 40 *Stan. L. Rev.* 611, 621-22 (1988) [hereinafter *Singer, Reliance Interest*] (discussing the importance of use in establishing a legally cognizable reliance interest).

98. In this respect, this Article's analysis of crisis as a challenge to the right of exclusion provides support for Dagan's description of exclusion as serving a more limited purpose in supporting the role of property as a foundation for autonomy. See Dagan, *A Liberal Theory of Property*, *supra* note 92, at 6-7.

Article proposes a more expansive set of circumstances in which rights to co-manage could be invoked by individuals. Such circumstances certainly include co-management among neighbors who share property boundaries. But they also include rights among neighbors who share a neighborhood that requires access to a shared resource. In this respect, although this Article focuses on neighbors' relationships, it covers a broad range of such relationships, thereby increasing the potential of more coordinated, even networked, behavior throughout a neighborhood, without necessarily requiring the level of private coordination required in common interest communities. This broad vision of coordination imagines a key role for local government.⁹⁹ Moreover, this vision conceptualizes "need" more expansively by, for example, considering the neighborhood itself as a resource that is needed and shared by neighbors. In so doing, it spotlights the range of resources that are part of the natural and built infrastructure supporting individual property ownership.

A. *The Law of Neighbors as Friends*

As James Smith has described, neighbors law is not recognized as a distinct body of American law.¹⁰⁰ But Smith and other scholars have delineated the contours of neighbors law, providing an excellent starting point for envisioning a more expansive set of property rules governing relations among property owners who are or should be treated as neighbors and who must deliberate together about access to and preservation of an expanding list of shared resources. As Smith has observed:

Generally, neighbors treat one another differently because of their status as neighbors. To be "neighborly" is to be kind and friendly; to share; to act so as not to offend others; to be willing to help in times of need, both small and great. Again, such an attitude does not describe all interactions among all neighbors in all settings. . . . But "neighborliness" among neighbors is in fact frequent, rather than rare.¹⁰¹

Smith made this observation in the course of describing the "friend" model, which he claims is one of two prevailing models of neighbors law.¹⁰² In explicating the legal rules that characterize the friend model, Smith focused on the right of exclusion: "[I]n the neighborhood context a landowner may care less about the right to exclude others from entering or using her exterior spaces."¹⁰³

99. See *infra* section III.C.

100. James Charles Smith, *Some Preliminary Thoughts on the Law of Neighbors*, 39 Ga. J. Int'l & Compar. L. 757, 760 (2011) [hereinafter Smith, *The Law of Neighbors*].

101. *Id.* at 762–63.

102. *Id.* at 760–63.

103. *Id.* at 763.

The other model Smith described is the “stranger” model, and it is the one that predominates in U.S. law.¹⁰⁴ When neighbors are forced to interact with each other in the face of conflicting property uses, these two models can produce quite different behavioral and legal consequences.¹⁰⁵ Under the stranger model, legal rules treat neighbors accessing each other’s land, entering into agreements, or harming each other’s property just as they would treat anyone else, with no recognition of any special status or relationship as neighbors.¹⁰⁶ Of course, the archetypal manifestation of the stranger model may well be the fence which, when placed on the boundary line, communicates a lack of connection and engagement.¹⁰⁷ Its message quite simply is to keep out. It is thus noteworthy that fences are sanctioned in American law only when built for “spite.”¹⁰⁸

Smith’s observation that the stranger model of neighbors law dominates legal relations among neighbors in the United States, as contrasted with countries such as Scotland and South Africa,¹⁰⁹ is widely reflected in the literature.¹¹⁰ Yet, as this literature also reveals, the stranger model relies

104. *Id.* at 761–62.

105. *Id.* at 763.

106. *Id.* at 761–62.

107. Lindsay Nash, *Mending Wall: Playing the Game of Neighborhood Ordering*, 21 *Yale J.L. & Humans* 173, 177–80 (2009) (analyzing the development and implications of fence-in laws); see also Nestor M. Davidson, *Property and Relative Status*, 107 *Mich. L. Rev.* 757, 761, 787–91 (2009) (discussing “the ubiquitous role that property plays in marking, defining, and policing status boundaries”).

108. Smith, *The Law of Neighbors*, *supra* note 100, at 772. See generally Nadav Shoked, *Two Hundred Years of Spite*, 110 *Nw. U. L. Rev.* 357 (2016) (discussing the historical development of spite doctrine); Richard T. Drukker, *Comment, Spite Fences and Spite Wells: Relevancy of Motive in the Relations of Adjoining Landowners*, 26 *Calif. L. Rev.* 691 (1938) (discussing the evolution of legal doctrine surrounding spite fences).

109. Smith, *The Law of Neighbors*, *supra* note 100, at 779–85; see also Donald W. Large, *The Land Law of Scotland—A Comparison With American and English Concepts*, 17 *Env’t L.* 1, 22 n.77 (1986); J.R.L. Milton, *The Law of Neighbours in South Africa*, 1969 *Acta Juridica* 123, 130–32; Elspeth Reid, *The Doctrine of Abuse of Rights: Perspective from a Mixed Jurisdiction*, 8.3 *Elec. J. Compar. L.* 2 (2004), <https://web.archive.org/web/20210304035610/http://www.ejcl.org/83/art83-2.html> (on file with the *Columbia Law Review*); A J Van Der Walt, *Dancing With Codes—Protecting, Developing and Deconstructing Property Rights in a Constitutional State*, 118 *S. Afr. L.J.* 258, 272–73 (2001).

110. See, e.g., John A. Lovett, *Meditations on Strathclyde: Controlling Private Land Use Restrictions at the Crossroads of Legal Systems*, 36 *Syracuse J. Int’l L. & Com.* 1, 29 (2008) (tracing the origins of the “conceptualization of non-possessory property rights in terms of neighborliness—in terms of a social understanding of property, rather than a merely legal or economic one focused on the property owner’s autonomy and freedom from state coercion”). Lovett speculates:

[A]n American outsider looking in on the Scottish (and by extension English) rules and procedures for terminating title conditions and other binding land use obligations cannot help but wonder what our legal landscape would look like if more U.S. jurisdictions borrowed a page from our friends across the Atlantic. . . . We might also give ourselves more flexibility to respond to the new economic, environmental and land use

on quite specific assumptions about autonomy that do not reflect our modes of living and relating during times of crises. It assumes that we can indeed erect fences and turn inward, comfortable that even if our relations with our neighbors break down, we will still have other communities to turn to and sufficient resources on our own side of the fence on which to rely. For many of us though, both comforts are no longer available, nor even desirable. If being a neighbor is defined in property terms by shared proximity of owned or needed resources, and perhaps also by the ability to commit a nuisance against each other's property, then we are literally (not just figuratively) all neighbors with each other. We share air,¹¹¹ temperature,¹¹² sea level,¹¹³ polar ice,¹¹⁴ liquidity shocks,¹¹⁵ burst economic

pressures that we will face as a result of trends like global warming, rising energy costs, shortages of affordable housing and ever-mounting ecosystem losses.

Id. at 41; see also C.G. van der Merwe, A Comparative Study of the Distribution of Ownership Rights in Property in an Apartment or Condominium Scheme in Common Law, Civil Law and Mixed Law Systems, 31 Ga. J. Int'l & Compar. L. 101, 101–02 (2002) (describing similarities and differences in neighbors law regimes among countries).

111. For example, in 2004, a wildfire in central Alaska and Canada's Yukon Territory burned more than eleven million acres of forest. As a result, "the boost in carbon monoxide and other fire-emitted pollutants increased ground-level ozone by up to 25 percent in the northern continental United States, and by up to 10 percent in Europe." United Nations Env't Assembly of the United Nations Env't Programme, Towards a Pollution-Free Planet 16 (2018), https://wedocs.unep.org/bitstream/handle/20.500.11822/21800/UNEA_towardspollution_long%20version_Web.pdf?sequence=1&isAllowed=y [<https://perma.cc/98Y9-LLJS>] (citing Jane Beitler, Tracking Nature's Contribution to Pollution, NASA Earth Observatory (Oct. 17, 2006), <https://earthobservatory.nasa.gov/features/ContributionPollution> [<https://perma.cc/ZMC2-Q954>]).

112. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

113. The Intergovernmental Panel on Climate Change, Climate Change 2014 Synthesis Report Summary for Policymakers 4 (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/AR5_SYR_FINAL_SPM.pdf [<https://perma.cc/R4WT-FF63>] ("The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia (*high confidence*).").

114. United Nations Env't Assembly of the United Nations Env't Programme, *supra* note 111, at 10 ("Even in the most remote areas of the polar ice caps, the deep abyssal ocean and high mountains, pollutants such as heavy metals and persistent organic pollutants can be found in plants and animals.").

115. Asim Ijaz Khwaja & Atif Mian, Tracing the Impact of Bank Liquidity Shocks: Evidence From an Emerging Market, 98 Am. Econ. Rev. 1413, 1440–41 (2008).

bubbles,¹¹⁶ and viruses.¹¹⁷ Fences are nothing short of a laughable tool for managing access to, or responsibilities over, such things. Fences betray the outdated nature of property doctrines that rely on fences even as analogies to control the negative externalities that result from their mismanagement.

Moreover, to the extent charity or the “golden rule”¹¹⁸ inspire neighbors at times to reach across the fence and help each other, such a motive for neighborliness is probably inadequate for the development of crisis-facing property rules. Charity presumes a world that requires exceptions to the rule of individual resource capture in light of unequal access or bargaining power for a limited few.¹¹⁹ Such exceptions may well be warranted still, but they do not suffice for our new reality. As Douglas Kysar has noted, our shared reliance on the “ecological superstructure” that supports property ownership requires a property law that recognizes the macroeconomic nature of contemporary property relations.¹²⁰ It requires a property law that provides mechanisms for owners with equal rights and bargaining power to relate to each other concerning their access to and preservation of this superstructure and the built infrastructure that harnesses and maintains it for human use.

Smith canvasses a number of doctrinal areas in extracting a few of the basic rules that represent the friend model of neighborly relations. From

116. Rudolfs Bems, Robert C. Johnson & Kei-Mu Yi, Demand Spillovers and the Collapse of Trade in the Global Recession, 58 *IMF Econ. Rev.* 295, 295–96 (2010); Ricardo J. Caballero & Arvind Krishnamurthy, Global Imbalances and Financial Fragility, 99 *Am. Econ. Rev.* 584, 584 (2009); Lucía Morales & Bernadette Andreosso-O’Callaghan, The Global Financial Crisis: World Market or Regional Contagion Effects?, 29 *Int’l Rev. Econ. & Fin.* 108, 129 (2014) (“[M]arkets suffered mostly from spillover effects, originating from the US . . . and propagated by some key countries into the different regions (Singapore in Asia, UK in Europe). As a consequence, . . . regions are characterised by high levels of correlation, and therefore, the spillover effects propagate on a worldwide basis.”).

117. World Health Organization, Coronavirus Disease (COVID-19): Situation Report—161, at 1 (June 29, 2020), https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200629-covid-19-sitrep-161.pdf?sfvrsn=74fde64e_2 [<https://perma.cc/CB27-JPQP>].

118. *State v. Shack*, 277 A.2d 369, 373–74 (N.J. 1971) (“[Historical developments in property law] may seem to evidence increasing embodiments of the golden rule.” (quoting 5 Richard R. Powell & Patrick J. Rohan, *Powell on Real Property* § 746 (1970))).

119. By contrast, the idea of “virtue” suggests a more generalizable duty owed to others on grounds of relational justice. See Dagan, *Autonomy and Property*, *supra* note 92, at 198 (“Relational justice is not limited to a negative duty of noninterference”); Peñalver, *Land Virtues*, *supra* note 92, at 864 (“Virtues are acquired, stable dispositions to engage in certain characteristic modes of behavior that are conducive to human flourishing.”).

120. Douglas A. Kysar, *Sustainability, Distribution, and the Macroeconomic Analysis of Law*, 43 *B.C. L. Rev.* 1, 2, 6 (2001) [hereinafter Kysar, *Sustainability, Distribution, and Macroeconomic Analysis*]. While Kysar focuses on the ecological superstructure, this Article expands portions of his analysis to recognize that property ownership depends for its viability on the built infrastructure as well, and further that the lessons from ecological economics are relevant to systemic crisis writ large.

the law of adverse possession, as developed across a range of jurisdictions, Smith describes the developing presumption of “implied permission rules” that “rest upon behavioral assumptions with respect to how neighbors interact,” including by tolerating slight physical intrusions, and avoiding fences and “no trespass” signs between yards.¹²¹ From the spite fence doctrine, Smith distills a standard of behavior that is an expanded version of the *sic utere* doctrine, reflective of the special relationship between neighbors “in which the actor owes heightened duties to the other person.”¹²² From cases about boundary line assets, such as trees, Smith extracts norms that tend towards common ownership,¹²³ norms that are reflected more expansively in the “common interest” doctrine within Scottish neighbors law.¹²⁴

The utility of neighbors law is that it recognizes the coexistence of two models for addressing relations among neighbors. Even if the stranger model predominates in U.S. law, the developing law of neighbors legitimizes the friend model as a viable set of rules for governing neighbor relations, rather than as piecemeal exceptions. It provides us with information for how to understand social, economic, and legal relations among neighbors. Further, it provides a template, albeit a crude one, for building the law of such relations. Finally, while it will be crucial to understand the historical and other contexts for successful importation, the more fully developed doctrinal manifestations of neighborliness in Scotland and South Africa provide pragmatically useful beginning points for expanding this framework in the United States.

The friend model of neighbors law, then, is an example of autonomy operationalized within a particular context in which neighborly behavior—that is, being kind, responding to one another’s needs, and sharing—can occur even among property-owning equals exercising a broad range of property rights.¹²⁵ It is a demonstration that core values animating autonomy can coexist with acts of sharing rather than bright-line exclusion. Stated starkly, it is evidence that autonomy does not depend on exclusion and can even incorporate a measure of trust.¹²⁶ This is not to say that the friend model requires altruism or selflessness. To the contrary, the examples of neighborly sharing canvassed by Smith demonstrate the coexistence of self-interest with cooperation in the name of recognizing the need

121. Smith, *The Law of Neighbors*, *supra* note 100, at 768–69. The concept of justified expectations relies on similar assumptions. Though they have different doctrinal results, a number of jurisdictions have also developed rules examining individuals’ intent in entering and using the property of their neighbors. *Id.* at 769–70.

122. *Id.* at 776.

123. *Id.* at 778.

124. *Id.* at 783–84.

125. For an extensive exploration of the norms of neighborliness, see generally Nancy L. Rosenblum, *Good Neighbors: The Democracy of Everyday Life in America* (2016).

126. Dagan, *Autonomy and Property*, *supra* note 92, at 186–87.

for one another.¹²⁷ Under the friend model, property law still functions to protect rights of privacy and freedom of action, as embodied both in active use of property as well as participation in markets for real estate and credit through the leveraging of property rights.¹²⁸ At the same time, the friend model incorporates rules that pay special attention to the negative externalities that can result when those who live in close proximity to each other ignore (and thus fail to internalize) the harmful effects their property use might have on their neighbors.¹²⁹

B. *Sharing Nuisances, Sharing Easements: Modern Manifestations of the Commons*

Arguably the largest theoretical and doctrinal shift proposed in this Article is to recognize rights to share among those who have equal rights to exclude. To understand this shift, it is necessary briefly to compare this argument with the property scholarship on sharing's role in property rights and relationships. Much of the doctrine described in this scholarship concerns commons and semicommons arrangements, and, more broadly, "multiple-ownership" arrangements including those that Gregory Alexander has termed "governance property."¹³⁰

Commons relationships obviously require co-management of (typically) co-owned resources.¹³¹ The idea of governance property is that responsibilities to co-manage resources extend to a broader range of

127. Smith, *The Law of Neighbors*, supra note 100, at 763–79. Smith concludes his article with the following observation: "[A]ny system of neighbors' law, no matter the extent to which its principles and rules reflect a special reciprocity of obligation and an ethic of cooperation and support, will incorporate baseline legal principles (stranger model rules) for some purposes." *Id.* at 786.

128. As Smith states, in describing the operation of the friend model in South Africa: "Owners can do as they please within the boundaries of their own property, provided they respect the right of their neighbors to do the same, do not encroach on their neighbor's property, and generally act in a reasonable [manner]." *Id.* at 780.

129. *Id.* at 781 (observing that in South Africa, there is a principle that "every owner must use his property in such a manner as not to injure his neighbours") (quoting Milton, supra note 109, at 123); see also Milton, supra note 109, at 130–32.

130. Alexander, *Governance Property*, supra note 8, at 1855–56; see also Ostrom, supra note 67, at 18–19 (discussing the commons); Dagan & Heller, supra note 8, at 603 (discussing the liberal commons); Lee Anne Fennell, *Ostrom's Law: Property Rights in the Commons*, 5 *Int'l J. Commons* 9, 13 (2011) [hereinafter Fennell, *Ostrom's Law*] (discussing the commons); Peñalver, *Property as Entrance*, supra note 8, at 1894 (exploring the notion of property as entrance, a means of joining individuals together as a community).

131. Alexander, *Governance Property*, supra note 8, at 1857 ("[Governance property] and commons would only potentially overlap in limited-access regimes. There are differences between the two concepts even within the limited-access context, however."). Some have also defined the commons as "open-access" regimes that involve no private ownership. *Id.*; see also Fennell, *Ostrom's Law*, supra note 130, at 12–13 (discussing the difference between open access and common property). Following Lee Anne Fennell (and

“multiple-ownership” scenarios, including domestic property, common interest communities, and partnerships and close corporations.¹³² Alexander argues that in such ownership contexts, governance rules and norms displace the right of exclusion as the central or defining feature of property relationships.¹³³ Current understandings of governance property assume that co-management responsibilities arise only where there are explicitly multiple owners of the same property simultaneously or sequentially.¹³⁴ This Article refers to such arrangements as “co-ownership,” a term that incorporates more ownership arrangements than just those that involve concurrent ownership. Governance property is also used to reference arrangements where there are explicit rights of access or use to a physically nearby resource that is not capable of capture, such as water.¹³⁵ In the absence of these preconditions, the assumption is that rights of exclusion will prevail.¹³⁶ Alexander argues that these preconditions exist more often than the conditions required for prioritizing exclusion rights.¹³⁷

While this Article endorses his “positive” claim,¹³⁸ it argues that as a *conceptual* matter the conditions justifying the application of governance property rules must be expanded to relations between owners who do not own the same property. Given our present state of crisis, it is simply counterproductive to rely on a doctrinal norm that assumes most resources can be owned and managed exclusively, subject to exceptions such as water.¹³⁹ What is required instead is a conceptual and doctrinal framework that recognizes the need to manage resources owned both exclusively and in common in such a way as to protect the long-term value and integrity of those resources as well as the infrastructure that enables their continued enjoyment. In turn, this framework requires more explicit and consistent consideration of the negative externalities produced by property ownership. Again, the sharing envisioned in this Article is a sharing among those with equal rights to exclude, not just a sharing among those with shared own-

Elinor Ostrom), this Article uses the term “commons” to refer to privately owned property that is owned in common, rather than to open access regimes.

132. Alexander, *Governance Property*, supra note 8, at 1856.

133. *Id.* at 1857–58.

134. *Id.* at 1856–57.

135. Smith, *Governing Water*, supra note 63, at 446 (applying a theory of governance property to water); see also Eyal Benvenisti, *Sharing Transboundary Resources: International Law and Optimal Resource Use* 2–3 (2002) (discussing legal principles for the regulation of transboundary resources including water, clean air, fisheries, mineral deposits, and endangered species).

136. Alexander, *Governance Property*, supra note 8, at 1858; Dagan & Heller, supra note 8, at 603; Peñalver, *Property as Entrance*, supra note 8, at 1962–66.

137. Alexander, *Governance Property*, supra note 8, at 1858.

138. *Id.* at 1858.

139. *Cf.* Smith, *Governing Water*, supra note 63, at 449 (discussing the concept of semicommons in relation to water).

ership rights over a given resource. Importantly, also, the sharing envisioned here is not on the end of the governance–property spectrum that involves domestic or intimate relations. Rather, it is a sharing borne, in meaningful part, of self-interest.

One way to describe the conceptual shift that is proposed here is to describe it as an application of governance property rules to bridge the doctrinal gap between nuisance and easements law. Presently, these doctrines operate to resolve the paradigmatic conflict between maximizing rights of use and maximizing rights of security and isolation.¹⁴⁰ In such situations, rights of security and isolation must at times be curbed to maximize another property owner’s ability to use, enjoy, and profit from their property.¹⁴¹ The shift this Article proposes is intended to address an increasingly frequent paradigmatic conflict in which property owners wish equally to exclude, or on the other hand, they wish equally to access and use. Of the current archetypal models for property dispute resolution, the closest fit for this type of paradigmatic conflict is what Henry Smith describes as a semicommons, which occurs when “private and common property overlap and potentially interact.”¹⁴² Because our level of fencing-in has reached a point where we have assumed we have no more commons to share other than at the margins, such as water, Smith claims that the need for semicommons management rules is relatively rare.¹⁴³ But this Article contends that this type of paradigmatic conflict is now ever-present in our contemporary state of permanent crisis. We are once again faced with a tragedy, but it is of a commons that is not recognized as such because it lies at the nexus of resources that are individually owned (i.e., private property) and resources that are unowned (such as ice sheets, air, and temperature). Moreover, it is one that cannot be addressed by fencing.¹⁴⁴

C. *Reasonable Use as Doctrine and Symbol*

Finally, a diverse set of doctrinal principles that could be described as reasonableness rules operate at the interstices of property law, incorporating principles of equity, flexibility, and fairness into a very broad range of property doctrines. These rules are readily adaptable for developing a more crisis-facing property law. One familiar example is the evolution of

140. See R.H. Coase, *The Problem of Social Cost*, 3 *J.L. & Econ.* 1, 42–44 (1960). Coase’s famous article serves as the foundation for this type of analysis.

141. See Joseph William Singer, *Entitlement: the Paradoxes of Property* 91 (2000) (describing the nuisance doctrine as “calling attention to the pervasive conflict in property law between free use claims and security claims”).

142. See Smith, *Governing Water*, *supra* note 63, at 449.

143. *Id.* at 458.

144. See Garrett Hardin, *The Tragedy of the Commons*, 162 *Science* 1243, 1243 (1968). This is Hardin’s point in his classic article published over half a century ago. However, climate change is forcing broader recognition of the tragedy of the commons because we have reached a crisis point.

American water law in the direction of the reasonable use doctrine, which is now the majority rule in this country.¹⁴⁵ The reasonable use doctrine requires courts to evaluate “flexibly” the “equities” between neighbors,¹⁴⁶ for example, by considering whether an owner is unreasonably interfering with their neighbors’ interests.¹⁴⁷ This doctrine obviously reflects Henry Smith’s observations about the need for more finely tuned governance rules for resources such as water.¹⁴⁸ Indeed, as Carol Rose has observed:

If water were our chief symbol for property, we might think of property rights—and perhaps other rights—in a quite different way. We might think of rights literally and figuratively as more fluid and less fenced-in; we might think of property as entailing less of the awesome Blackstonian power of exclusion and more of the qualities of flexibility, reasonableness and moderation, attentiveness to others, and cooperative solutions to common problems.¹⁴⁹

If water were the chief symbol of property, we might, in other words, think of property as having many of the attributes of the friend model of neighbors law as described by James Smith.¹⁵⁰ Beyond water rights, the “rule of reason” increasingly has been used in various subfields of property law. For example, Alexander and Peñalver have illustrated the beneficial effect of reasonableness rules in adjudication of landlord-tenant disputes in New Jersey, which ultimately have achieved certainty while also balancing rights in a fairer and more responsive manner.¹⁵¹

Similarly, as Joseph William Singer has described, principles of reliance have often been used by courts in interpreting relationships between neighbors over property,¹⁵² and such principles provide a powerful basis for promoting deliberation between neighbors over infrastructure access and use. In addition to the case of *Local 1330, United Steel Workers v. United States Steel Corp.*,¹⁵³ which is the focus of his eminent article elaborating a reliance interest in property law, Singer provides examples

145. Shoked, *supra* note 108, at 382. The reasonable use doctrine seems to govern much decisionmaking in both groundwater and surface water cases. See Robert Haskell Abrams, *Legal Convergence of East and West in Contemporary Water Law*, 42 *Env't L.* 65, 69–81 (2012) (discussing the development of reasonable use for both groundwater and surface water in Western states like Colorado, Arizona, and New Mexico).

146. Joseph W. Dellapenna, *A Primer on Groundwater Law*, 49 *Idaho L. Rev.* 265, 297 (2013).

147. See Shoked, *supra* note 108, at 381.

148. Smith, *Governing Water*, *supra* note 63, at 449.

149. Carol M. Rose, *Property as the Keystone Right?*, 71 *Notre Dame L. Rev.* 329, 351 (1996).

150. See *supra* notes 100–103 and accompanying text.

151. Gregory S. Alexander & Eduardo M. Peñalver, *An Introduction to Property Theory* 141–42 (2012).

152. Singer, *Reliance Interest*, *supra* note 97, at 663–700.

153. 631 F.2d 1264 (6th Cir. 1980).

of a court recognizing an easement by estoppel for owners who built an irrigation ditch on their neighbor's land in reliance on their neighbor providing continued access to it,¹⁵⁴ a court recognizing an easement by necessity for an owner with a landlocked parcel to travel over his neighbor's property,¹⁵⁵ and several examples of group rights of access to private property.¹⁵⁶ Indeed, the idea of reliance is particularly apt in capturing the need by multiple individuals for common resources. The concept of justified expectations gets at much the same idea. Courts draw on this concept to accommodate the needs of those who use property that is not their own, thereby building up both a continued need for such property and an expectation of continued use.¹⁵⁷ In such circumstances, courts must balance rights of exclusion with the normative value of continuing access. In this sense, rules grounded in reliance and justified expectations provide a well-established basis in property law for affirming—and developing—the concept of deliberative co-management.

These types of reasonableness rules are by no means a new development in American property law. Consider legal responses to boundary disputes between neighbors in colonial New England, as described by Maureen Brady. In reviewing the reasons why such disputes did not often result in litigation, Brady described an example of officials in New Haven encouraging the parties to behave “neighborly and lovingly” toward one another.¹⁵⁸ On the basis of extensive review of court records and surveys in colonial New Haven, Brady observed that in a number of cases, the “parties were advised by the court to work it out themselves before approaching the court system.”¹⁵⁹ Among other things, these findings reveal the ways in which the prioritization of norms of “community” and “neighborliness” affect litigation and dispute resolution more broadly, changing the relative value of both substantive and procedural arguments.¹⁶⁰

Finally, consider a recent case from the United Kingdom that serves as a fascinating model of the reasonable use rule applied to neighborly relations. *Bradley v. Heslin* is a 2014 case decided by Justice Alastair Norris

154. *Stoner v. Zucker*, 83 P. 808, 809–10 (Cal. 1906).

155. *Cushman Va. Corp. v. Barnes*, 129 S.E.2d 633, 638 (Va. 1963).

156. Singer, *Reliance Interest*, *supra* note 97, at 673–75 (including granting recreational and public access rights for beachgoers under the doctrines of custom and public trust).

157. For an extended discussion of the concept of justified expectations in property law, see Singer, *Entitlement*, *supra* note 141, at 197–216.

158. Maureen E. Brady, *The Forgotten History of Metes and Bounds*, 128 *Yale L.J.* 872, 919 (2019) [hereinafter Brady, *The Forgotten History*] (cleaned up).

159. *Id.*

160. *Id.*

of the England and Wales High Court (Chancery Division).¹⁶¹ It is a conflict between neighbors over the right to use and access a pair of gates where, in Justice Norris's words, "even the victor is not a winner (given the blight which a contested case casts over the future of neighbourly relations and upon the price achievable in any future sale of the property)."¹⁶² A brief version of the dispute is that the owner of a large parcel of land with a villa on it (No. 40) built a bungalow (No. 40A) on the back part of the parcel.¹⁶³ Eventually, the owner divided the parcel in two, sold off the villa, and retained for himself the bungalow along with ownership of a driveway accessing the land on which the bungalow sat.¹⁶⁴ He also gave the owners of the villa the right to use part of the driveway to access their home.¹⁶⁵ Between the part of the driveway shared by the owners of both homes and the part of the driveway exclusively owned and used by the owner of the bungalow, there hung a pair of gates, which the original owners of the bungalow and villa shared without discord.¹⁶⁶ However, after ownership of both homes had changed hands, the new owners of the villa began to insist on keeping the gates closed at all times, claiming among other things that ownership of the gates belonged exclusively to them.¹⁶⁷ This insistence was the source of the legal dispute, for it inconvenienced the owners of the bungalow every time they sought to enter and exit their property.¹⁶⁸ Thus, the question before the court boiled down to this: "[W]hen (if ever) may [the gates] be closed?"¹⁶⁹

It would be logical to expect that the vast majority of judges faced with such facts would either determine that one or the other party was entitled to an easement or that this was a case of *damnum absque injuria*.¹⁷⁰ Justice Norris did neither. Instead, he issued a judgment that encouraged (perhaps even required) the parties to continue to share the gates and, moreover, to talk to each other about the details of that sharing:

I hold that the owners of No.40 have a right to close and open the gates for all purposes connected with the reasonable enjoyment of No. 40 provided such use does not substantially interfere with the reasonable enjoyment of No.40A. . . . The law expects

161. [2014] EWHC (Ch) 3267, <http://www.bailii.org/ew/cases/EWHC/Ch/2014/3267.html> [<https://perma.cc/T5RA-567S>].

162. Id. [1].

163. Id. [2].

164. Id. [3]–[7].

165. Id. [6].

166. Id. [8]–[15], [20].

167. Id. [20]–[21].

168. Id. [20].

169. Id. [65].

170. "*Damnum absque injuria*" is Latin for "damage without a wrongful act," meaning "[l]oss or harm that is incurred from something other than a wrongful act and occasions no legal remedy." *Damnum Absque Injuria*, Black's Law Dictionary (11th ed. 2019).

neighbours to behave reasonably toward one another and that the rights they have over each other's lands will be reasonably exercised and reasonably allowed. The Court cannot write a rule-book for what may or may not be done in every eventuality. . . . But it would be unhelpful simply to leave the parties with their rights declared without indicating how they might be applied on the ground in daily life. If it helps, it is my view that until such time as adequate opening arrangements are put in place it would not be a substantial interference with the rights of the owners of No.40A if the gates were closed from 11.00pm until 7.30am¹⁷¹

With this holding, which was simply a declaration of rights of access, rather than a more expansive declaration of ownership rights,¹⁷² Justice Norris prevented both parties from exercising rights of exclusion against each other. Neither party had the right to keep the gates permanently open or closed.¹⁷³ Neither party individually had the right even to determine when the gates could be opened or closed.¹⁷⁴ The Judge gave his *viewpoint* about what reasonable use might mean, including hours of operation and appropriate bases for opening or closing the gates for lengthier periods,¹⁷⁵ but this was a viewpoint rather than a legal definition of rights. In so doing, Justice Norris not only provided detailed instructions for the parties to take their dispute out of court and resolve it “neighborly and lovingly,”¹⁷⁶ he also provided invaluable guidance for those seeking to develop rules for sharing among neighbors.

Taken together, these disparate property doctrines provide a substantial foundation for developing more robust and coordinated responses to the climate crisis. Norms of sharing, use, and access from neighbors law can be shaped and expanded to address and ideally even preempt the proliferation of negative externalities during times of crisis. Doctrines relating to the governance of co-owned property can provide well-developed models that help to bridge the gap between nuisance and easements law. Meanwhile, as the case of *Bradley* demonstrates, the flexible concepts of reasonable use, reliance, and justified expectations, which have been sculpted over centuries, can be used to further build out an affirmative understanding of sharing among neighbors. While these doctrines can support a range of more robust crisis-facing responses within property law, Part IV uses them to develop one potentially powerful systemic response: the concept of deliberative co-management.

171. *Bradley* [2014] EWHC (Ch) 3267 [82], [84]–[85].

172. *Id.*; see also *id.* [65], [71].

173. *Id.* [78].

174. *Id.* [84].

175. *Id.* [85].

176. See Brady, *The Forgotten History*, *supra* note 158, at 919 (cleaned up).

III. PROCEDURAL AND POLICY TOOLS FOR CLIMATE SHARING

In addition to encompassing a robust and diverse range of substantive rules that can be adapted to encourage crisis-facing deliberation and cooperation, property law also has a rich range of procedural devices available to it. Some of these devices are broadly available in the American legal system but are particularly suitable for use in property disputes among neighbors. Other devices are unique to property law. Section III.A assesses two particularly useful devices for neighborly deliberation. Section III.B proposes several straightforward law reform measures that can enhance the efficacy of devices such as these. Finally, section III.C takes a step back and considers the role of local governments in nudging and encouraging neighbors to engage in crisis-facing deliberation.

A. *Procedural Catalysts for Communication*

1. *Mediation.* — As Justice Norris noted in *Bradley*, some judges in the United Kingdom have called for mandatory mediation in disputes among neighbors.¹⁷⁷ Indeed some jurisdictions, including in the United States, require mediation for some or all of the disputes filed in certain courts.¹⁷⁸ As distinguished from arbitration, mediation is a form of alternative dispute resolution that seeks to achieve a resolution between the parties by way of conversation.¹⁷⁹ Thus, mediation belongs at the top of the list of mechanisms for operationalizing neighborly deliberation in the face of crisis.

177. *Bradley* [2014] EWHC (Ch) 3267 [22].

178. For a dated but nevertheless revealing snapshot of mediation requirements and provisions in federal courts, see ADR in the Federal District Courts—District-by-District Summaries, U.S. DOJ (Mar. 2016), <https://www.justice.gov/archives/olp/file/827536/download> [<https://perma.cc/L252-G7SV>]. For a cross-jurisdictional analysis of mandatory mediation, see generally Dorcas Quek, *Mandatory Mediation: An Oxymoron? Examining the Feasibility of Implementing a Court-Mandated Mediation Program*, 11 *Cardozo J. Conflict Resol.* 479 (2010).

179. Jennifer Gerarda Brown, *Peacemaking in the Culture War Between Gay Rights and Religious Liberty*, 95 *Iowa L. Rev.* 747, 780 (2010) (“Because mediation facilitates conversation between two or more parties in conflict, it gives people a chance to verbalize and sometimes to revise the way they are thinking about the conflict.”); Shaphan Roberts, *A Tool for Improving Mediations: Informed Pairings and Predictive Outcomes*, 59 *Wash. U. J.L. & Pol’y* 163, 164 (2019) (describing the goal of the City Attorney’s Dispute Resolution Program as “to use mediation to facilitate difficult conversations between LAPD and the community which can sometimes go awry at the initial point of contact”); Joseph B. Stulberg, *Facilitative Versus Evaluative Mediator Orientations: Piercing the “Grid” Lock*, 24 *Fla. St. U. L. Rev.* 985, 1002 (1997) (“[T]he overarching goals of the mediation process are to engage the disputing parties in a constructive conversation that enhances their understanding of the situation and supports their efforts to find acceptable settlement terms . . .”).

In particular, mediation would serve two crucial functions in this context. First it would encourage, and perhaps even force, the sharing of information about property uses that property law currently shields off within an owner's zone of privacy and exclusion. In this respect, it could serve an important information-gathering function, thereby reducing longer-term transaction costs and externalities. Second, especially with the help of a neutral and trained mediator, such conversation could inspire (perhaps even force) each party to empathize with the other.¹⁸⁰

While mediation already exists in some courts, as an option or by mandate,¹⁸¹ mediation could and should be required far more ubiquitously and in settings beyond court. Moreover, it could be designed to create greater incentives for the early sharing of information. This latter change may well require reformation of procedural rules relating to discovery.¹⁸² Thus, for example, mediation could be a standard and mandatory component of administrative processes, such as those involving zoning and other property permits, as well as in property-related litigation. Indeed, the greatest potential for mediation to serve as a catalyst for neighborliness will likely be in administrative contexts over relatively minor issues (such as the use of permeable pavement or the location of solar panels in a yard) that could be decided well in advance of potential litigation. In this respect, the incorporation of mediation into zoning processes seems especially efficacious because these processes often address issues such as setbacks of driveways or construction of sheds or other small structures that matter to neighbors but seem inconsequential to everyone else.

2. *Homeowners Associations.* — Out of court, one of the most powerful mechanisms for promoting neighborly deliberation and coordination is the homeowners association, which has attained enormous influence

180. Indeed, there is a vital literature on empathy as a basis for persuasion. See generally Joseph William Singer, *Persuasion: Getting to the Other Side* (2020) (analyzing and categorizing normative arguments from the perspective of lawyers and legal decisionmakers).

181. See, e.g., John S. Kiernan, *Reducing the Cost and Increasing the Efficiency of Resolving Commercial Disputes*, 40 *Cardozo L. Rev.* 187, 217 (2018) (“New York’s federal courts for the Western and Northern Districts have operated mandatory mediation programs for almost all civil cases”); Suzanne Reynolds, Catherine T. Harris & Ralph A. Peeples, *Back to the Future: An Empirical Study of Child Custody Outcomes*, 85 *N.C. L. Rev.* 1629, 1632 (2007) (analyzing mandatory mediation in child custody cases); Holly A. Streeter-Schaefer, Note, *A Look at Court Mandated Civil Mediation*, 49 *Drake L. Rev.* 367, 373 n.61 (2001) (reviewing state statutes that mandate mediation). Cf. Carol J. King, *Burdening Access to Justice: The Cost of Divorce Mediation on the Cheap*, 73 *St. John’s L. Rev.* 375, 474–75 (1999) (reviewing the advantages and disadvantages of mediation in the divorce context).

182. Currently, procedural rules typically treat information shared during mediation in the same way as information shared during settlement negotiations. See, e.g., *Ind. R. of Ct., R. for Alt. Disp. Res.*, R. 2.11(B) (“Mediation shall be regarded as settlement negotiations governed by Indiana Evidence Rule 408.”).

thanks partly to its ubiquity and partly to its demonstrated ability to manage a remarkable range of property needs and rights over the last few decades.¹⁸³ Today, homeowners associations use a web of governance mechanisms, relying on recorded covenants and easements as the basis for developing complex and highly detailed rules and regulations for governing these democratic subsocieties.¹⁸⁴

As is the case with zoning laws, these mechanisms for governing property rights have indubitably contributed to some of the negative externalities that have recently spiraled into crisis.¹⁸⁵ Yet there is every reason to believe that homeowners associations could use principles of reliance, justified expectations, and reasonableness to promote neighborly deliberation in the face of crisis and protect valued infrastructure. Compelling examples already exist, both of procedural mechanisms for promoting communication among neighbors and of substantive provisions employed to protect neighborhoods and other shared natural and built resources.¹⁸⁶ What is most needed in this context is targeted education for the leaders of homeowners associations about the importance of developing additional governance rules that specifically address the climate crisis.

183. For two iconic discussions (among many) of homeowners associations, see generally Setha Low, *Behind the Gates: Life, Security, and the Pursuit of Happiness in Fortress America* (2003) (discussing the rise of homeowners associations and how they affect every aspect of community life); Evan McKenzie, *Privatopia: Homeowner Associations and the Rise of Residential Private Government* (1996) (discussing the social and political implications of homeowner associations since the 1920s).

184. *Hidden Harbour Ests., Inc. v. Norman*, 309 So. 2d 180, 181–82 (Fla. Dist. Ct. App. 1975) (stating about condominium owners that they are “a little democratic sub society”).

185. For a sampling of the critiques, see Heller, *The Boundaries of Private Property*, supra note 62, at 1184–85 (“[M]odern [common interest communities] may give people too much power to lock resources into low-value uses. . . . Each owner may have an effective veto over certain socially valuable changes, particularly those that require amending the initial declaration.”); Jonathan Remy Nash & Stephanie M. Stern, *Property Frames*, 87 Wash. U. L. Rev. 449, 494–99 (2010) (discussing common misperceptions of ownership rights in the context of common interest communities); Stewart E. Sterk, *Minority Protection in Residential Private Governments*, 77 B.U. L. Rev. 273, 276 (1997) (discussing “the appropriate limits on majority rule in community associations”); see also Brooks & Rose, *Saving the Neighborhood*, supra note 51, at 206 (discussing the pernicious effects of racially restrictive covenants adopted by common interest communities).

186. See Alexander, *Governance Property*, supra note 8, at 1885–86 (discussing a wide range of procedural mechanisms); Susannah B. Lerman, Victoria Kelly Turner & Christofer Bang, *Homeowner Associations as a Vehicle for Promoting Native Urban Biodiversity*, *Ecology & Soc’y*, Dec. 2012, at 45, 49–54 (discussing mechanisms implemented by homeowner associations to promote biodiversity); Darren A. Prum & Robert J. Aalberts, *Our Own Private Sustainable Community: Are Green Covenants, Conditions, and Restrictions a Viable Alternative to a More Environmentally Sustainable Future for Homeowners?*, 43 N.M. L. Rev. 157, 174–84 (2013) (reviewing a range of green building requirements adopted by homeowners associations); V. Kelly Turner & Dorothy C. Ibes, *The Impact of Homeowners Associations on Residential Water Demand Management in Phoenix, Arizona*, 32 *Urb. Geography* 1167, 1169–72 (2011) (discussing mechanisms that organize urban landscape in a way that facilitates capture of resources and benefits neighborhoods).

B. *Law Reform for Systemic Change*

Although these and other devices certainly can be used to facilitate neighborly deliberation, they often depend on the will of individual owners to work together in a concerted manner in the face of exigent circumstances—all the while facing the possibility that their own willingness to circumscribe their individual property rights will not be reciprocated by their neighbors. Furthermore, these devices can be clumsy. For example, even when adopted upon the creation of common interest communities, servitudes can be inflexible both in their requirements for creation as well as in their adaptability to changing circumstances.¹⁸⁷ Servitudes may involve one-time deliberation about their creation, but they do not necessarily create incentives for ongoing neighborly deliberation.¹⁸⁸ Moreover, servitudes currently provide no opportunity for information sharing and macroeconomic planning with local governments. Nuisance law is reactive. Additionally, even with the presumption in favor of injunctions in nuisance cases, nuisance is a terribly blunt instrument for achieving systemic planning. Thus, the adoption of new, well-tailored legal rules and mechanisms could accelerate, systematize, and expand neighborly coordination as a crisis-facing tool in property law. This brief section provides several examples of new statutes that could be adopted for this purpose, focusing especially on procedural reforms that could achieve synergy in the effects (especially in the scale) of neighborly deliberation and coordination.

The first example would involve a relatively minor set of reforms, which dovetail significantly with efforts already underway by the Uniform Law Commission's project on revising the Uniform Common Interest Ownership Act and the Uniform Condominium Act.¹⁸⁹ Among other things, that project is reviewing the question of when the board of directors of a homeowners association may make new rules and even reform recorded covenants without a vote of its member-owners.¹⁹⁰ Currently,

187. See Susan F. French, *Toward a Modern Law of Servitudes: Reweaving the Ancient Strands*, 55 S. Cal. L. Rev. 1261, 1265 (1982) ("Servitudes can freeze land uses, thereby distorting patterns of land development and preventing economically productive uses of land. They can impose burdens that become unreasonable and depress land values. Additionally, they can impose significant dead hand controls over land use." (footnote omitted)).

188. *Id.* This lack of ongoing flexibility is a purposeful feature of servitudes, which balance the values of long-term durability and contract-based flexibility. See Lynda L. Butler, *Property as a Management Institution*, 82 Brook. L. Rev. 1215, 1241–44 (2017) (describing this balance). Compare Merrill & Smith, *supra* note 61, at 9–23 (arguing in favor of a limited number of packages for arranging property rights and relationships), with Epstein, *supra* note 91, at 1357–58 (arguing for a higher level of flexibility in interpreting servitudes as contracts).

189. E-mail from James Charles Smith, John Byrd Martin Chair of Law Emeritus, Univ. of Ga., to author (Dec. 8, 2020) (on file with author).

190. *Id.*

such questions may arise with respect to obsolete provisions in covenants.¹⁹¹ But it would be a straightforward tweak for state governments to pass rules creating more space for boards of homeowners and condominium associations to make rules consistent with the macroeconomic planning undertaken by local governmental agencies.

A related example of law reform would address the question of when it would be sensible to force property owners to join a homeowners association. State statutes adopting the sections of the Restatement (Third) of Property which govern homeowners and condominium associations regularly provide for the creation of, and automatic enrollment of owners in, associations for the purpose of managing commonly held property such as parks or plazas.¹⁹² Here again, it would be an uncomplicated extension for local governments to deem certain forms of natural and built infrastructure to be commonly owned or held, or at least commonly accessed, thereby justifying automatic enrollment in homeowners associations to manage such resources.

Moving a step beyond the natural purview of homeowners associations, another possibility for law reform could be the development of state statutes modeled on those that have supported widespread fracking in many states.¹⁹³ By mechanisms such as mandatory pooling, these statutes allow fracking companies to frack in an entire geographic area if the majority of the owners affected agrees—even if a minority does not agree to allow it.¹⁹⁴ Such statutes effectively create a mechanism for majority rule in the absence of an association. Obviously, there are significant risks of anti-democratic behavior in such circumstances, as evidenced by reports of fracking companies exerting unfair influence on local owners to vote in favor of fracking.¹⁹⁵ Yet it is also reasonable to imagine that such a statute could achieve fair and progressive goals relating to crisis management (for example by requiring all owners to share water during emergencies) and

191. *Id.*

192. See, e.g., S.C. Code Ann. § 27-30-120 et seq. (2021); Fla. Stat. § 718.301 et seq. (2021); see also *Innerimages, Inc. v. Newman*, 579 S.W.3d 29 (Tenn. Ct. App. 2019) (adopting § 6.19); see also Restatement (Third) of Property (Servitudes) § 6.19 (Am. L. Inst. 2000).

193. Heidi Gorovitz Robertson, *Get Out From Under My Land! Hydraulic Fracturing, Forced Pooling or Unitization, and the Role of the Dissenting Landowner*, 30 *Geo. Env't L. Rev.* 633, 637–52 (2018) (describing such statutes in detail).

194. *Id.* at 640–43. See, e.g., Colo. Rev. Stat. § 34-60-116 (2022); New York *Env't Conserv. Law* § 23-0901 (2022); Ohio Code § 1509.27 (2022); Or. Rev. Stat. § 520.220 (2022); see also Abby Harder, *Compulsory Pooling Laws: Protecting the Conflicting Rights of Neighboring Landowners*, Nat'l Conf. of State Legislatures (Oct. 24, 2014), <https://www.ncsl.org/research/energy/compulsory-pooling-laws-protecting-the-conflicting-rights-of-neighboring-landowners.aspx> [<https://perma.cc/VGQ3-SJRR>] (canvassing and describing the range of state laws).

195. Robertson, *supra* note 193, at 643–50 (discussing Ohio as an example).

prevention (for example by requiring all owners to participate in a community solar initiative upon a majority vote by owners in a specified area). It is equally reasonable to use the fracking statutory examples as cautionary tales that could provide local governments with information about appropriate procedural and substantive checks to incorporate. Just as homeowners associations require supermajority or unanimous votes for the impingement on certain kinds of property rights (such as limitations on the ownership or use of individually owned units, as distinguished from common areas), so too state statutes could incorporate protections for private owners even when they represent the minority vote.¹⁹⁶

Courts will have an important role to play in enhancing the value of procedural tools such as these when they involve facilitation by local governments. To the extent such efforts encounter resistance in the form of regulatory takings claims, it will be important for courts to define a space for neighbors to share with the support of local government—and without incurring the costs and risks associated with such claims.¹⁹⁷ Bill McKibben has aptly described the last decade as our lost decade, the decade in which we could have reduced greenhouse gas emissions before climate change progressed to the level of a climate crisis.¹⁹⁸ Thus, we no longer have the choice that Kysar gave his readers to accept the pragmatic value of macroeconomic analysis to law without necessarily having to make a normative commitment to sustainability.¹⁹⁹ This Article makes an overtly normative argument. Where local governments work with neighbors to facilitate co-management of resources, courts should address claims of regulatory takings with clarity and a broad sense of the stakes.

C. *The Role of the State: Goal Definition and Facilitation*

Though this Article's priority is to open space for deliberative co-management among coequal neighbors, meaningful gains in impact, immediacy, efficiency, and scale depend on the relationship between co-managing neighbors and (especially local) government. For deliberative co-management to be pragmatically impactful, it will have to occur as part of a coordinated network of deliberation about property access and use. This section therefore focuses on local government as an essential third

196. *Id.* at 651–70 (describing options for dissenting landowners in fracking context).

197. Cf. Nicholas R. Williams, *Coastal TDRs and Takings in a Changing Climate*, 46 *Urb. Law.* 139, 146–56 (2014) (considering the possibility of using transferable development rights to restrict development in coastal areas while avoiding regulatory takings liability).

198. Bill McKibben, *Falter: Has the Human Game Begun to Play Itself Out?* 68–69 (2019).

199. Kysar, *Sustainability, Distribution, and Macroeconomic Analysis*, *supra* note 120, at 7 (“Whether or not one accepts all of the implications of sustainability as a norm, ecological economists seek acknowledgment that human economic activity impacts the environment and that the size and rate of that impact is a legitimate subject of social and legal influence.”).

party to neighborly deliberations.²⁰⁰ In particular, local government can clearly define its macroeconomic goals as they relate to local resources, and it can create *ex ante* tools for promoting neighborly deliberation.

The definition of macroeconomic goals is likely the most important step required to translate current property tools into crisis-facing, proactive property law. The very nature of macroeconomic analysis requires a coordinated approach.²⁰¹ Presumably, the state is best positioned to provide such coordination.²⁰² Thus, government has a critical role to play in defining the macroeconomic goals that should inform deliberation among neighbors and networked coordination between neighbors and the state about the protection and maintenance of the infrastructure that supports individual property rights. While state and federal governments could certainly participate in goal definition, this section focuses on the possibilities for local governments. Local governments have responsibilities for crucial pieces of the infrastructure that supports individual property ownership,²⁰³

200. It is important to acknowledge the pressure this puts on local governments to act at a time when they continue to experience financial, political, and even legal pressures that limit their ability and authority to act boldly. See generally Michelle Wilde Anderson, *The New Minimal Cities*, 123 *Yale L.J.* 1118 (2014) (discussing the degradation of municipal services resulting from financial pressures and failures); Bernadette Atuahene, *Predatory Cities*, 108 *Calif. L. Rev.* 107 (2020) (describing the predatory, racist, and illegal actions of cities, which are related partly to financial pressures); Richard C. Schragger, *The Attack on American Cities*, 96 *Tex. L. Rev.* 1163 (2018) (describing the political and legal constraints imposed on cities, which regularly prevent them from adopting progressive policies). Despite these pressures, recent scholarship persuasively describes the potential for local governments to provide leadership on this set of issues. See, e.g., Richard Schragger, *City Power: Urban Governance in a Global Age* 135–61 (2016) [hereinafter Schragger, *City Power*]; Nestor M. Davidson, *The Dilemma of Localism in an Era of Polarization*, 128 *Yale L.J.* 954, 975 (2019).

201. Mark Kelman, *Could Lawyers Stop Recessions? Speculations on Law and Macroeconomics*, 45 *Stan. L. Rev.* 1215, 1247 (1993) (describing the necessity of a coordinated response, from both central and local governments, to unemployment); Kysar, *Sustainability, Distribution, and Macroeconomic Analysis*, *supra* note 120, at 3 (explaining how difficult it is for stakeholders in an impending climate crisis to communicate and cooperate with each other in the absence of coordination).

202. Anna Gelpern & Adam J. Levitin, *Considering Law and Macroeconomics*, 83 *Law & Contemp. Probs.* 1, 2 (2020).

203. Christine Sgarlata Chung, *Rising Tides and Rearranging Deck Chairs: How Climate Change Is Reshaping Infrastructure Finance and Threatening to Sink Municipal Budgets*, 32 *Geo. Env't L. Rev.* 165, 168 (2020) (“The United States relies upon state and local governments to build, operate, maintain, and pay for most non-defense-related public infrastructure.”); Nicole Stelle Garnett, *Unsubsidizing Suburbia*, 90 *Minn. L. Rev.* 459, 459 (2005) (“In my local government law course, I frequently begin by observing that local governments are both important and underappreciated for the same reasons: they pick up trash, fix potholes, and treat sewage.”); Sean B. Hecht, *Local Governments Feel the Heat: Principles for Local Government Adaptation to the Impacts of Climate Change*, 47 *J. Marshall L. Rev.* 635, 635 (2014) (“Because local governments bear direct responsibility for much of the public safety, land-use planning, infrastructure, emergency response, and public health protection programs upon which all of us rely, they will be on the front lines

thereby providing a pragmatic basis for significant progress in supporting that infrastructure.²⁰⁴ Moreover, the smaller scale of local governmental operations allows for relatively efficient goal development.²⁰⁵ Thus, for example, local governments can define systemic goals concerning the development of a clean energy grid or a series of microgrids.²⁰⁶ They can define goals for long-term access to clean water supplies that are replenishable and sustainable.²⁰⁷ Of course, many local governments already do this,²⁰⁸ but this Article calls for a more methodical level of governmental coordination in anticipation of further environmental and other crises.

While macroeconomic goal definition is itself important, it is equally important for local governments to be much more transparent about the goals they elaborate, as well as the scientific, financial, and other data they use to define their goals. Presently, most property owners relate to their source of clean water by informing the town or county when they first move into their homes and then paying monthly water bills thereafter.²⁰⁹

of addressing climate change impacts.”); Jonathan Rosenbloom, *Fifty Shades of Gray Infrastructure: Land Use and the Failure to Create Resilient Cities*, 93 *Wash. L. Rev.* 317, 371–75 (2018) (discussing the imperative that local governments develop resilient infrastructure and the value of “adaptive governance” for this purpose).

204. Chung expresses understandable skepticism that local government can fulfill this potential in addressing climate change, given the financial pressures described above. Chung, *supra* note 203, at 168–69. Mechanisms like deliberative co-management, however, can help alleviate some of that pressure.

205. See Schragger, *City Power*, *supra* note 200, at 135–61.

206. See Press Release, Katie Pastor & Kylee Barton, World Res. Inst., *US Local Governments Lead the Way in the Clean Energy Transition* (June 24, 2020), <https://www.wri.org/news/2020/06/release-us-local-governments-lead-way-clean-energy-transition> [<https://perma.cc/7Y3P-STDS>] (“As of March 2020, local governments signed 335 deals to procure a total of 8.28 gigawatts of renewable energy over the last five years”); see also Esther Mengelkamp, Johannes Gärtner, Kerstin Rock, Scott Kessler, Lawrence Orsini & Christof Weinhardt, *Designing Microgrid Energy Markets: A Case Study: The Brooklyn Microgrid*, 210 *Applied Energy* 870, 873, 878 (2018) (finding the objectives of Brooklyn’s microgrid system to be “clearly defined,” where microgrids “can pursue several, often conflicting objectives”); Stephens, *supra* note 95, at 5–6 (arguing that local, small-scale deployment of renewable energy “has transformative potential because of widespread opportunities for local control and local economic benefits around the world”); Jennie C. Stephens, Matthew J. Burke, Brock Gibian, Elie Jordi & Richard Watts, *Operationalizing Energy Democracy: Challenges and Opportunities in Vermont’s Renewable Energy Transformation*, *Frontiers Commc’n*, Oct. 2018, at 1, 2 (2018) (calling Vermont unique in its “adoption of a comprehensive energy plan that includes a goal of achieving 90% renewables in all sectors (electricity, heating/cooling, and transportation) by 2050”).

207. See, e.g., Mary Grant, *Water in Public Hands: Remunicipalisation in the United States*, in *Our Public Water Future: The Global Experience with Remunicipalisation* 30, 35–36 (Satoko Kishimoto, Emanuele Lobina & Olivier Petitjean eds., 2015) (“In just the first two years of public control, Cave Creek invested \$16.2 million in upgrading its water systems and storage tanks to improve the reliability and sustainability of its water supply.”).

208. See *supra* notes 203–207.

209. *Poll Reveals Most Americans Don’t Know Where Their Tap Water Comes From*, *WaterWorld* (June 21, 2007), <https://www.waterworld.com/environmental/article/1622>

For neighbors to engage in thoughtful, proactive deliberation about water usage and other key aspects of the infrastructure—and of their own property use in relation to it—they need a more systemic understanding of the source, protection, maintenance, and sustainability of such resources.

The other major role for local government is facilitative. It is to create *ex ante* tools for facilitating deliberation between neighbors. Given the normative orientation of American property owners toward exclusion as the primary mode of neighborly relations,²¹⁰ local governments likely have the inescapable task of reorienting their constituents in the direction of sharing rather than excluding. The primary purpose of these facilitative tools must be to encourage recognition of the connection between property that is individually owned and managed, the infrastructure that serves that property, and the broader system of coordinated decisionmaking about a given resource. Otherwise, it will be difficult, and possibly counterproductive, to foresee and alleviate the proliferation of negative externalities.

Ex ante mechanisms are preferable for this purpose in order to avoid the entrenchment, bitterness, and loss of market value described by Justice Norris and so many other judges who have been called upon to resolve disputes among neighbors.²¹¹ Beyond the difficulties of reinstating neighborliness once it is lost, it is difficult also to mandate neighborliness.²¹² For both these reasons, *ex post* rules that respond to a lack of kindness by mandating it in the future pose difficulties. Additionally, this role is probably best carried out via the use of carrots, not sticks, creating incentives for neighbors to share with the understanding that they will benefit both from the indulgence of their neighbors and from local government.²¹³ For example, both courts and administrative authorities could develop templates for applying rules of reasonableness between neighbors to encourage shared co-management. Here again, it might be ideal for such templates to be used in administrative proceedings when the stakes are initially low.

As is the case with the property doctrines described in Part II, the procedural rules described in this Part are useful fodder for developing more coordinated crisis responses. While they are relevant in different contexts,

2473/poll-reveals-most-americans-dont-know-where-their-tap-water-comes-from [https://perma.cc/AS39-V5MN] (“[O]nly 32 percent of Americans say they ‘definitely know’ the natural source of their drinking water.”).

210. See *supra* notes 26–32 and accompanying text.

211. *Bradley v. Heslin* [2014] EWHC (Ch) 3267 [1], <http://www.bailii.org/ew/cases/EWHC/Ch/2014/3267.html> [https://perma.cc/T5RA-567S] (“[T]he victor is not a winner (given the blight which a contested case casts over the future of neighbourly relations and upon the price achievable in any future sale of the property).”).

212. See Alexander, *Social-Obligation*, *supra* note 86, at 815–18.

213. The idea of a “Land Assembly District” proposed by Heller and Hills provides a useful model in this regard. Michael Heller & Rick Hills, *Land Assembly Districts*, 121 *Harv. L. Rev.* 1465, 1469–72, 1497 (2008).

both mediation and homeowners associations provide strategies and models for deliberation and communication. The law reform measures described in section III.B can be used to expand the range of contexts in which such strategies are deployed. Finally, local governments can make an enormous difference in shaping the norms and even the ground rules of sharing and deliberation. Perhaps most valuably, local governments can increase the utility of neighborly co-management by facilitating its occurrence within a larger and more coordinated network of crisis response.

IV. CONCEPTUALIZING RIGHTS OF ACCESS AND CO-MANAGEMENT AMONG NEIGHBORS

This Part uses the substantive and procedural devices described in Parts II and III to design a right of deliberative co-management among neighbors. As the previous two Parts reveal, much of the raw material for designing such a right already exists. This Part draws from that raw material to elaborate a more affirmative—even cohesive—version of neighborly sharing than currently exists in American property law, one that explicitly recognizes both the pragmatic need for sharing in property relationships as well as the normative value in doing so.

As a preliminary matter, it is important to note that this Part assumes deliberative co-management will be operationalized largely in contexts where property owners will voluntarily choose to engage in it, although nudges and other incentives may well be used to help them make this choice. Thus, the rules described in this Part would only apply once the initial choice was made to engage in deliberative co-management. That said, the law reform options presented in section III.B contemplate some contexts where deliberative co-management will not be purely voluntary. For example, if adopted by a homeowners association, deliberative co-management would be a choice bundled with many others. Just as members of homeowners associations agree to be governed by rules about use of parks, swimming pools, or common rooms, so too might such members be governed by rules relating to co-management of portions of individually owned parcels. Typically, such rules are made—and changed—by the boards of homeowners associations without requiring the votes of all owners.²¹⁴ This is a bundled choice because individual property owners make it when choosing to buy property in the subdivision governed by the homeowners association.

If a city ordinance or state statute used mandatory pooling as a model to mandate deliberative co-management, it would be apt to describe a right of deliberative co-management as a requirement rather than a choice because it would be imposed on all residents of a particular geographic

214. Stephen E. Barton & Carol J. Silverman, *The Political Life of Mandatory Homeowners' Associations*, in *Residential Community Associations: Private Governments in the Intergovernmental System?* 31, 32 (1989) (describing how rules can be changed with the vote of a majority).

area. Additionally, deliberative co-management would be required, rather than chosen, if a court imposed it in the form of a special easement. It is important to note that these examples of involuntarily imposed co-management are at the margins of the right described in this Part, and there are additional protections contemplated in situations where co-management would be imposed rather than chosen. For example, in situations where deliberative co-management would be imposed statutorily, section III.B contemplates that it could only be imposed upon the vote of a majority of owners in the area. Moreover, both in such contexts and where courts imposed deliberative co-management, norms of reasonableness, reliance, and justified expectations would provide protections for those who did not choose co-management and would guide courts about the appropriateness of imposing such a right in the first place.

As this Part describes, to operationalize a right of deliberative co-management, it will be necessary to develop several basic categories of rules. The first and most basic category of rules must operate to flip the presumptive right of exclusion among neighbors into a right of access. Above all, *Bradley* is a palpable demonstration of the terrible waste—of money and social connection—that can result from a regime that does not create sufficient space for neighbors to be neighborly, whether or not they have clearly defined property rights. As Justice Norris noted, “[t]his entrenchment of positions is a regrettable characteristic of neighbour disputes.”²¹⁵ The endpoint of the judge’s decision in this case suggests that such entrenchment is a product of an ownership structure that valorizes rights of exclusion. Where neighbors presumptively have rights of access and use, rather than bright-line rights of exclusion, it is reasonable to assume that there is simply less over which to become entrenched. Thus, as an antidote to further entrenchment, Justice Norris provided a few basic suggestions for further conversation rather than a basis for the claiming of rights.²¹⁶

Both the literature on commons relationships and governance property and the law that James Smith canvasses under the label “friend model” support this approach. Due in significant measure to Elinor Ostrom’s pioneering work, the theory and empirical evidence on commons arrangements overwhelmingly demonstrate the benefits of flipping presumptions of exclusion into presumptions of shared access and use within a defined community.²¹⁷ Dagan and Heller expand that context even

215. *Bradley* [2014] EWHC (Ch) 3267 [22].

216. *Id.* [65], [71], [82], [84]–[85].

217. Fennell nicely captures Ostrom’s contributions in this regard, discussing how Ostrom’s interdisciplinary and empirical methodology informs theories of the commons, in particular by providing nuanced information about the limits of exclusion-focused understandings of property rights and “the complex ways in which resource users slice and dice entitlements” of use and access. See Fennell, *Ostrom’s Law*, *supra* note 130, at 9–10,

further by envisioning broader applications for commons arrangements that allow communities to mediate between rules of sharing and ease of exit.²¹⁸ Henry Smith demonstrates the utility of “semicommons” arrangements in the governance of water rights, in an analysis that presages the broader applicability of the term “fugitive resources” in a climate-adapting world:

In the case of water—like other fugitive resources—the marginal cost of employing the exclusion strategy rises especially quickly; demarcating a specific instance of moving water is problematic, and water is valued for hard-to-measure attributes, like timing and properties of flow, none of which are amenable to a simple fencing strategy analogous to the one used in land.²¹⁹

Alexander expands the analysis yet more by demonstrating the ubiquity of co-ownership arrangements, beyond the commons, in which rules of shared governance apply.²²⁰ Consistent with the basic teachings of environmental economics, these are all examples in which owners must share information about property use in order to reduce the potential for proliferating negative externalities.²²¹ These are often situations in which the shared, sometimes urgent, need for information, rather than kindness or altruism, motivates acts of sharing.

Nor is the flipping of exclusion to access limited just to commons, semicommons, and co-ownership arrangements. James Smith has described this very phenomenon as frequently occurring in everyday

14–16. Fennell describes “Ostrom’s Law” as holding that “[a] resource arrangement that works in practice can work in theory.” *Id.* at 10 (emphasis omitted); see also Dagan & Heller, *supra* note 8, at 552 (discussing the value of access and coordination in the context of a “liberal commons”); Sheila R. Foster & Christian Iaione, *The City as a Commons*, 34 *Yale L. & Pol’y Rev.* 281, 349 (2016) (“The study of commons institutions represents a fundamental transformation in the way we think about urban law and governance, and perhaps sheds new light on burgeoning forms of democratic experimentalism.”); Ronald J. Oakerson & Jeremy D. W. Clifton, *The Neighborhood as Commons: Reframing Neighborhood Decline*, 44 *Fordham Urb. L.J.* 411, 415 (2017) (imagining urban neighborhoods as a form of commons and suggesting that collective action among neighbors can reverse the disinvestment cycle threatening low-income neighborhoods). See generally Ostrom, *supra* note 67 (describing how natural resources within a community can be managed efficiently in a commons model).

218. Dagan & Heller, *supra* note 8, at 554.

219. Smith, *Governing Water*, *supra* note 63, at 448–49; see also Henry E. Smith, *Exclusion Versus Governance: Two Strategies for Delineating Property Rights*, 31 *J. Legal Stud.* S453, S468 (2002) (discussing a range of scenarios in which governance strategies are appropriate).

220. Alexander, *Governance Property*, *supra* note 8, at 1856–57.

221. See, e.g., Alfred Endres, *Environmental Economics: Theory and Policy* 32–37 (2011) (discussing the application of the Coase Theorem to emission levels).

neighborly relations, as recognized in and supported by a range of American property doctrines.²²² Singer has provided compelling examples of neighborly relations that have served as the basis for developing well-established property rules and norms grounded on reliance and justified expectations.²²³ Robert Ellickson's research on farmers and ranchers in the American West serves as another famous example.²²⁴ Like Ostrom's research,²²⁵ Ellickson's empirical work provides compelling details about the behavior of neighbors with long-term relationships. In his research, Ellickson found that, in the face of the high transaction costs of enforcement imposed by formal law, potential disputants ignored formal legal rights and remedies for trespass in favor of governance through social norms.²²⁶ This more informal governance relaxed exclusionary rules in favor of greater access, even extending regularly to the longer-term protection by owners of their neighbors' cattle that had trespassed onto their property.²²⁷ The common theme running through all these contexts is that those involved recognize the necessity of their interaction over a long term, and they also recognize their mutual need for each other's property or property that they jointly own. The norms they develop in light of these circumstances ubiquitously modify strict enforcement of exclusionary rights.²²⁸ As Justice Norris recognized, neighbors coexist in just such circumstances.

A second important area of rules development is on the question of line drawing between what is shared and what is not shared. Specifically, if the right of co-management is extended to some portion of property that is individually owned, then it will be imperative to draw a line between that portion of the property which is subject to co-management by neighbors and that which remains under the exclusive management of the individual

222. See Smith, *The Law of Neighbors*, supra note 100, at 758, 762–63 (“The ethic of neighborliness, where it persists, has behavioral consequences[,] . . . [including] the tendency of legal rules to bend to social norms [I]n the neighborhood context a landowner may care less about the right to exclude others from entering or using her exterior spaces.” (footnote omitted)).

223. See supra notes 152–156 and accompanying text.

224. See generally Robert C. Ellickson, *Order Without Law: How Neighbors Settle Disputes* (1994) [hereinafter *Ellickson, Order Without Law*] (concluding that people often regulate themselves through social norms, not through the law); Robert C. Ellickson, *Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County*, 38 *Stan. L. Rev.* 623 (1986) [hereinafter *Ellickson, Of Coase and Cattle*] (empirically investigating Coase's Parable of the Farmer and the Rancher).

225. See supra note 217.

226. Ellickson, *Of Coase and Cattle*, supra note 224, at 671–87.

227. *Id.* at 674–75.

228. Lee Anne Fennell, *Property Beyond Exclusion*, 61 *Wm. & Mary L. Rev.* 521, 542 (2019) (“If one is interested in making the most of real property in an urban environment, creating positive synergies with one's neighbors is as important as keeping conflicting uses away.”).

owner. The abstract guidepost for drawing such a line requires reconsideration of the autonomy principle in property law. As Part I described, the system-wide externalities wrought by recent crises have put pressure on the ability of property law to protect self-isolation and freedom from government oversight, among other libertarian visions of autonomy. But a crisis-facing vision of autonomy does not diminish the importance of values such as privacy and the opportunity to enlarge one's freedom of action through property ownership. Thus, the line between shared management and individual control can and should be drawn to preserve a space of privacy and freedom of action for individual owners. For most owners of residential property, such a space is likely intuitively definable, as Dagan explores in his discussion of the limitations of a private owner's authority in service of autonomy.²²⁹ It is the space in which the owner lives, the physical home where private acts of living occur,²³⁰ as distinguished from, say, the edges of the property,²³¹ the roof, or the unused field.²³²

Clearly, the line would be harder to draw with respect to spaces that owners value for their aesthetic qualities, such as lovely views,²³³ or their market value, such as utility for future development.²³⁴ These latter considerations may well create tensions between the need for joint deliberation over property resources and the ability to use those resources for

229. Dagan, *Autonomy and Property*, *supra* note 92, at 191–92.

230. See generally Lorna Fox O'Mahony, *Conceptualizing Home: Theories, Laws and Policies* (2007) (asserting that the home is significant as a special type of property); D. Benjamin Barros, *Home as a Legal Concept*, 46 *Santa Clara L. Rev.* 255 (2006) (describing the special protection the law accords to homes).

231. David A. Dana & Nadav Shoked, *Property's Edges*, 60 *B.C. L. Rev.* 753, 757 (2019) (using the term “property's edges” to describe the distinct legal space between quintessentially public and quintessentially private property).

232. *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 160 (Wis. 1997) (awarding punitive damages to plaintiffs after defendant trespassed across their unused field when delivering a mobile home to their neighbor).

233. See Maureen E. Brady, *Property and Projection*, 133 *Harv. L. Rev.* 1143, 1176–77 (2020); Raymond Robert Coletta, *The Case for Aesthetic Nuisance: Rethinking Traditional Judicial Attitudes*, 48 *Ohio St. L.J.* 141, 141–42 (1987); James Charles Smith, *The Law of Yards*, 33 *Ecology L.Q.* 203, 206–09 (2006).

234. Discussions of speculation are particularly relevant here. See, e.g., William A. Fischel, *The Economics of Zoning Laws: A Property Rights Approach to American Land Use Controls* 265–67 (1985) (“Successful land speculations involve holding the land for as long as the net growth of its value exceeds the rate of return on another asset.”); Terry L. Anderson & Peter J. Hill, *The Race for Property Rights*, 33 *J.L. & Econ.* 177, 191 (1990) (arguing against the idea that land speculation creates numerous problems, including stunted growth and wasted resources); C.E. Elias, Jr. & James Gillies, *Some Observations on the Role of Speculators and Speculation in Land Development*, 12 *UCLA L. Rev.* 789, 791 (1965) (suggesting that a land speculator may be able to assert significant influence on land price fluctuations); Daphna Lewinsohn-Zamir, *More Is Not Always Better Than Less: An Exploration in Property Law*, 92 *Minn. L. Rev.* 634, 693–95 (2008) (arguing that land speculation can serve useful purposes such as orderly city growth).

individual gain. In such cases, a balancing of individual and collective values will be required, and again such a balancing should be facilitated (rather than undertaken) by the state using incentives (rather than penalties). In other words, the owners themselves should likely be the ones to undertake such a balancing of considerations. One obvious means of achieving such a balance would be a system of opting in. Such a system would allow individual owners to determine which portions of their properties to make available for co-management by their neighbors, a decision that would no doubt be guided by the extent to which their neighbors were forthcoming in sharing their own property.

Here again, there are transferable rules structures from commons, governance property, and neighbors law. For example, research on the Kibbutz as a form of commons has described rules development to protect private spheres of action.²³⁵ Lehari details the development of such rules in his description of a new form of Kibbutz, the “Renewing Kibbutz,” in which members may have (among other things) private housing units and individual budgets, both of which are subject to continuing governance norms of reciprocity and egalitarianism within the Kibbutz.²³⁶ Meanwhile there is extensive literature on rules systems governing commons and co-owned resources, many of which rely on concepts such as overexploitation and waste.²³⁷ The law of adverse possession and implied easements provides richly elaborated norms concerning concepts such as productive land use, reliance, and need.²³⁸ Finally, the ubiquitous task of rules development in governing condominiums and common interest communities is highly relevant here. Although such examples contractually define that which is privately owned and governed and that which is not, the values dictating where the contractual line is drawn can provide useful guidance in defining and protecting spheres of privacy and freedom of action in this context.²³⁹

A final area of rules development would probe the extent and nature of co-management rights. Of course, the specifics of co-management will depend greatly on the particular context; however, a few ground rules

235. Ellickson, *Property in Land*, supra note 80, at 1347 (comparing the governance structures of Hutterite and Kibbutz communities as non-tragic commons); Amnon Lehari, *Mixing Property*, 38 *Seton Hall L. Rev.* 137, 167 (2008) (evaluating the Kibbutz for its structure of common property).

236. Lehari, supra note 235, at 169–72.

237. See, e.g., Smith, *Governing Water*, supra note 63, at 138 (discussing measures that limit individual overexploitation and waste of semicommons resources).

238. See, e.g., *Stoner v. Zucker*, 83 P. 808, 809–10 (Cal. 1906); see also Singer, *Reliance Interest*, supra note 97, at 622 (using rules about adverse possession, prescriptive easements, and public rights of access to evaluate how the property system balances individual freedom against the reliance interest of nonowners); Stewart E. Sterk, *Neighbors in American Land Law*, 87 *Colum. L. Rev.* 55, 79–80, 101 (1987) (highlighting that successful adverse possession claims are generally accompanied by evidence of cultivation or improvement).

239. See Alexander, *Governance Property*, supra note 8, at 1862.

should be relevant to any context. First, and perhaps foremost, there should be some recognition of a quid pro quo for the diminishment of individual owners' rights of exclusion.²⁴⁰ Here again, altruism cannot—and should not—be assumed. Presumably, the most common quid pro quo will be the diminishment of such a right on both sides of a co-management arrangement. Using the example of a shared boundary that could be used for the channeling of floodwaters or the sharing of parking space, owners on both sides of the boundary would be giving up exclusion rights against the other. Correspondingly, they would have equal rights to manage the entire shared space where rights of exclusion had been diminished. In the absence of such a literal quid pro quo, it would be important to search for a conceptual one approximating doctrinal manifestations of an “average reciprocity of advantage.”²⁴¹ Broadly stated, the extent of co-management rights should be proportional to the loss of exclusion and exclusivity.

Here, the literatures on neighborly relations are more useful than those on commons and semicommons arrangements. It seems much more likely that co-management rules in this context would rely on social norms of reciprocity, as seen in the examples cited by James Smith and Robert Ellickson, rather than on the development of more formal rules on voting and deliberation. Ellickson, for example, describes the system of mental account-keeping among neighbors in Shasta County, which he claims contributed to an overarching system of order without law:

What if . . . a particular rancher's livestock repeatedly caused minor mischief in a particular farmer's fields? In that situation, Shasta County norms call for the farmer to keep track of those minor losses in a mental account. Eventually, the norms entitle him to act to remedy any imbalance.

A fundamental feature of rural society makes this enforcement system feasible: *Rural residents deal with one another on a large number of fronts, and most residents expect those interactions to continue far into the future.* In sociological terms, their relationships are “multiplex,” not “simplex.” They interact on water supply, controlled burns, fence repairs, social events, staffing the volunteer fire department, and so on.

[S]o long as the aggregate account is in balance, neither party need be concerned that particular subaccounts are not. For example, if a rancher were to owe a farmer in the trespass subaccount, the farmer can

240. See Hanoch Dagan, *Takings and Distributive Justice*, 85 Va. L. Rev. 741, 771–72 (1999).

241. See Lynda J. Oswald, *The Role of the “Harm/Benefit” and “Average Reciprocity of Advantage” Rules in a Comprehensive Takings Analysis*, 50 Vand. L. Rev. 1449, 1452 (1997) (describing average reciprocity of advantage as a rule maintaining a “subset of benefit-conferring regulations that do *not* rise to the level of a compensable taking: those that provide reciprocal benefits to the regulated parties”); see also Dagan, *A Liberal Theory of Property*, *supra* note 92, at 238–39.

be expected to remain content if that imbalance were to be offset by a debt he owed the rancher in, say, the water-supply subaccount.²⁴²

The “reciprocity of obligation” which Smith describes as the cornerstone of the Scottish “common interest” doctrine may be especially instructive.²⁴³ In explaining this doctrine, Smith uses an example in which “the owner of one floor in a tenement owns his wall, but others have a common interest in that wall.”²⁴⁴ Smith states, “The cornerstone of common interest is reciprocity of obligation. The owner and each neighbor have an interest in the asset, and all are obligated to conduct themselves so as to preserve the use and enjoyment of the others.”²⁴⁵

Additionally, it is useful to consider the particular subject matter that Justice Norris left for further conversation between the parties. In effect, Justice Norris forced the parties to deliberate about the details, such as when exactly the gates should be opened and closed,²⁴⁶ what form “adequate opening arrangements” should take (the Judge suggested, but did not require, some sort of electronic device),²⁴⁷ and what rules should apply to lengthier openings and closings.²⁴⁸ By now, we have a rich literature in property law about the value gained when neighbors, including co-owning neighbors, deliberate about the details of their property management.²⁴⁹ As the examples provided by Ostrom and Ellickson in particular reveal,²⁵⁰ this literature supports the wisdom of crafting rules that facilitate deliberative co-management concerning the details about which the rest of the world might not care—but about which the individuals involved might care deeply.²⁵¹ When neighbors develop their own systems of order within a broader structure that recognizes the need for long-term sharing, those

242. Ellickson, *Of Coase and Cattle*, supra note 224, at 675–76. Ellickson also references a study about small towns in which “arrangements between friends and neighbors have a reciprocal character.” Arthur J. Vidich & Joseph Bensman, *Small Town in Mass Society* 34 (rev. ed. 1968).

243. Smith, *The Law of Neighbors*, supra note 100, at 783–84.

244. *Id.* at 784.

245. *Id.*

246. *Bradley v. Heslin* [2014] EWHC (Ch) 3267 [84], <http://www.bailii.org/ew/cases/EWHC/Ch/2014/3267.html> [<https://perma.cc/T5RA-567S>].

247. *Id.* [85].

248. *Id.* [84]–[85].

249. See, e.g., Ellickson, *Order Without Law*, supra note 224, at 4; Ostrom, supra note 67, at 15, 20; Alexander, *Governance Property*, supra note 8, at 1856–59; Dagan & Heller, supra note 8, at 552; Ellickson, *Of Coase and Cattle*, supra note 224, at 675–76; Foster & Iaione, supra note 217, at 288; Smith, *The Law of Neighbors*, supra note 100, at 785.

250. Ostrom, supra note 67, at 58–181 (discussing a broad range of case studies); Ellickson, *Of Coase and Cattle*, supra note 224, at 675–76.

251. See, e.g., Lehari, supra note 235, at 169–72 (discussing the balancing between partial privatization and common ownership as an effort to balance individual productivity with egalitarianism and other values).

systems work better and last longer.²⁵² Thus, if we were to imagine an easement by special right whereby abutting neighbors “opted in” to sharing a six-foot-wide alley running along their shared boundary for the purpose of channeling flood waters, one lesson to take from these literatures would be to create rules encouraging the neighbors to determine shared uses for the alley (parking? badminton? storage space?) when it is not flooded.

In a very real sense, the innovations that are proposed here are so well established in slices of American property law (such as implied easements, commons and semicommons arrangements, co-ownership doctrine, and neighbors cases involving a range of doctrines such as adverse possession, reliance, and justified expectations²⁵³) that it is reasonable to wonder why cases such as *Bradley* might seem so extraordinary. While one obvious answer is that rights of exclusion still have significant power in popular views of property rights, a more substantive answer would likely focus on trust. Indeed, a common refrain in discussions of the commons is that trust cannot be mandated; it must be nurtured in and through relationships that involve property, although scholars have persuasively described the supportive role that legal rules can serve in this regard.²⁵⁴ Thus it might appear that neighbors who do not co-own with one another simply will lack the trust required to share rights of co-management. We can all think of horror stories even in co-ownership circumstances—of condominium dwellers fighting over whether to replace a roof or divorcing couples fighting over the division of marital property. Many of us also have worried about the impact on property values of our neighbors’ behavior. We rely on our neighbors to preserve our own property values, and this form of trust can be—and regularly is—violated. Of course, these are cautionary tales.

Yet, if nothing else, this Article is a brief for the imperative of developing neighborly trust in recognition that our property rights fundamentally and deeply depend on each other. By no means will neighborly trust always be the right answer, nor will it always be possible. But sharing and the development of trust should be on the agenda more often than they currently are. What is required today is a shift in outlook on property rights as facilitating trust, and the kinds of rules that this Article has imported from commons and governance property arrangements are intended to hasten that shift. While such a shift may seem risky, recent crises have provided us with compelling sources of inspiration and guidance. Neighbors have in fact stepped up to help neighbors during the pandemic and the

252. Ellickson, *Of Coase and Cattle*, supra note 224, at 676; Smith, *The Law of Neighbors*, supra note 100, at 782–85.

253. See supra Part II.

254. See Dagan & Heller, supra note 8, at 579 (arguing that “the constellation of background rules that should govern a liberal commons must minimize incentives to abuse the interpersonal trust and cooperation necessary for success”).

resulting recession.²⁵⁵ Neighbors provided support and aid after Hurricane Katrina and other natural disasters.²⁵⁶ Building on the innovations of “sharing economy” platforms, neighbors are finding innovative ways through technology to provide mutual aid.²⁵⁷ We have regulatory models for nurturing trust. Indeed, one of the most valuable models in this context is the facilitative role of local government.

In this crucial sense, the model of deliberative co-management provided here may not just be a means to an end. It may in some circumstances be an end, the purpose of which is to inspire more communication and ultimately trust. At this early stage of analysis, this possibility is simply a research question that demands more attention. To the extent that deliberative co-management is ultimately valued as an end in itself, the costs

255. Jia Tolenino, What Mutual Aid Can Do During a Pandemic, *New Yorker* (May 11, 2020), <https://www.newyorker.com/magazine/2020/05/18/what-mutual-aid-can-do-during-a-pandemic> (on file with the *Columbia Law Review*) (“Mutual-aid projects tend to be shaped by volunteers and the recipients of services. Both mutual aid and charity address the effects of inequality, but mutual aid is aimed at *root causes*—at the structures that created inequality in the first place.”); Elizabeth Lawrence, ‘Love and Solidarity’: Amid Coronavirus, Mutual Aid Groups Resurge in New York City, *NPR* (July 26, 2020), <https://www.npr.org/sections/health-shots/2020/07/26/895115149/love-and-solidarity-amid-coronavirus-mutual-aid-groups-resurge-in-new-york-city> [<https://perma.cc/BP9F-KSJR>] (“Bed-Stuy Strong assembled an army of volunteers to help vulnerable neighbors with food deliveries and basic supplies. While Perez was in isolation, volunteers regularly delivered cooked food for her sons, ages 17 and 20, and her 4-year-old grandson.”); Robert Soden, Crisis Informatics and Mutual Aid During the Coronavirus Pandemic: A Research Agenda, *Soc. Sci. Rsch. Council* (July 2, 2020), <https://items.ssrc.org/covid-19-and-the-social-sciences/disaster-studies/crisis-informatics-and-mutual-aid-during-the-coronavirus-pandemic-a-research-agenda/> [<https://perma.cc/VQV6-326X>] (“Emergent, hyperlocal, ‘mutual aid’ groups are organizing in every state in order to offer support to their neighbors in the form of cooking meals, running errands, caring for children and pets, helping with essential chores, and keeping each other company via phone or video conference.”); see also Bed-Stuy Strong, *Bed-Stuy Strong*, <https://bedstuystrong.com/> [<https://perma.cc/4GXW-CDYN>] (last visited Oct. 26, 2021) (arranging no-contact deliveries for vulnerable members in the Bed-Stuy community); Invisible Hands Deliver, <https://invisiblehandsdeliver.org/> [<https://perma.cc/S5D7-ZB25>] (last visited Oct. 26, 2021) (arranging no-contact deliveries of groceries, prescriptions, and other items in a number of states).

256. Jacob Remes, Finding Solidarity in Disaster, *Atlantic* (Sept. 1, 2015), <https://www.theatlantic.com/politics/archive/2015/09/hurricane-katrinass-lesson-in-civics/402961/> (on file with the *Columbia Law Review*) (“Disasters serve as reminders that everyone is dependent on their friends and neighbors, and that those relationships need not be mediated by the state.”).

257. Soden, *supra* note 255 (“Using tools that include Google Docs, Facebook, Slack, and WhatsApp, these groups are connecting their neighborhoods and working to match their skills and resources to the needs of their communities, which are emerging as a result of the ongoing pandemic.”); Kaitlyn Tiffany, Pandemic Organizers Are Co-Opting Productivity Software, *Atlantic* (May 28, 2020), <https://www.theatlantic.com/technology/archive/2020/05/coronavirus-mutual-aid-groups-slack-airtable-google/612190/> (on file with the *Columbia Law Review*) (“There are community Facebook groups for exchanging information, Airtable forms for requesting help, open databases about how to seek various forms of aid from the government or nonprofits.”).

of such deliberation (including, importantly, the potential loss of stability) will have to be more extensively investigated. It will also be necessary to clarify the contexts in which deliberative co-management is too risky a strategy, as a social, economic, or cultural matter, as compared to bright-line property rules.²⁵⁸

Finally, especially at this stage of analysis, it is important to state a caveat that is arguably quite broad. While this Article argues in favor of deliberation, cooperation, and sharing as a default or presumption in many more circumstances than American property law currently recognizes, it is also important to acknowledge that sharing is neither appropriate in all circumstances, nor will it be useful. Moreover, neighborly deliberation can only occur upon the satisfaction of certain basic preconditions. While the details of these preconditions must be the subject of other work, a few examples ought to demonstrate their necessity. Obviously, in situations where neighbors cannot even agree on the basic facts of their shared circumstances—for example, where one neighbor simply denies the existence of climate change—deliberative co-management will likely be fruitless. Such deliberation is also inadvisable where neighborliness defies (by legal or extralegal means) the planning and advice of local government agencies whose job is to protect physical and even social infrastructure. Additionally, deliberation simply will not be possible if some neighbors are defiantly biased against others. In such situations, legal coercion may be the only viable option for responding to crisis.²⁵⁹

V. TWO PRAGMATIC EXAMPLES

The purpose of this final Part is to provide concrete examples that demonstrate the utility of neighborly deliberation in the face of the climate crisis. The first example is an existing, fully elaborated form of neighbor-level crisis response. The second example is a hypothetical one that makes use of the conceptual model set forth in Part IV. Together, these two examples show both the feasibility and the urgency of systemic, property-focused responses to the uncontrollable externalities wrought by the climate crisis. They illustrate how the tools described in this Article can be used to facilitate property law's efficacy in the face of climate change.

258. Research on the psychology of in-groups and out-groups could be informative on this question. See, e.g., Margaret Foddy, Michael J. Platow & Toshio Yamagishi, Group-Based Trust in Strangers: The Role of Stereotypes and Expectations, 20 *Psych. Sci.* 419, 419–22 (2009) (considering possible bases for group-based trust); J.C. Turner, R.J. Brown & H. Tajfel, Social Comparison and Group Interest in Ingroup Favouritism, 9 *Eur. J. Soc. Psych.* 187, 188, 200–02 (1979) (analyzing the processes contributing to ingroup bias).

259. It is also important to remember the value of extralegal devices in facilitating the development of trust, many of which can be used alongside the legal devices described here. For example, in a neighborhood context, block parties and other informal fora for socializing and conversation could be a very useful device.

A. *Wildfire Response*

The first pragmatic example is a currently existing structure for wildfire response in Northern Sonoma County, California. Since 2017, this area, along with many others along the West Coast, has seen a devastating increase in the length and ferocity of the wildfire season, which many have attributed to climate change.²⁶⁰ In 2020, the *New York Times* quoted a Cal Fire spokesperson who captured the conditions in a now-familiar description: “The last several years with the drought and lack of rainfall, we have had a very dry vegetation which is extremely receptive to burning, so we have not been having that closure that we normally would have in early fall It’s been a year-round fire season.”²⁶¹ By October of 2020, the Glass Fire in Napa and Sonoma alone had burned more than 67,000 acres and forced thousands to evacuate.²⁶² The nature of wildfires is that they can strike so suddenly and with explosive force, making emergency evacuations at any time of day or night a regular occurrence.²⁶³

Enter COPE—Citizens Organized to Prepare for Emergencies. COPE is a self-described “grassroots effort built upon the concept of ‘neighbor helping neighbor’ engaging communities in emergency preparedness education, advocacy and planning. COPE fosters community preparedness in coordination with public safety agencies, non-profits, and non-governmental agencies.”²⁶⁴

While COPE has a number of functions, key among them are information gathering and sharing *prior* to a wildfire or other emergency in anticipation of information sharing and quick, coordinated action *during*

260. Tim Arango, Johnny Diaz & Carly Stern, 3 Killed in Fresh Wildfires in Northern California, *N.Y. Times* (Sept. 28, 2020), <https://www.nytimes.com/2020/09/28/us/california-glass-zogg-fires.html> (on file with the *Columbia Law Review*) (last updated July 29, 2021) (“Experts have linked the devastating fire season to climate change, saying it is part of a long-term trend of more frequent and disastrous blazes in the West.”); Alejandra Borunda, The Science Connecting Wildfires to Climate Change, *Nat’l Geographic* (Sept. 17, 2020), <https://www.nationalgeographic.com/science/article/climate-change-increases-risk-fires-western-us> (on file with the *Columbia Law Review*) (“Increasing heat, changing rain and snow patterns, shifts in plant communities, and other climate-related changes have vastly increased the likelihood that fires will start more often and burn more intensely and widely than they have in the past.”); Nick Mott, The Climate Change Link to More and Bigger Wildfires, *NPR* (July 27, 2021), <https://www.npr.org/2021/07/27/1019898087/climate-change-wildfires> [<https://perma.cc/ZV3U-KDJM>] (explaining that experts have found evidence that human-influenced climate change contributes to the increased rate of big fires).

261. Arango et al., *supra* note 260 (internal quotation marks omitted).

262. *Id.*

263. See *id.* (explaining that residents have evacuated in the middle of the night due to sudden fires).

264. Welcome to C.O.P.E.!, Citizens Organized to Prepare for Emergencies, N. Sonoma Cnty., <https://copenorthernsonomacounty.com/> [<https://perma.cc/5ZZU-D24A>] [hereinafter Welcome to C.O.P.E.!] (last visited Oct. 26, 2021). I am grateful to Greg Alexander for bringing this organization to my attention.

an emergency.²⁶⁵ COPE's information gathering takes the form of a door-to-door survey of all residents, including long-term owners and even short-term visitors, in a given neighborhood (which COPE typically defines as a group of ten to twenty homes).²⁶⁶ The survey gathers contact and other relevant information about each occupant in the home as well as information about the home itself, such as the location of utility shutoffs and fire dangers.²⁶⁷ COPE's information sharing, and its coordination efforts during an emergency, are centered on identifying escape routes and safe gathering places both within a neighborhood as well as outside of it.²⁶⁸

Crucially, COPE extensively collaborates with local fire departments and public safety agencies both to receive information about the occurrence, location, and spread of wildfires, and to provide information that could be useful to such agencies' emergency preparedness and response.²⁶⁹ In these respects, the collaboration between COPE and local government is a vivid demonstration of the functions that local government can serve in facilitating neighborly deliberation. By providing detailed information to COPE chapters throughout Northern Sonoma County, local government agencies provide transparency about the infrastructures supporting property owners.

COPE is a living example of an extensive structure of "neighbors helping neighbors." It is an undeniable demonstration of the will of individual owners to coordinate their behavior in order to survive in emergency circumstances.²⁷⁰ It is also a demonstration of the value of coordination: by working together to find the best escape routes each owner recognizes they have a better chance of escaping wildfires. Moreover, by sharing information about such routes with all members of the neighborhood, the owners also gather crucial information about fire hazards.

COPE's system of coordination is valuable to the analysis in this Article, because it demonstrates the spectrum along which neighborly deliberation can occur. While the flood channels described in the next section

265. *Id.*; see also Neighborhood Programs in Sonoma County, Cnty. of Sonoma Emergency Readiness, Response & Recovery, <https://socoemergency.org/get-ready/neighborhood-programs/> [<https://perma.cc/7LNR-DTK8>] (last visited Oct. 26, 2021).

266. Interview with Gregory S. Alexander, A. Robert Noll Professor of Law, Cornell Law School (May 14, 2021).

267. *Id.*

268. See Getting Started, COPE 101: 7 Steps, N. Sonoma Cnty., Citizens Organized to Prepare for Emergencies, <https://copenorthernsonomacounty.com/getting-started/> [<https://perma.cc/YX3F-XEE6>] [hereinafter Getting Started] (last visited Oct. 27, 2021).

269. See Welcome to C.O.P.E.!, *supra* note 264; Interview with Gregory S. Alexander, May 14, 2021.

270. COPE is one of a number of compelling examples of grassroots, coordinated wildfire response. In her book on disability justice, Leah Lakshmi Piepzna-Samarasinha describes another compelling example of disabled folks sharing information and resources with broader communities of neighbors during the 2017 wildfire season. Leah Lakshmi Piepzna-Samarasinha, *Care Work: Dreaming Disability Justice* 134 (2018).

exemplify a thick level of engagement that can aptly be labelled as “sharing,” COPE falls more on the thinner “coordination” end of the spectrum of neighborly collaboration. This is by no means a judgment about the value of neighborly deliberation instigated by COPE, but rather a claim about the appropriate range of forms that neighborly deliberation can take. In COPE’s case, the deliberation is intended to occur in only the narrow circumstance of wildfire preparedness, though obviously one that is occurring with increasing frequency. There appears to be no expectation that the neighbors who give contact information to COPE will engage in the long-term sharing of land conceptualized in the next section or the neighborly acts of kindness described by James Smith and others. Nor do COPE participants limit their own, or each other’s, rights of exclusion. COPE, then, is a fully elaborated example of neighbors collaborating in their own self-interest and for the sake of survival. It is a demonstration that it may no longer be feasible in wildfire country to “bowl alone.”²⁷¹

It is also possible, though, to imagine how COPE could go even further by encouraging neighbors to share portions of their property to, for example, provide safe places to temporarily shelter. Such an extension of property sharing is by no means required to support the claims in this Article. However, it does suggest that deliberative co-management can occur along a spectrum of collaboration and that neighborly relations may even move along the spectrum depending on the particular circumstances of crisis. Obviously, COPE originated as a grassroots response to the increasingly dangerous conditions of wildfires, and it is entirely conceivable that it will evolve further as the wildfire crises themselves evolve in response to continuing climate change. Indeed, some level of longer term property sharing may already be occurring among COPE participants, given the survey’s aims to collect information about who has generators and other emergency equipment that can be used in neighborhoods during wildfire emergencies.²⁷²

B. *Planning for Flooding*

The second pragmatic example considers the potential for neighbors to use peripheral spaces at or near the boundaries between their lots for the safe channeling and disposal of flood waters. This type of planning is relevant to a startlingly high number of American residential owners beyond those who live on seacoasts.²⁷³ Currently, individual owners who live

271. See generally Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (2000) (describing the decline of participation in community organizations, using waning participation in bowling leagues as a paradigmatic example).

272. *Getting Started*, *supra* note 268.

273. See Louise Boyle, *Climate Crisis: Flooding Will Affect Double the Number of People Globally in Ten Years*, *Independent* (Apr. 23, 2020), <https://www.independent.co.uk/environment/climate-change-flooding-global-warming-record-a9480746.html> (on

in flood plains, or areas that could be increasingly prone to severe flooding as sea levels rise, have a limited set of rational choices to address this potential harm. One is to purchase flood insurance.²⁷⁴ Such insurance is becoming increasingly expensive, and in some areas, virtually impossible to purchase.²⁷⁵ Needless to say, these developments in the insurance market threaten the residential real estate market. Another option is to erect fences or walls to keep water out.²⁷⁶ This option is increasingly unavailable because of its negative systemic effect: such walls often increase the force of floodwaters, and the resulting harm.²⁷⁷ Even where they are not banned, they are often an ineffectual choice.²⁷⁸ Another option is to expend the costs to raise part or all of their houses on stilts or platforms in order to avoid damage from floodwaters.²⁷⁹

Meanwhile, scholars and planners have been at pains to plan for the eventualities of sea level rise while avoiding infringing on private property rights.²⁸⁰ Thus, planners have focused heavily on redesigning publicly

file with the *Columbia Law Review*); Report: Flooded Future: Global Vulnerability to Sea Level Rise Worse Than Previously Understood, Climate Cent. (Oct. 29, 2019), <https://www.climatecentral.org/news/report-flooded-future-global-vulnerability-to-sea-level-rise-worse-than-previously-understood> [<https://perma.cc/YLA4-EAXU>]; Oliver Milman, Flooding From Sea Level Rise Threatens Over 300,000 US Coastal Homes—Study, *Guardian* (June 18, 2018), <https://www.theguardian.com/environment/2018/jun/17/sea-level-rise-impact-us-coastal-homes-study-climate-change> [<https://perma.cc/2VAS-EFPU>]; Jonathan Watts, Rising Sea Levels Pose Threats to Homes of 300m People—Study, *Guardian* (Oct. 29, 2019), <https://www.theguardian.com/environment/2019/oct/29/rising-sea-levels-pose-threat-to-homes-of-300m-people-study> [<https://perma.cc/D463-N48D>].

274. FEMA, What to Do Before a Flood, Nat'l Flood Ins. Program: FloodSmart, <https://www.floodsmart.gov/flood/first-prepare-for-flooding> [<https://perma.cc/SQY2-WN8U>] (last visited Oct. 27, 2021).

275. See Rebecca Hersher, Many People Living in Flood-Prone Areas Can't Afford Expensive Flood Insurance, *NPR* (June 7, 2019), <https://www.npr.org/2019/06/07/730758882/many-people-living-in-flood-prone-areas-cant-afford-expensive-flood-insurance> [<https://perma.cc/NH3E-F4FC>].

276. FEMA, Floodproofing Non-Residential Buildings 4-1 to -13 (2013), https://www.fema.gov/sites/default/files/2020-07/fema_p-936_floodproofing_non-residential_buiildings_110618pdf.pdf [<https://perma.cc/JHU4-69S9>]; FEMA, Homeowner's Guide to Retrofitting: Six Ways to Protect Your Home From Flooding 8-1 to -7 (2014), https://www.fema.gov/sites/default/files/2020-08/FEMA_P-312.pdf [<https://perma.cc/24ZH-TY67>].

277. See Rebecca Hersher, Levees Make Mississippi River Flooding Worse, but We Keep Building Them, *NPR* (May 21, 2018), <https://www.npr.org/2018/05/21/610945127/levees-make-mississippi-river-floods-worse-but-we-keep-building-them> [<https://perma.cc/8L79-SNG2>].

278. See *id.*

279. Amanda Kolson Hurley, The House of the Future Is Elevated, *Bloomberg CityLab* (Dec. 8, 2017), <https://www.bloomberg.com/news/articles/2017-12-08/the-high-cost-of-flood-proofing-homes> [<https://perma.cc/J9T3-GXGV>].

280. Commentators have contemplated a variety of ways that local governments can balance their efforts to prepare for sea level rise with the cost to private property rights. See, e.g., Lara D. Guericco, Climate Change Adaptation and Coastal Property Rights: A

owned property—parks,²⁸¹ public parking lots and garages,²⁸² sidewalks,²⁸³ and beaches²⁸⁴—in order to channel and dispose of floodwaters and reduce other harms. While such efforts are crucial, they leave largely unaddressed the contributions that private property owners could make by using portions of their property to accommodate sea level rise. In turn, they leave underexplored some of the ways individually owned lots could benefit from such accommodations.

Imagine the possibilities if property owners had incentives to contribute to floodwater management while also lowering their individual costs to protect their homes. For example, imagine a neighborhood located in

Massachusetts Case Study, 40 B.C. Env't Affs. L. Rev. 349, 353–54 (2013) (examining the tension between private property rights and the state's attempts to regulate coastal property and development); Williams, *supra* note 197, at 158–60 (discussing potential regulatory takings liability); Alison Reilly Gillotti, Note, Planning and Zoning to Reach New Heights: How Land Use Regulation Can Help Shoreline Communities Brace for Climate Change, 37 Quinnipiac L. Rev. 541, 542–43 (2019) (proposing that municipalities employ land use regulations and variances to prepare coastal properties for climate-change-related risks, while also contemplating the tension between these regulations and private property rights).

281. See, e.g., Nat'l Rec. & Park Ass'n, Resource Guide for Planning, Designing and Implementing, Green Infrastructure in Parks 4–6 (2017), <https://www.nrpa.org/contentassets/0e196db99af544bbba4f63f480c1316b/gupc-resource-guide.pdf> [<https://perma.cc/7TLC-R895>] (providing a guide to incorporating green infrastructure in public parks, including various methods of green stormwater infrastructure); NYC Parks, Design and Planning for Flood Resiliency 11–12 (2017), https://www.nycgovparks.org/pagefiles/128/NYCP-Design-and-Planning-Flood-Zone__5b0f0f5da8144.pdf [<https://perma.cc/PCR5-9DSF>] (presenting a guide to designing public parks to encourage urban flood resiliency and mitigation); Transformative Plan to Create Resilient, Open Boston Harbor Unveiled, City of Bost. (Oct. 17, 2018), <https://www.boston.gov/news/transformative-plan-create-resilient-open-boston-harbor-unveiled> [<https://perma.cc/K8D6-NBF8>] (outlining the Mayor of Boston's plan to protect the city from sea level rise through resilient design, including enhanced waterfront parks).

282. See, e.g., Lamoille Cnty. Plan. Comm'n, 2015–2023 Lamoille County Regional Plan 242 (Dec. 30, 2015), https://www.lpcvt.org/vertical/Sites/%7B3C01460C-7F49-40F5-B243-0CA7924F23AF%7D/uploads/2015-2023_Regional_Plan_as_amended_on_May_22_2018.pdf [<https://perma.cc/4XDK-VSFW>] (last amended May 22, 2018) (encouraging better management of stormwater from parking lots and roadways, particularly using green infrastructure); Nat'l Rec. & Park Ass'n, *supra* note 281, at 4–6 (encouraging the use of permeable pavement and increased foliage in public parking areas); NYC Parks, *supra* note 281, at 48 (citing Rotterdam's use of parking garages as water retention areas during flood events).

283. See, e.g., Nat'l Rec. & Park Ass'n, *supra* note 281, at 4–6 (encouraging the use of permeable pavement for sidewalks).

284. See Cape Cod Climate Initiative, Cape Cod Comm'n, <https://www.capecodcommission.org/our-work/climate-change/> [<https://perma.cc/JTK3-HEJ5>] (last visited Oct. 27, 2021) (relying on green infrastructure like salt marshes and beach dunes to mitigate flooding and erosion); Resilient Boston Harbor, City of Bost., <https://www.boston.gov/environment-and-energy/resilient-boston-harbor> [<https://perma.cc/S7RA-SAE2>] (last updated Oct. 31, 2019) (describing the renovation of Constitution Beach in East Boston to block a flood pathway).

a flood zone relatively near a river or coast. Assume further that the city in this scenario has recently decided to develop a park on nearby public property as a mechanism for managing flood waters and storm overflow. To increase the utility of the park for this purpose, the city wishes to encourage property owners in the neighborhood to create pathways to channel flood waters toward the park. However, the neighborhood is densely built, with small lot sizes that do not have enough undeveloped land to individually accommodate the three-foot wide pathways that would be best for this purpose. An ideal solution could be to encourage property owners to share the peripheral space at the boundaries between their lots to create such pathways.

One manifestation of deliberative co-management rights in this type of scenario could be a zoning law provision creating a special easement or right to share boundary land for creating a floodwater flowage channel. This analysis uses the term easement advisedly because it is arguably the wrong concept for the right envisioned here, tipping the balance too much in favor of clearly defined ownership rights when what is called for is a more flexible understanding of limited access and co-management rights.²⁸⁵ Again, the right envisioned here would be more of a right to co-manage an area designated for channeling floodwater rather than a right of use, at least as defined by the zoning law.

Such a zoning provision could designate an area as a shared flowage channel upon application by neighbors who share a boundary.²⁸⁶ Upon

285. Such rights could be conceptualized as closer to usufructuary rights, a term used to describe water access rights and the rights of Indigenous people to use land for traditional and customary practices. See Guy Charlton, *The Law of Native American Hunting, Fishing and Gathering Rights Outside of Reservation Boundaries in the United States and Canada*, 39 *Can.-U.S. L.J.* 68, 71–72 (2015) (explaining that indigenous usufructuary rights arise from indigenous people's historical occupations and use of specific lands and waters); Emily Droll, *The Akaka Bill and Native Hawaiian Usufructuary Rights*, 3 *Geo. J.L. & Mod. Critical Race Persps.* 39, 39–40 (2011) (exploring the weakness of Native Hawaiians' usufructuary rights compared with those of other Indigenous peoples); Shelley Ross Saxon, *The Fluid Nature of Property Rights in Water*, 21 *Duke Env't L. & Pol'y Forum* 49, 53 (2010) (viewing water rights through the lens of the public trust doctrine and usufructuary rights framework).

286. Neighbors who share boundary lines could coordinate the construction of runoff channels, such as ditches, swales, or stormwater drains. Regularly, property owners already use the boundaries of their property to collect or direct stormwater. By planning ditches or drainage systems together, neighbors could more effectively channel runoff away from their own homes and ensure that their neighbors do not endure collateral flood damage from poorly designed drainage systems. See *6 Backyard Flooding Solutions for Landscaping a Storm-Proof Yard*, *Am. Inst. of Bldg. Design* (Apr. 6, 2015), <https://aibd.org/6-backyard-flooding-solutions-landscaping-storm-proof-yard/> [<https://perma.cc/856P-CBEU>] (describing measures homeowners can take to protect their own property); Heather McKean, *How Can I Be a Good Stormwater Neighbor?*, *Penn State Extension*, <https://extension.psu.edu/how-can-i-be-a-good-stormwater-neighbor> [<https://perma.cc/N3U7-ATNV>] (last updated Apr. 19, 2018) (instructing property owners on how to safely channel runoff so as not to damage their neighbors' property).

receiving this right, the neighbors would have a right to use the area to channel floodwater, a right which would be defined in the zoning provision in order to ensure its utility for the broader systemic purpose identified in the zoning law. Beyond this broadly defined right, the neighbors would presumptively have more specific rights to co-manage use of the channel when not flooded. For example, they could agree to use it as a shared garden or recreational area. Or they could agree to divide it up, either spatially or temporally, for exclusive uses. Meanwhile, the city would have the right to install any necessary equipment, such as drains or gutters, or undertake any landscaping, that would allow use of the area as a flowage channel leading to the public park.

While it may be incentive enough for neighbors to apply for such an easement, given the benefits to their own properties of reduced flooding, it is also likely that property owners would be predisposed not to “give away” exclusivity without additional incentives. Such incentives could be offered through zoning benefits and could potentially be a useful part of the planning process if used to manage the burden on water and other infrastructure.²⁸⁷ Thus, for example, a city could waive height or other building restrictions as incentive to designate a flowage channel between individually owned lots. It would also be important for cities to advertise the availability of such zoning provisions as they redesign neighborhoods to adapt in the face of sea level rise and other major impacts on the local infrastructure.

This example highlights the value of individual concessions of exclusivity in property rights for the purpose of protecting vital infrastructure, and it also suggests the value of deliberative co-management—conversations between neighbors—about such concessions. It is of course true that individual property owners can choose to manage their own property in such a way as to contribute proactively to local government planning in anticipation of climate change and other crises. Presently, however, the only incentives to do so are to save costs and to avoid nuisance claims by their neighbors.

By enabling deliberative co-management and sharing, property law can be used to expand the menu of options for landowners as well as the incentives for choosing those options. At the most practical level, these additional forms of sharing can produce more effective, lower-cost options for climate adaptation strategies. In the example used here, flowage chan-

287. Some American cities already use similar incentive schemes to further resiliency goals. Edward J. Jepson, Jr. & Anna L. Haines, *Zoning for Sustainability: A Review and Analysis of the Zoning Ordinances of 32 Cities in the United States*, 80 *J. Am. Plan. Ass'n* 239, 247–48 (2014) (discussing measures by various municipalities that incentivize green development such as eco-roofs); John R. Nolon, *Low Carbon Land Use: Paris, Pittsburgh, and the IPCC*, 40 *U. Ark. Little Rock L. Rev.* 661, 687–90 (2018) (describing Pittsburgh’s Performance Point System which incentivizes sustainable development).

nels would not be possible without sharing. In some neighborhoods, pavement can be significantly reduced by shared parking spaces.²⁸⁸ In many locations, coordinated building strategies can produce much more space for solar panels and wind turbines.²⁸⁹ In addition, neighborly sharing should help to avoid holdouts attempting to preserve higher property values by maintaining more exclusivity. The idea is simple: If one's neighbors have the same limitations on exclusivity, then opting into such limitations contributes to consistent real estate values. In this way, sharing can serve as a basis for internalizing the benefits as well as the costs of protecting shared infrastructure.

Moreover, it is important to recognize both the value of action by a few and the value of action by many. Even two neighbors who choose to share out of a neighborhood of twenty, or forty, can make a meaningful contribution to systemic planning in many contexts.²⁹⁰ Yet it is also likely that in many scenarios, a higher level of coordination across neighborhoods will produce broader systemic change and corresponding benefit.²⁹¹ The role of local government in sharing information about infrastructure is crucial for this reason also. Through transparency, local government can provide individual owners with the accurate information they need to make good, long-term investment decisions in which they value their access to the infrastructure accurately for purposes of making plans about their own property.

Finally, this example suggests the advantages of sharing by means of flexible access, use, and co-management rights at the particular scale of the neighborhood. The orientation of local governments to nurturing and protecting neighborhoods, along with the breadth of their police power, avoids significant problems of coordination, making the neighborhood an ideal space for planning forward. Given the extraordinary pace at which

288. See *Roadway and Parking Lot Design*, Mass. Clean Water Toolkit, <http://prj.geosyntec.com/npsmanual/roadwayandparkinglotdesign.aspx> [<https://perma.cc/5M6H-NU4M>] (last visited Oct. 27, 2021) (encouraging shared parking and driveways to reduce pavement and resulting stormwater runoff).

289. See Nolon, *supra* note 287, at 687–90 (describing Pittsburgh's zoning code, which encourages the use of microgrids and small renewable energy facilities, including wind turbines and solar panels).

290. Not least of all, they can significantly reduce the costs of repair by planning proactively. See Commonwealth of Mass. Exec. Off. of Energy & Env't Affs. & the Adaptation Advisory Comm., *Massachusetts Climate Change Adaptation Report 5* (Sept. 2011), <https://www.mass.gov/doc/full-report-1/download> [<https://perma.cc/JS4H-9W2Q>].

291. Cooperation among community members is recognized as a vital factor when recovering from disaster, and it can increase the effectiveness of preparedness efforts as well. See generally Daniel P. Aldrich, *Building Resilience: Social Capital in Post-Disaster Recovery* (2012) (arguing for the importance of robust community social networks in facilitating post-disaster recovery).

crises are occurring, the nimbleness and speed with which local governments can act make them ideal laboratories for innovating climate adaptation strategies.²⁹²

CONCLUSION

Deliberative co-management among neighbors has the potential to significantly improve responses to climate change. But this Article began with the suggestion that such an update to neighbors law could be foundational to developing a property law capable of addressing a range of (connected) crises. Two expectations animate this suggestion. The first is that such a revision to neighbors law will create the physical and policy-making space to bring private property within the scope of systemic and proactive planning for future crises. As my example about floodwater flowage channels demonstrates, planning that encompasses *both* public and private property can be more impactful, and it can also likely be more cost-efficient for public and private owners alike. The second expectation revolves around the more abstract challenge of developing empathy and trust among neighbors as a step toward creating the social structure to respond successfully to future crises. While climate response has been my proving ground for the concept of neighborly deliberation, let me conclude with a few brief thoughts about why future research is warranted about the value of neighborly deliberation in responding to a much broader range of crises.

The bulk of this Article has defined infrastructure broadly. Thus, it should not be difficult to understand how this analysis is relevant to planning for a range of natural disasters. For example, the mechanism of deliberative co-management between neighbors can support efforts by neighbors to prepare for hurricane impacts, including by sharing electricity and other resources when utility providers cannot provide them.²⁹³ The rules of deliberative co-management would not have to change much in these different contexts. It is intentionally a flexible idea, one that encourages neighbors to work together and with local governments to plan forward.

292. See Elizabeth C. Black, *Climate Change Adaptation: Local Solutions for a Global Problem*, 22 *Geo. Int'l Env't L. Rev.* 359, 374–81 (2010) (examining the efforts of cities to combat climate change and discussing how other cities can implement similar adaptation plans to address two particular issues: flooding and energy-efficient land use and building design); Nolon, *supra* note 287, at 687–90 (highlighting significant measures that local and municipal governments have taken against climate change).

293. Cf. Arturo Massol-Deyá, Jennie C. Stephens & Jorge L. Colón, *Renewable Energy for Puerto Rico*, 362 *Science* 7, 7 (2018) (describing a transformation in communities across Puerto Rico spurred by the inability of utility providers to provide power after Hurricane Maria).

But property law also has the obligation to respond to the crises of racial, economic, and social inequality that have contributed to this age of permanent crisis. This in turn requires scholars and policymakers to return to questions of autonomy, empathy, and trust. Our current age of crisis has taught us that the valorization of very broad definitions of autonomy has rendered this core American value unrealizable for many Americans, and moreover that autonomy is unattainable along distinctly racial lines.²⁹⁴ Of course, property laws have contributed to this unequal structure by drawing and reinforcing the lines of segregation, environmental degradation, credit unavailability, and credit-based predation.²⁹⁵

Thus, for example, consideration of the value of neighborly deliberation in addressing systemic racism must necessarily begin with the empirical observation that structural racism in America precludes the vast majority of Americans from having neighbors who are racially diverse.²⁹⁶ The pattern of residential segregation today means that the typical white family lives in a neighborhood that is 75% white.²⁹⁷

294. Randall Akee, Maggie R. Jones & Sonya R. Porter, *Race Matters: Income Shares, Income Inequality, and Income Mobility for All U.S. Races*, 56 *Demography* 999, 1009–10 (2019) (discussing the connections between race, income inequality, and the lack of geographical and income mobility); Debra J. Salazar, Stacy Clauson, Troy D. Abel & Aran Clauson, *Race, Income, and Environmental Inequality in the U.S. States, 1990–2014*, 100 *Soc. Sci. Q.* 592, 601 (2019) (discussing the inability to avoid environmental harms as connected with segregation); Rebecca L. Sandefur, *Access to What?*, 148 *Daedalus* 49, 53 (2019) (discussing the access-to-justice crisis).

295. Michael S. Barr, *Credit Where It Counts: The Community Reinvestment Act and Its Critics*, 80 *N.Y.U. L. Rev.* 513, 540 (2005) (discussing unequal access to credit and the connections to property ownership and geography); Robert H. Frank, *How Rising Income Inequality Threatens Access to the Legal System*, 148 *Daedalus* 10, 11–12 (2019) (discussing unequal access to the legal system); Alicia H. Munnell, Geoffrey M. B. Tootell, Lynn E. Browne & James McEneaney, *Mortgage Lending in Boston: Interpreting HMDA Data*, 86 *Am. Econ. Rev.* 25, 25 (1996) (noting that disproportionate obstacles to receiving credit makes it difficult for “minorities to escape or improve poor neighborhoods”); Peter Newell, *Race, Class and the Global Politics of Environmental Inequality*, 5 *Glob. Env’t Pol.* 70, 70 (2005) (discussing the connection between race, geography, and environmental harms); Allison Shertzer & Randall P. Walsh, *Racial Sorting and the Emergence of Segregation in American Cities*, 101 *Rev. Econ. & Stat.* 415, 427 (2019) (discussing unequal access to housing).

296. Peter Dreier, John Mollenkopf & Todd Swanstrom, *Place Matters: Metropolitcs for the Twenty-First Century* 99–132 (2001); Maria Krysan & Kyle Crowder, *Cycle of Segregation: Social Processes and Residential Stratification* 7–10 (2017); Douglas S. Massey & Nancy A. Denton, *American Apartheid: Segregation and the Making of the Underclass* 17–59 (1993).

297. John R. Logan & Brian J. Stults, *The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census*, US 2010 Project 2–3 (Mar. 24, 2011), <https://s4.ad.brown.edu/Projects/Diversity/Data/Report/report2.pdf> [<https://perma.cc/28D7-JPHB>] (“In 367 metropolitan areas across the U.S., the typical white lives in a neighborhood that is 75% white, 8% black, 11% Hispanic, and 5% Asian. . . . [T]he typical black lives in a neighborhood that is 45% black, 35% white, 15% Hispanic, and 4% Asian.”); see also Aaron Williams & Armand Emamdjomeh, *America is More Diverse Than Ever—But Still*

Principles of co-management and deliberation seem highly relevant in this context as well. Co-management rights and responsibilities could be the conceptual and pragmatic opposite of a fence. They would necessitate communication, creating enormous incentives for new homeowners to get to know their neighbors.²⁹⁸ In this context, whatever the subject of co-management may be—shared driveways, solar panels, or flowage channels, for example—communication, empathy, and, eventually, trust are arguably the key benefits of neighborly deliberation. They serve to expand our definition of neighbors to include those whom many Americans have failed to regard as neighbors. Even in a brief and undeveloped state, this example suggests the possibilities for developing a law of neighbors that is more sensitive to the systemic forces leading to a range of crises. It is reason enough for property scholars to include neighbors law on their research agendas.

Segregated, Wash. Post (May 10, 2018), https://www.washingtonpost.com/graphics/2018/national/segregation-us-cities/?utm_term=.d0958980114c (on file with the *Columbia Law Review*).

298. See Charles R. Lawrence III, *Forbidden Conversations: On Race, Privacy, and Community* (A Continuing Conversation with John Ely on Racism and Democracy), 114 *Yale L.J.* 1353, 1389–90 (2005) (“We engage in Madison’s ‘political bazaar’ when we talk to our neighbors over dinner and back fences . . .”).

