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The Problem of Resource Access

Lee Anne Fennell

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CONTENTS

INTRODUCTION.....	2
I. TRANSACTION COST TROUBLE	8
A. <i>The Demsetzian Critique</i>	9
B. <i>Contested Definitional Terrain</i>	13
1. Strategic Bargaining Behavior	15
2. Defining and Enforcing Property Rights	17
3. Internal Governance	19
C. <i>Latent Transaction Costs</i>	20
II. RESOURCE ACCESS COSTS.....	23
A. <i>Constructing the Category</i>	24
1. Thing-Misallocation	25
2. Individual Transfer and Transfer Resistance Measures	26
3. Institutional Arrangements for Completing and Resisting Transfers	28
B. <i>A Revised Look at the Costs of Transacting</i>	31
1. Transaction Cost Reductions as Products	31
2. Subsidizing.....	32
3. Streamlining	35
4. Sidestepping	36
III. TOWARD RESOURCE ACCESS IMPROVEMENTS.....	39
A. <i>Conflict and Coordination Costs</i>	40
B. <i>Resource Access Costs and Collective Action Problems</i>	49
1. Identifying Unsolved Dilemmas	49
2. Assessing Inputs.....	52
IV. OBJECTIONS AND EXTENSIONS	55
A. <i>Didn't We Know All This Already?</i>	55
B. <i>Isn't This Too Drastic a Departure?</i>	56
C. <i>Why Maximize Value?</i>	57
D. <i>Why Stop at Access?</i>	59
CONCLUSION	61

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Lee Anne Fennell*

The Coasean insight that transaction costs stand between the world as we know it and an ideal of perfect efficiency has provided generations of law and economics scholars with an analytic North Star. But for legal scholars interested in the efficiency implications of property arrangements, transaction costs turn out to constitute an unhelpful category. Transaction costs are related to property rights in unstable and contested ways, and they comprise a heterogeneous set of impediments, not all of which are amenable to cost-effective reduction through law. Treating them as focal confuses the cause of our difficulties in structuring access to resources (positive transaction costs) with the solution to the problem presented by a world featuring scarce resources and positive transaction costs. A broader notion of resource access costs, appropriately subdivided, can correct problems of overinclusion, underinclusion, and insufficient specification in the transaction cost concept. The resulting analytic clarity will allow property theorists to contribute more usefully to solving resource problems.

INTRODUCTION

In *The Problem of Social Cost*, Ronald Coase firmly installed transaction costs at the center of the economic analysis of law.¹ The potential for these costs to inconveniently interpose themselves between the world as we know it and an ideal of perfect efficiency has provided generations of law and economics scholars with an analytic North Star. But the relationship between property rights and transaction costs is a fundamentally unstable one. Property rights seem to be an antecedent to transactions,² yet

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¹ R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960). The Coase Theorem holds that when transaction costs are zero, an efficient result will be reached, regardless of the initial assignment of legal entitlements. *See id.* at 8.

² *See, e.g., id.* at 8 (“It is necessary to know whether the damaging business is liable or not for damage caused since without the establishment of this initial delimitation of rights there can be no market transactions to transfer and recombine them.”); Douglas W. Allen, *Transaction Costs*, in 1 ENCYCLOPEDIA OF LAW AND ECONOMICS 893, 898 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000) (“Given that trade is the transfer of property rights, there can be no trade (and hence no gains from trade) in the absence of property rights.”).

property can also be viewed as an invention necessitated by transaction costs,³ or as an input into the magnitude and composition of transaction costs.⁴ To think about property and transaction costs together, then, is to confront a conceptual Möbius strip.⁵ Isolating and addressing transaction costs turns out to be a slippery business that can interfere with the goal of structuring resource access optimally.⁶ For property theorists, it is the wrong enterprise.

Transaction costs are not always, and not uniquely, problematic. Like other ways of structuring access to resources, transactions are costly to produce.⁷ Because making transactions cheaper or less necessary consumes resources that might be better deployed elsewhere, we cannot infer inefficiency from high transaction costs alone.⁸ Nor are costly transactions the only source of inefficiency worth addressing; the costs of keeping resources in place (through property rights or otherwise) must also be considered. The important question is whether legal changes can cost-effectively improve resource access. That inquiry proves to be broader in some ways, narrower in other ways, and more finely specified than the usual focus on transaction costs allows.⁹

This Article argues that transaction costs do not comprise a useful category for legal scholars interested in the efficiency implications of property

³ See Yun-chien Chang & Henry E. Smith, *An Economic Analysis of Civil Versus Common Law Property*, 88 NOTRE DAME L. REV. 1, 31 n.92 (2012) (“[I]n a zero transaction cost world, we would not need property rights at all.”); Brian Angelo Lee & Henry E. Smith, *The Nature of Coasean Property*, 59 INT’L REV. ECON. 145, 148 (2012) (“The institution of property is itself a mechanism that enables us to avoid these [transaction] costs.”); see also *infra* notes 88–90 and accompanying text.

⁴ See, e.g., Giuseppe Dari-Mattiacci, *Endogenous Transaction Costs* 8 (Jan. 2012) (unpublished manuscript) (on file with the Harvard Law School Library).

⁵ Some definitions of transaction costs explicitly embrace this entwinement with property rights. See Allen, *supra* note 2, at 897 (discussing property rights and transaction costs as “fundamentally interlinked” and “two sides of the same coin” on the “property right” vision of transaction costs).

⁶ The ultimate aim is optimal resource use, but I focus here on the law’s role in structuring access as a proxy for use. Some complications will be discussed below. See *infra* section IV.D, TAN 187–191.

⁷ See HAROLD DEMSETZ, *FROM ECONOMIC MAN TO ECONOMIC SYSTEM* 109–10 (2008). Legal changes may be able to reduce the cost of inputs into that production process, but should be pursued only when the cost reductions are worth the price. See *infra* section II.B, TAN 119–144.

⁸ Coase himself emphasized that external effects do not necessarily signal an inefficiency warranting intervention. See Coase, *supra* note 1, at 18. Harold Demsetz would extend Coase’s point to apply regardless of the presence and magnitude of transaction costs, on the ground that too-costly transactions are efficiently left undone. See Harold Demsetz, *The Problem of Social Cost: What Problem? A Critique of the Reasoning of A.C. Pigou and R.H. Coase*, 7 REV. L. & ECON. 1, 10 (2011). Pierre Schlag has argued that several points Coase made about externalities could be made in an identically structured manner about transaction costs. See Pierre Schlag, *The Problem of Transaction Costs*, 62 S. CAL. L. REV. 1661, 1665 (1989). Although my points and Demsetz’s are different from Schlag’s, they find common ground in this observation.

⁹ Although the problem with the transaction cost category is entangled with definitional disputes, it is not ultimately terminological in nature. See *infra* section I.B, TAN 41–84.

arrangements.¹⁰ Treating them as focal confuses the *cause* of our difficulties in structuring access to resources (positive transaction costs) with the *solution* to the problem that a world featuring scarce resources and positive transaction costs presents. To see the point, observe what the counterfactual zero transaction cost world does for us. Certainly, it ensures that the “things” that property scholars focus their attention on — entitlements to emit, pieces of land, water rights, and so on — reach their highest-valuing users. But the zero transaction cost assumption also, and crucially, means that we need not worry about spending too many or too few resources on the transactions that accomplish these feats; all transactions are free. Likewise, we need not worry in the zero transaction cost world about keeping things in place when their current possessor is the highest valuer; the necessary transactions to prevent transfers will also be costless.

As soon as we introduce positive transaction costs into a world of resource scarcity, we must worry not only about thing-misallocation but also about resources being misallocated to structure access to those things. To focus single-mindedly on reducing or overcoming transaction costs is to miss the significance of the other resource access structures that their presence has necessitated, and the costs associated with those structures. For example, the appealing idea that we might reduce transaction costs through thoughtful entitlement design must be tempered with attention to the converse possibility: that we might pay too much, in the currency of entitlement design, to achieve transaction cost reductions.¹¹

There are three basic reasons that transaction costs comprise a poor category around which to organize legal interventions¹² or against which to judge the efficacy of different entitlement design choices. First, the category (at least as typically invoked) is underinclusive in ways that go to the heart of the connection between property rights and transactions. The second problem is overinclusiveness. Not all of the costs that are thrown to-

¹⁰ I am not the first to question the significance of transaction costs. See, e.g., Harold Demsetz, *Ownership and the Externality Problem*, in PROPERTY RIGHTS: COOPERATION, CONFLICT, AND LAW 282, 284 (Terry L. Anderson & Fred S. McChesny eds., 2003) (“The approach I present here argues against the emphasis given by Coase, and now by the profession, to transaction cost.”); Schlag, *supra* note 8, at 1699 (“To treat the presence, absence, and identity of transaction costs as the predicate determination for deciding whether to create or supplant actual pricing markets is wrongheaded.”).

¹¹ For instance, the cost of making riparian water rights more transaction-friendly could swamp the gains from the newly enabled trades. I thank David Dana for this example.

¹² I use the term “interventions” in this Article to designate new, targeted efforts to improve resource access outside of ordinary market processes. My use of the term is not meant to suggest that there exists an alternative arrangement in which government intervention is wholly absent. Clearly, the government is *always* involved in matters of resource access, even if only to provide institutional support for the operation of markets or to enforce (or adjudicate) property rights. See A.W. Brian Simpson, *Coase v. Pigou Reexamined*, 25 J. LEGAL STUD. 53, 61 (1996) (“When [Coase] instances ‘inaction’ as one possible reaction to the problem of social cost what he must really mean is leaving the matter to the common law. Since courts cannot simply wash their hands of disputes, this never means doing nothing.”).

gether in the transaction cost bucket are equally amenable to legal interventions, nor do all of them signal inefficiencies in the allocation of resources. The third problem relates to insufficient specification of impediments to optimal resource allocation. In some cases, both nonowners and owners agree that a transfer (or nontransfer) should take place and need only coordinate over carrying it out at the going rate,¹³ while in other cases they are in conflict over whether the resource should be transferred, or how the surplus from a transfer should be split up.¹⁴ These are different sorts of problems that call for different solutions.

In some ways, these are familiar points. It is already understood that all ways of structuring access to resources are costly.¹⁵ Transaction costs can be (and have been) defined to include the costs of property rights¹⁶ — although this is more of a conceptual stretch than proponents of the approach have acknowledged.¹⁷ There are large literatures that address vari-

¹³ The “going rate” for a nontransfer is zero, while the “going rate” in competitive markets is the (no-haggle) competitively determined market price. In settings where there is no “going rate” — that is, where the parties must decide on their own how to divide surplus — conflict over surplus division may be a significant impediment.

¹⁴ Some scholars have flagged this heterogeneity in transaction costs. See, e.g., Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1036 (1995) (“[A]n overarching ‘Coasean’ theme of our analysis is that the type of transaction cost matters: It is inadequate to think of ‘transaction costs’ as some sort of composite good whose components imply similar policies.”); Carol M. Rose, *The Shadow of The Cathedral*, 106 YALE L.J. 2175, 2184 (1997) (distinguishing “Type I Transaction Costs,” which she defines as “difficulties that may result from having to find and assemble numerous or indistinctly defined interested parties, the costs that come prior to bargaining altogether,” from “Type II Transaction Costs,” which are “the impediments that come *after* bargaining begins, from parties who are close-mouthed, poker-faced, strategically bargaining misanthropes”); Richard N. Langlois, *The Secret Life of Mundane Transaction Costs*, 27 ORG. STUD. 1389, 1389–90 (2006) (distinguishing transaction costs associated with “opportunism” and “incentive misalignment” from standard neoclassical “frictions” that are analogous to transportation costs). Other scholars have moved certain conflict costs — notably the costs of strategic behavior — outside of the transaction cost framework altogether. See *infra* section I.B.1, TAN 48–66. What the analysis here adds to these earlier taxonomic moves is not just a matter of framing and emphasis; I also locate the conflict-versus-coordination distinction in a broader set of resource access impediments that encompasses the costs involved in keeping resources in place as well as the costs of transacting over them.

¹⁵ See, e.g., THRÁINN EGGERTSSON, *ECONOMIC BEHAVIOR AND INSTITUTIONS* 102 (1990) (“The firm, the market, and the legal system are all costly social arrangements.”); Allen, *supra* note 2, at 895 (“[A]ll methods of allocating resources have costs and benefits and no single mechanism works for free and dominates all others . . .”).

¹⁶ See, e.g., Allen, *supra* note 2, at 898–99 (observing that commonly used understandings of transaction costs “implicitly recognize the threat of appropriation or theft” and stating that “[w]hen property rights are protected and maintained in any context, transaction costs exist”). Yet Allen’s complaints about the “redundant” use of phrases like “zero transaction costs *and* complete property rights,” *id.* at 899 (internal quotation mark omitted), suggest this definition has not won universal acceptance.

¹⁷ A thought experiment shows how aggressive this reading of transaction costs really is. Suppose we were to reframe the Coase Theorem around an assumption of zero transfer resistance costs, rather than zero transaction costs, in a world without any private property rights at all. If those who value a resource most highly can costlessly hold onto it, but others cannot, efficient outcomes would eventually follow if we make assumptions about background transfer mechanisms that are as strong as the assumptions that Coase implicitly made about background property rights. Had costless transfer resistance

ous aspects of the cost-minimization problem associated with structuring resource access, including work on the theory of the firm and problems of incomplete contracting.¹⁸ In the property field, work on the optimal scope and form of land ownership has taken to heart lessons from the theory of the firm in balancing internal management and external transactions.¹⁹ The relationship between the specification of property rights and the costs of transacting has received attention as well, with literatures developing around divided and incomplete property rights.²⁰ Scholars have also recognized important differences among types of transaction costs.²¹

Yet these insights, threaded through different economic and legal literatures, have not been brought together in a way that allows for their intuitive use in legal contexts. Legal scholars regularly invoke the Coase Theorem's central term in law reviews,²² workshops, and classrooms, but they usually do so without specifying what they mean by it, much less what assumptions they are making about the surrounding property regime.²³ This reflexive resort to transaction costs keeps legal scholars, and especially property scholars, from building as usefully as they might on existing insights. Property theory today is alive with debate on core questions of entitlement design: whether property rules or liability rules should dominate, whether an exclusion- or thing-based vision of property should trump the bundle-of-rights metaphor, whether fixed tenure menus aid or

been Coase's frame, we might now be debating whether the costs of markets or other means of moving resources in a more or less costly fashion were "really" transfer resistance costs, just as we now debate whether the institutions that provide transfer resistance (property rights) "really" represent transaction costs.

¹⁸ See generally, e.g., R.H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* (n.s.) 386 (1937); Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 *J. POL. ECON.* 691 (1986); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 *J. POL. ECON.* 1119 (1990). New Institutional Economics uses a broad understanding of transaction costs to examine questions of institutional design within firms and other organizational structures. See generally, e.g., OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES* (1975).

¹⁹ See Harold Demsetz, *Toward a Theory of Property Rights*, 57 *AM. ECON. REV. (PAPERS & PROC.)* 347, 354-59 (1967); Robert C. Ellickson, *Property in Land*, 102 *YALE L.J.* 1315 (1993).

²⁰ See, e.g., Ayres & Talley, *supra* note 14; Antonio Nicita et al., *Towards a Theory of Incomplete Property Rights* (May 2007) (unpublished manuscript), available at <http://ssrn.com/abstract=1067466>; see also Amnon Lehavi, *The Dynamic Law of Property: Theorizing the Role of Legal Standards*, 42 *RUTGERS L.J.* 81 (2010); Antonio Nicita & Matteo Rizzolli, *Hold-Up and Externalities: The Firm as a Nexus of Incomplete Rights*, 59 *INT'L REV. ECON.* 157 (2012).

²¹ See *supra* note 14.

²² According to LexisNexis, in 2012 alone at least 965 law review articles included the term "transaction cost" or "transaction costs" (in March 2013, the search "transaction costs and date geq (01/01/2012) and date leq (12/31/2012)" in the U.S. & Canadian Law Review database produced 965 hits).

²³ There have, however, been some careful attempts to locate a fixed starting point in comparing the effects of different institutional arrangements. See Ellickson, *supra* note 19, at 1326 n.34 (building on earlier work by Frank Michelman and setting out "three foundational entitlements" that are treated as exogenous in comparing land institutions).

impede efficiency, and so on. These conversations inevitably circle around to transaction costs, but because the term is confusingly and indeterminately bound up in the very enterprise at hand — designing entitlements — it can offer little guidance.

In place of a single term — transaction costs — which carries a meaning that is opaque, contested, and unstably related to the design of entitlements, we need a set of concepts that will clarify the legal scholar's task of improving access to resources. As a first step in that direction, I propose the umbrella term of "resource access costs" to designate the full range of costs associated with structuring access to resources. Significantly, both the costs of completing resource transfers²⁴ and the costs of resisting them must be taken into account, along with the costs of thing-misallocations that occur when either set of costs becomes prohibitively large.

Creating this wide class of costs is only an interim step toward addressing concrete resource problems, however. Indeed, one function of the exercise is to emphasize the potentially unbounded nature of resource access costs, and to shift attention to the constructive task of identifying areas where law can cost-effectively improve resource access. Accordingly, I draw distinctions that address the problems of overinclusion and insufficient specification flagged above. I focus on two important subsets — conflict costs and coordination costs — each of which presents distinct difficulties, corresponds to different features of an entitlement regime, and responds to different interventions. I also make a cross-cutting distinction between resource access costs that represent unsolved collective action problems (such as the obstacles neighbors face in trying to buy out a factory's entitlement to pollute) and those that do not (such as the cost of paper and ink, or the time it takes a human being to read a page of text).

This approach has two main payoffs. First, recognizing the full range of resource access costs challenges conventional thinking surrounding transaction costs. Efforts to reduce or avoid transaction costs will often be misguided. Indeed, transaction costs may at times be inefficiently low, producing too many transfers of resources to higher-valuing users.²⁵ Reframing the relevant set of costs thus clarifies the basis for, and limits on, legal intervention.

A second set of payoffs sounds in property theory. Property rights are powerful mechanisms for paving the way or blocking the path between re-

²⁴ I focus in this Article on "transfers" rather than "transactions" to make clear that nonmarket transfers are included.

²⁵ My argument here is very different from the argument about "too low" transaction costs put forward in David M. Driesen & Shubha Ghosh, *The Functions of Transaction Costs: Rethinking Transaction Cost Minimization in a World of Friction*, 47 ARIZ. L. REV. 61, 99 (2005). The authors refer to instances where transaction costs are prohibitive, and hence not incurred. In my analysis, these unincurred costs are still transaction costs. See *infra* section I.C, TAN 85–91 (discussing latent and realized transaction costs).

sources and high-valuing users. Meaningful evaluation of these arrangements requires moving past the property scholar's tendency to focus on the primary "thing" in view when evaluating efficiency. That focus draws attention to impediments to the thing's efficient allocation but away from the efficient allocation of resources that might be used (or not) to carry out transfers, stop them, or to make them less expensive. Likewise, property scholars concerned with transaction costs often talk past each other; some focus their attention on features in entitlement design that ease coordination, while others focus on dampening the conflict costs associated with private information.²⁶ A clarifying vocabulary can improve the quality of this dialogue and recenter attention on the necessary design tradeoffs.

The analysis proceeds in four parts. Part I discusses shortfalls in the transaction cost concept. Part II constructs the category of resource access costs and shows how it reframes transaction cost problems. Part III shows how the resource access cost category can be refined and subdivided to inform legal interventions directed at resource access improvements. Part IV considers some objections and extensions.

I. TRANSACTION COST TROUBLE

The Coase Theorem, as it is taught in law school classrooms, stands for the idea that parties will bargain to an efficient result regardless of the law's initial assignment of entitlements if transaction costs are zero.²⁷ Students are then reminded that, as Coase well recognized, transaction costs are not zero, and indeed are routinely large. Hence, the initial assignment of legal entitlements can and does matter for efficiency. This formulation is fairly uncontroversial as far as it goes, and the takeaway lesson that law matters after all should be reassuring to law students and their professors. Nonetheless, the Coase Theorem often has the side effect of turning transaction costs into objects of resentment.²⁸ If only they were zero! Why must they be so large? Isn't there anything anyone can do about them, these destroyers of efficiency?

This negative attention on transaction costs has led to some fruitful advances, but also to some wrong turns and dead ends. Understanding what the law should or should not do about transaction costs has been compli-

²⁶ Carol Rose makes this point when she observes that Ian Ayres and Eric Talley appear to have concerned themselves with "Type II" rather than "Type I" transaction costs. Rose, *supra* note 14, at 2184.

²⁷ For example, the University of Chicago Law School included this summary of the Coase Theorem in the planner it distributed to law students at the beginning of last school year: "Simply stated: in a world where there are no transaction costs, an efficient outcome will occur regardless of the initial allocation of rights." UNIV. OF CHI. LAW SCH., THE UNIVERSITY OF CHICAGO LAW SCHOOL 2011-12 SOURCEBOOK AND PLANNER 21.

²⁸ See, e.g., Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 142 (1979) ("[I]n the theory of externalities, transaction costs are the root of all evil.").

cated by the absence of any agreed-upon definition of the term or any systematic way of ordering the heterogeneous phenomena that answer to that name. Behind a raft of terminological debates and taxonomic shortfalls lies a deep and often unacknowledged confusion about how transaction costs relate to property rights. As a result, a focus on transaction costs — however defined — misdirects property scholars. The category does not align well with justifications for legal intervention.

There are three problems with using the transaction cost category as a guide to identifying inefficiencies that might call for changes in law or policy: underinclusiveness, overinclusiveness, and insufficiently specified subcategories. Although these problems are entangled with definitional debates, they cannot be resolved through semantics alone. Section A examines a problem of overinclusiveness suggested by Harold Demsetz's critique of Coase's emphasis on transaction costs. Section B turns to a set of definitional debates about the breadth and content of the transaction cost category. Resolving these debates in favor of widening the transaction cost tent can mitigate underinclusiveness, but only by exacerbating the problem of insufficiently specified subcategories. Section C pushes harder on the problems of underinclusiveness and overinclusiveness by focusing on unexpended transaction costs that manifest themselves latently in societal structures and resource misallocations.

A. *The Demsetzian Critique*

Over the past decade, Demsetz has produced a significant body of law and economics scholarship that, among its other contributions, challenges certain aspects of Coase's analysis and conclusions in *The Problem of Social Cost*. One element of that critique goes to the relationship between transaction costs and economic inefficiency. While agreeing with Coase that a zero transaction cost world would produce allocative efficiency, Demsetz views it as deeply mistaken to equate positive transaction costs, or rational reactions to them, with inefficiency. In a representative passage, Demsetz analogizes transaction costs to transportation costs:

Imagine a railroad capable of shipping goods between two firms. The railroad incurs cost if it does this, and the cost may be so high that the shipment does not occur (and, instead, as Coase wrote in 'The Nature of the Firm' (1937), the would-be receiving firm chooses to rely on in-house production of the good that would have been shipped were there no transport cost). No inefficiency has been created if the shipment does not take place under these circumstances, for the implied gain from making the shipment is less than the cost of doing so. But, pray tell, we reach the same conclusion if we change 'shipment cost' to transaction cost. So, we had better re-examine Coase's reasoning about positive transaction cost.²⁹

²⁹ Demsetz, *supra* note 8, at 7.

At one level, this illustration makes the simple but powerful point that everything costs something, and the cost of transacting over resources is no different in kind from the cost of running machinery or of moving things from place to place.³⁰ We expect rational actors to make decisions based on what things cost, given existing technologies and physical constraints. It is a mistake to call the results inefficient if they cannot be otherwise, or cannot be otherwise at a cost that is less than the identified suboptimalities themselves.

So far so good. But digging deeper into the example raises the question of why the goods that one firm needs are located a train's journey away from that firm. The legal analogue, of course, is the assignment of rights to parties that are not the highest-valuing users of those rights. The movement of rights, like the movement of goods, only comes into play when a starting point has separated these elements from the place where they would do the most good. Because getting them to that place costs more than it is worth, Demsetz is right to say that, given our starting point, the results are efficient. But we need not take the starting point as a given. Demsetz recognizes this when he notes (citing Coase) that the goods might be manufactured on site rather than moved over from elsewhere.³¹

Not only can private parties use a change in ownership structure to alter the starting point, but the law itself can decide how entitlements will be allocated in the first instance. Demsetz recognizes this as well. Indeed, he locates the inefficiency in Coase's account in the law's misallocation of legal entitlements, not in positive transaction costs.³² To legal scholars, Demsetz's insistence that the law, not the market, is to blame for inefficiencies will sound neither novel nor surprising. We are already occupationally inclined to think law is the most likely culprit, or at least the most tractable margin for seeking improvement. Instead, legal scholars' interest in transaction costs is very much like what our interest in transportation costs might be if the government were to propose allocating location-

³⁰ Elsewhere Demsetz describes transactions as products like any other:

Transaction cost is no different from other costs in regard to determining which good or service is to be produced. If the cost of producing a hydrogen-fueled automobile exceeds the price that people are willing to pay for the vehicle, efficient resource allocation requires that this vehicle not be produced. Similarly, efficient resource allocation requires that a transaction not take place if the cost of producing the transaction exceeds the price that people are willing to pay to engage in exchange. We do not shout "inefficiency!" if the vehicle is not produced. Why proclaim inefficiency if a transaction is not produced?

DEMSETZ, *supra* note 7, at 109–10.

³¹ Demsetz, *supra* note 8, at 7.

³² *E.g.*, DEMSETZ, *supra* note 7, at 111–12. Demsetz focuses on Coase's statement that when transaction costs are higher than the gains from transacting, "the initial delimitation of legal rights does have an effect on the efficiency with which the economic system operates." *Id.* (quoting Coase, *supra* note 1, at 16) (internal quotation marks omitted). As Demsetz convincingly argues, the economic system does not operate with any less efficiency owing to positive transaction costs; instead, it "does the best that can possibly be done" under the circumstances. *Id.* at 112.

specific goods by random helicopter drop. Positive transportation costs would make this a poor way of getting goods physically into the hands of those who value them most highly. But if transportation costs were zero (the goods could frictionlessly glide to the places they are most valued), we would not fret about the distribution mechanism.

On this account, transaction costs help to identify instances in which the law's allocation mechanism is likely to be worth the cost of worrying about. Transaction costs are thus different in kind from other sorts of costs, like burning cleaner coal or moving goods around from place to place.³³ And they are different in kind for a reason Demsetz himself emphasizes: they are occasioned by an act occurring outside of the market system in the court's assignment of entitlements.³⁴ Legal scholars may, therefore, have good reason to pay special attention to transaction costs, even if economists have no reason to treat them differently from any other cost. High transaction costs might suggest that courts and other legal institutions should try harder to assign entitlements efficiently in the first place, or that legal scholars might work on finding other ways to lower, counter, or sidestep transaction costs.

Yet each of these measures should be undertaken only if it is worth it, which requires a comparison of all the possible ways of dealing with the misallocation, from letting it be, to resolving it with a more accurate initial assignment, to altering the underlying entitlement design, to applying some other transaction cost reduction or avoidance technique. Guido Calabresi makes just this point in observing that the costs of both transactions and transaction substitutes must be considered in deciding what to do about misallocations.³⁵ Demsetz does not make such comparisons because he takes the legal system (and the entitlements and entitlement assignments it produces) as given.³⁶ Once the legal system itself is considered up for grabs, as it is for law and economics scholars, we must ask additional

³³ These are two of the examples that Demsetz uses in arguing that transaction costs are no different from other costs. See Demsetz, *supra* note 8, at 7, 10.

³⁴ See, e.g., *id.* at 8–9.

³⁵ See Guido Calabresi, *Transaction Costs, Resource Allocation and Liability Rules — A Comment*, 11 J.L. & ECON. 67, 69 (1968) (observing that “transactions do cost money,” and that “substitutes for transactions, be they taxation, liability rules, or structural rules, are also not costless”). Calabresi goes on to explain: “Whatever device is used, the question must be asked: Are its costs worth the benefits in better resource allocations it brings about or have we instead approached a false optimum by a series of games which are not worth the candles used?” *Id.* This general approach is consistent with Calabresi's later work on the costs of accidents, which also powerfully applies the insight that problems are only worth solving if the solution is cheaper than the problem itself. See generally GUIDO CALABRESI, *THE COSTS OF ACCIDENTS* (1970).

³⁶ See Lee & Smith, *supra* note 3, at 150 (“Key to Demsetz's argument is that law, the legal system, and their effects on initial entitlements are treated as given, as they are to mainstream economists.”). Demsetz does, however, consider (without endorsing) the possibility that the court system could be run on market principles. If courts were dependent “on revenues secured from petitioners who purchase their services and decisions,” he argues, “ownership of a disputed resource would never go to the petitioner who is less capable of maximizing value from its use.” Demsetz, *supra* note 8, at 9.

questions to determine whether high transaction costs indicate inefficiency. Consider first the initial separation of the resource and the actor. After taking into account the incentive effects of different allocation methods and other normative constraints that may cabin allocation choices, there may be no cost-effective way to get the resource into the hands of the actor in the first instance. Where these conditions obtain, we might well be skeptical about whether there is any efficiency problem in the picture at all, despite the presence of prohibitively high transaction costs.

What about the prospect of lowering the transaction costs themselves? If we could invent a faster train, so to speak, costs that were initially prohibitive could fall low enough to be worth incurring. We cannot assume that the absence of a faster train is a product of inefficiency, however, without knowing *why* the faster train is not running. Does it cost more to invent, produce, and maintain than it is worth? Have political factions conspired to keep it out of production, or does the law fail to grant sufficient returns to the inventor?³⁷ In other words, the standard Chicago assertion that there is no cost-effective faster train (because if there were, we would all be riding on it already) depends on assumptions about the processes (markets and politics) that produce trains. Likewise, if the magnitude of transaction costs depends not on the interplay of competitive markets but rather on governmental responses (or the lack thereof) to collective action problems, the Chicago retort would hold considerably less sway. But is that the case? The answer depends on just what we mean by transaction costs.

Demsetz defines transaction costs in a manner that is much narrower than most property rights theorists use the term.³⁸ This definitional move frames both his criticism of the central place given to transaction costs in Coasean analysis³⁹ and his suggestion that “ownership costs” should receive more attention.⁴⁰ Definitions aside, his critique flags an important problem of overinclusiveness insofar as he observes that transaction costs

³⁷ Even if we get an affirmative answer to one of these questions, it is still not clear we can claim inefficiency. We would need to compare the costs of altering the legal or political landscape in ways that would be more conducive to the production of the fast trains with the gains those changes will deliver.

³⁸ See Allen, *supra* note 2, at 903–04; Lee & Smith, *supra* note 3, at 150.

³⁹ DEMSETZ, *supra* note 7, at 106–17. See generally Demsetz, *supra* note 8; Demsetz, *supra* note 10.

⁴⁰ See, e.g., DEMSETZ, *supra* note 7, at 116 (classifying free-rider problems as “ownership costs” rather than “transaction costs”); see also Demsetz, *supra* note 8, at 5 (discussing the “positive cost of ownership” in connection with the existence and enforceability of private property rights); Demsetz, *supra* note 10, at 284 (describing his approach as one that not only “argues against the emphasis given by Coase, and now by the profession, to transaction cost” but “also argues that more emphasis should be given to the conditions of ownership”); Harold Demsetz, *Toward a Theory of Property Rights II: The Competition Between Private and Collective Ownership*, 31 J. LEGAL STUD. S653, S655–56 (2002) (observing that Coase assumed the existence of private property rights, whereas Demsetz’s own work examined the development of those rights).

may not signal inefficiencies. This problem of overinclusiveness is not addressed (although it is obscured) by expanding the transaction cost category to encompass elements that map better onto the case for legal intervention. A broader definition can indeed bring Demsetz's "ownership costs" (and much else) within the transaction cost tent, but as long as it leaves murky how these elements relate to each other and to legal interventions, the confusion and incompleteness in the analysis of resource allocation will persist.

B. Contested Definitional Terrain

The definition of transaction costs has been a source of disagreement and confusion among scholars.⁴¹ In *The Problem of Social Cost*, Coase himself did not use the term "transaction cost"⁴² but instead referred to the "costs involved in carrying out market transactions," which he described as follows:

In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on.⁴³

Later, Coase embraced Carl Dahlman's breakdown of transaction costs into "search and information costs, bargaining and decision costs, [and] policing and enforcement costs."⁴⁴ Scholars have subsequently developed a variety of other transaction cost taxonomies.⁴⁵

There is broad agreement that the costs people incur to get together, communicate with each other, and draw up and police contracts represent transaction costs. But the status of some other elements is contested. Indeed, Douglas Allen has observed a sharp dichotomy in the use of the term, with the "neoclassical" literature taking a much narrower view of

⁴¹ See Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 16 (1982) ("The meaning of transaction costs is not well-standardized in the literature.").

⁴² See Robert C. Ellickson, *The Case for Coase and Against "Coaseanism"*, 99 YALE L.J. 611, 612 n.8 (1989) (making this observation).

⁴³ Coase, *supra* note 1, at 15.

⁴⁴ R.H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 6 (1988) (quoting Dahlman, *supra* note 28, at 148) (internal quotation marks omitted); see also Ellickson, *supra* note 42, at 614–15 (characterizing this taxonomy as dividing up transaction costs temporally, based on whether they are sustained before, during, or after the bargaining process).

⁴⁵ See, e.g., Ellickson, *supra* note 42, at 615–16 (breaking up transaction costs along functional lines into "get-together costs," "decision and execution costs," and "information costs"); Langlois, *supra* note 14, at 1392 fig.1 (breaking down transaction costs in several ways, including whether the costs are "fixed," "a function of time," or "a function of number of exchanges or volume of trade"); Rose, *supra* note 14, at 2184 (defining and distinguishing "Type I" and "Type II" transaction costs).

transaction costs than the “property rights” literature.⁴⁶ On the narrowest account (the one to which Demsetz subscribes), transaction costs are limited to the cost of using the price system under conditions of perfect competition⁴⁷ — a state of the world that leaves no room for haggling and that presupposes the existence of property rights. Other accounts, including those used by most scholars concerned with property rights, are considerably broader.

Three factors relevant to the law’s treatment of entitlements have been variously welcomed in, booted out, or ignored altogether in various definitions of transaction costs: the costs of strategic bargaining behavior, the costs of defining and enforcing property rights, and the costs of internal governance within property holdings or firms. Although including these contested costs helps to address problems of underinclusiveness in the transaction cost category, it increases the need for useful subcategories by introducing greater heterogeneity among costs.

1. *Strategic Bargaining Behavior.* — Some of the most significant and troublesome barriers to exchange involve strategic behavior. Two familiar subspecies of strategic behavior are “free riding,” which involves understating the price one is willing to pay, and “holding out,” which involves overstating the price one is willing to accept.⁴⁸ In addition to these problems, which are usually associated with multi-player scenarios,⁴⁹ there are problems of bilateral monopoly in which struggles over the division of surplus can take the form of a Chicken Game.⁵⁰ These strategic impedi-

⁴⁶ See Allen, *supra* note 2, at 893–904. The neoclassical view is exemplified by Demsetz, who treats transaction costs as nothing more or less than the costs of using the market. See *id.* at 903–04; see also Schlag, *supra* note 8, at 1674–76 (discussing definitional disputes).

⁴⁷ See DEMSETZ, *supra* note 7, at 107.

⁴⁸ Individuals who accurately represent their idiosyncratically high reservation prices are sometimes dubbed “holdouts,” but I prefer Gideon Parchomovsky and Peter Siegelman’s alternative term “holdins.” Gideon Parchomovsky & Peter Siegelman, *Selling Mayberry: Communities and Individuals in Law and Economics*, 92 CALIF. L. REV. 75, 128–29 (2004). An extreme version of (true) holding out involves misrepresenting not only the magnitude of one’s reservation price but also its sign — as where a terrible musician, whose sounds hurt even his own ears, will play in order to be paid to stop. See, e.g., Daniel B. Kelly, *Strategic Spillovers*, 111 COLUM. L. REV. 1641 (2011); see also Harold Demsetz, *Theoretical Efficiency in Pollution Control: Comment on Comments*, 9 W. ECON. J. 444 (1971); Harold Demsetz, *When Does the Rule of Liability Matter?*, 1 J. LEGAL STUD. 13, 22–25 (1972).

⁴⁹ Free riding arises in contexts where more than one person is in a position to fund a good from which other individuals cannot be cost-effectively excluded. Holding out is often, although not always, associated with settings where a number of parties hold entitlements that must be assembled, each of which is essential to the project as a whole. For an illuminating discussion of the differences and similarities between holding out and free riding, see Lloyd Cohen, *Holdouts and Free Riders*, 20 J. LEGAL STUD. 351 (1991).

⁵⁰ The Chicken Game, so named for its structural resemblance to drivers playing “chicken” on a roadway, has been used to illuminate a variety of bargaining situations. See, e.g., DOUGLAS G. BAIRD ET AL., *GAME THEORY AND THE LAW* 43–45 (1994); WARD FARNSWORTH, *THE LEGAL ANALYST* 130–32 (2007). Because large-number holdout situations can be broken down into a series of two-player bilateral monopoly situations between a would-be assembler and each would-be seller, the same Chicken Game analysis that applies to the latter also applies to the former. See, e.g., CHARLES J.

ments to bargaining are included in some definitions of the term “transaction costs,” but not others.⁵¹ Coase’s own phrase, “to conduct negotiations leading up to a bargain,”⁵² could be read to encompass strategic interactions. Indeed, it might seem implausible that Coase would mention the costs of “negotiation” — an activity that, by definition, only occurs when there is surplus on the table that must be divided up⁵³ — unless he meant to include the costs associated with parties attempting to garner larger shares of that surplus for themselves.⁵⁴ However, Coase later expressed doubt that conflicts over surplus division would thwart bargains in a significant proportion of cases,⁵⁵ which might support a narrower reading.⁵⁶

Demsetz, for his part, contends that strategic behavior — manifested as misrepresentation of reservation prices — cannot count as a transaction cost.⁵⁷ Similarly, Robert Cooter asserts that parties to bargaining interactions face “another obstacle of an entirely different kind” from transaction costs when they must decide how to divide up the surplus in the absence of a fixed price.⁵⁸ Other scholars, however, have placed some or all strategic bargaining costs under the heading of transaction costs. Oliver Williamson would count strategic behavior among transaction costs.⁵⁹ Guido

GOETZ, LAW AND ECONOMICS: CASES AND MATERIALS 35 (1984) (describing a land assembly problem as “chicken in action”); Lee Anne Fennell, *Common Interest Tragedies*, 98 NW. U. L. REV. 907, 941–42, 946–47 (2004) (applying the Chicken Game template to anticommons problems).

⁵¹ See, e.g., Schlag, *supra* note 8, at 1675–76.

⁵² Coase, *supra* note 1, at 15.

⁵³ Negotiation has no place in competitive markets; market participants instead confront “non-negotiable equilibrium market prices, prices that cannot be influenced by individual bargaining.” Demsetz, *supra* note 8, at 12. If there is any negotiation going on, then, it must be under conditions where there is no competitive price and a real question of how to divide gains from trade. See Cooter, *supra* note 41, at 17.

⁵⁴ But see Demsetz, *supra* note 8, at 12 (“Close reading of Pigou and Coase does not reveal concerns about strategic misrepresentation.”); Cooter, *supra* note 41, at 19 (suggesting that Coase viewed “strategic considerations” as “inconsequential”).

⁵⁵ See COASE, *supra* note 44, at 161 (discussing the problem of surplus division and stating that “there is good reason to suppose that the proportion of cases in which no agreement is reached will be small”).

⁵⁶ Coase might doubt that strategic behavior would often preclude a bargain and nonetheless treat as transaction costs the drag that such behavior imposes on bargaining. However, the costliness of such strategies depends on the credible threat of “no bargain,” which cuts against this interpretation. See also Donald H. Regan, *The Problem of Social Cost Revisited*, 15 J.L. & ECON. 427, 429–30 (1972) (arguing that to include “bargaining tactics” among transaction costs would call into question the compatibility of individual rationality and zero transaction costs — at least if one believes that rational actors may sometimes bargain in ways that fail to reach efficient outcomes).

⁵⁷ See, e.g., Demsetz, *supra* note 8, at 11 (“The potential for deceit is not due to positive transaction cost. If everyone who would benefit from improved climate could transact freely (that is, could be gathered at no cost, could speak to each other at no cost, could write and enforce contracts at no cost), the problem of biased demand revelation would still remain.”).

⁵⁸ Cooter, *supra* note 41, at 17.

⁵⁹ WILLIAMSON, *supra* note 18, at 251–52 (observing, in discussing Coase’s work, that “[i]nstead of costless bargaining, my negotiations are characterized by information impactedness, opportunism,

Calabresi includes among transaction costs the “costs of excluding from the benefits the free loaders, that is, those who would gain from a bargain but are unwilling to pay to bring it about.”⁶⁰ The costs associated with holding out have also been expressly encompassed in some accounts of transaction costs.⁶¹ Other scholarship sends mixed signals about whether strategic behavior counts as a transaction cost.⁶²

This definitional issue has attracted interest because removing strategic behavior from the realm of transaction costs presents a challenge to the Coase Theorem.⁶³ Eliminating transaction costs (defined to exclude such behavior) would not be enough to ensure an efficient result outside of competitive market conditions. Or, as Cooter bluntly puts it: “The Coase Theorem is false because the final obstacle to private noncompetitive bargains is the absence of a rule for dividing the surplus, not the cost of bargaining.”⁶⁴ Yet the lack of a rule about surplus is not an immutable fact; it stems from a failure to specify rights over that surplus *ex ante*.⁶⁵ If that lack of specification is itself a product of high transaction costs (the prohibitive cost of obtaining full information and contracting over all contingencies),⁶⁶ then Cooter’s critique begins to unravel — but so too does our grip on the preconditions for transactions.

and the sacrifice of valuable resources as parties seek strategic advantage and thereafter engage in haggling”).

⁶⁰ Calabresi, *supra* note 35, at 67. Interestingly, Cooter seems willing to count the costs of excluding “freeloaders” as a transaction cost, despite his insistence that strategic behavior in the absence of fixed prices represents a wholly distinct phenomenon. See Cooter, *supra* note 41, at 16 (citing Calabresi, *supra* note 35). Demsetz, by contrast, views free riding as a serious impediment to efficiency but does not consider it a transaction cost. DEMSETZ, *supra* note 7, at 116–17.

⁶¹ See, e.g., Robert C. Ellickson, *New Institutions for Old Neighborhoods*, 48 DUKE L.J. 75, 103 (1998); Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals’ Costs to Achieve Power over Price*, 96 YALE L.J. 209, 273 (1986).

⁶² For example, Robert Ellickson includes “information costs” in his taxonomy of transaction costs, see Ellickson, *supra* note 42, at 615–16, and then indicates in a footnote that “[s]trategic behavior by a bargainer is designed to generate information about a transferor’s reservation price and terms,” *id.* at 616 n.25. Earlier in the same article, however, Ellickson makes an offhand reference to “armchair theorizing about whether strategic behavior, or wealth effects, or nonconvexities, or what-not might undermine Coase-Theorem predictions about life in the never-never-world of zero transaction costs” — an aside that suggests “strategic behavior” could exist even if transaction costs were zero. *Id.* at 613.

⁶³ See, e.g., Schlag, *supra* note 8, at 1675–76.

⁶⁴ Cooter, *supra* note 41, at 28. Cooter does posit that a version of the Coase Theorem that specifies not only zero transaction costs but also “perfect competition” and “perfect information” holds true. *Id.* at 15 (quoting Richard O. Zerbe, *The Problem of Social Cost: Fifteen Years Later*, in *THEORY AND MEASUREMENT OF ECONOMIC EXTERNALITIES* 29, 29 (Steven A.Y. Lin ed., 1976)).

⁶⁵ This failure to specify surplus division is a general characteristic of private property rights, although it can be characterized as a way in which private property rights are incomplete. See Lee Anne Fennell, *Property and Precaution*, J. TORT L., Sept. 2011, art.3, at 60 n.246, available at <http://ssrn.com/abstract=1862403>; *infra* TAN 161.

⁶⁶ See STEVEN N.S. CHEUNG, WILL CHINA GO ‘CAPITALIST’? 37 (2d ed. 1986) (observing that a strong assumption of zero transaction costs implies, among other things, that “consumer preferences would be revealed without cost” and that “workers and other factors of production would be directed freely to produce in perfect accord with consumer preference”).

2. *Defining and Enforcing Property Rights.* — Coase’s framework assumes the existence of property rights.⁶⁷ Demsetz’s work emphasizes that property entitlements cost something to define and enforce.⁶⁸ Should these costs count as transaction costs? At one level, the construction of enforceable entitlements seems fully anterior to the transactions with which Coase was concerned. Transactions have entitlements as their subjects, and property law merely provides the vehicles in which tradable commodities arrive on the scene. There may be problems designing those vehicles — as where indivisibilities enable free-rider problems — but for Demsetz, at least, those problems are not transaction costs.⁶⁹

However, transaction costs have been understood to include the costs of enforcing agreements. Coase’s initial definition hints in this direction by including costs “to undertake the inspection needed to make sure that the terms of the contract are being observed,”⁷⁰ and he later expressly endorses Dahlman’s placement of “policing and enforcement costs” under the transaction cost umbrella.⁷¹ Property rights might be viewed either as a means for policing agreements or as a technology that lowers the cost of doing so.⁷² At a more fundamental level, the work of defining and enforcing property entitlements is one of many costs that society incurs to create conditions conducive to enforceable transactions. Oran Young puts it this way: “[M]ajor transaction costs will not show up in prices or be taken into account in ordinary efficiency calculations. These include such things as the costs of defining and securing property rights, enforcing contracts, and maintaining competition in the face of monopolistic pressures.”⁷³

Of course, many other things are but-for preconditions of transactions, including the development of language, mathematics, and a monetary system. Calling them all transaction costs seems overbroad. Property rights arguably stand in a different relationship to transactions than these large-scale (and long-sunk) costs because they are legally malleable features of

⁶⁷ See, e.g., Coase, *supra* note 1, at 8; Demsetz, *supra* note 40, at S655. Coase’s conception of property rights has been criticized for being insufficiently “Coasean.” See generally Thomas W. Merrill & Henry E. Smith, *Making Coasean Property More Coasean*, 54 J.L. & ECON. S77 (2011). Thomas Merrill and Henry Smith’s critique focuses on Coase’s assumption that property entitlements can be disaggregated and combined without limit. Because a Coasean conception of interactions among entitlement holders is sensitive to transaction costs, it suggests the need to create property packages that are attentive to these costs. See *id.* at S92–99.

⁶⁸ See generally Demsetz, *supra* note 19. As Terry Anderson and P.J. Hill explain, “Establishing and protecting property rights is very much a productive activity toward which resources can be devoted. But, like any other activity, the amount of this investment will depend upon the marginal benefits and costs to investors of allocating resources to these endeavors.” Terry L. Anderson & P.J. Hill, *The Evolution of Property Rights: A Study of the American West*, 18 J.L. & ECON. 163, 165 (1975).

⁶⁹ See Demsetz, *supra* note 8, at 11–12.

⁷⁰ Coase, *supra* note 1, at 15.

⁷¹ COASE, *supra* note 44, at 6 (internal quotation mark omitted).

⁷² See Allen, *supra* note 2, at 898–99 (noting connections between property rights and the transaction costs of “inspection, enforcing, policing and measurement,” *id.* at 899).

⁷³ ORAN R. YOUNG, *RESOURCE REGIMES* 129 (1982).

the world that produce ongoing costs themselves and influence the costliness of transactions going forward.⁷⁴

Yet reading transaction costs to subsume the whole of property rights is problematic. For one thing, almost everyone speaks and writes as if transaction costs and property rights are separate things — right down to the Royal Swedish Academy of Sciences, which awarded Coase the 1991 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel “for his discovery and clarification of the significance of transaction costs *and* property rights for the institutional structure and functioning of the economy.”⁷⁵ Linguistic habits aside, viewing property as just another flavor of transaction cost is conceptually incoherent, if we think that there must be some object of a transaction — a point to which I will return.

Nonetheless, the inclination to include property rights in the analysis surrounding transaction costs is understandable. Property rights can make transactions easier in some ways and harder in other ways. Their scope and complementarity will determine the need for further transactions.⁷⁶ Moreover, property’s core move — identifying an “owner” as the residual claimant — avoids the high costs of transacting over every contingency.⁷⁷ This point connects to bodies of work on incomplete contracting and the theory of the firm,⁷⁸ and it brings us to another area of contested definitional terrain.

3. *Internal Governance.* — Another set of costs relates to property organization, and specifically to the governance burdens found on the inside of the property envelope. For example, firms may integrate a variety of functions as a result of high (interfirm) transaction costs.⁷⁹ Fred McChesney has taken the view that these internal “management costs” might be termed a form of transaction costs, while Demsetz has assumed the opposite.⁸⁰ Coase himself discussed organizational changes such as vertical or horizontal integration as alternatives to the high costs of market

⁷⁴ Property rights involve both fixed and variable costs. See Langlois, *supra* note 14, at 1392–93 & fig.1 (identifying both fixed transaction costs and transaction costs that are a function of time as “[c]osts of property rights”).

⁷⁵ Press Release, Royal Swedish Acad. of Scis., The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 1991 (Oct. 15, 1991), available at www.nobelprize.org/nobel_prizes/economics/laureates/1991/press.html (emphasis added).

⁷⁶ See Merrill & Smith, *supra* note 67.

⁷⁷ See, e.g., Grossman & Hart, *supra* note 18, at 692, 695.

⁷⁸ See *supra* note 18 and accompanying text.

⁷⁹ See, e.g., Coase, *supra* note 18, at 390–98.

⁸⁰ See Fred S. McChesney, *Coase, Demsetz, and the Unending Externality Debate*, 26 CATO J. 179, 190–91 (2006) (observing that “what Demsetz refers to as ‘management costs’ are just internal transaction costs,” *id.* at 190, and noting that these costs would be encompassed if transaction costs were “defined as all costs arising from interactions among two or more economic actors,” *id.* at 191); see also DEMSETZ, *supra* note 7, at 107 (“Coase clearly meant to distinguish costs incurred to manage resources within the firm from costs incurred to interact across markets at market-determined prices, and I wish to preserve this distinction.”).

transactions.⁸¹ But this would not rule out applying the more generic moniker of transaction costs to both classes of costs, and their much-remarked ability to substitute for each other might argue for placing them under the same analytic umbrella.⁸²

Adding this last category to the definition of transaction costs makes the term broad enough to reach the institutional structures in which transactions (or their substitutes) take place, as well as the transactions themselves. Indeed, Steven Cheung has suggested that “[w]ere it not for the popular usage of the [transaction cost] term, they should perhaps be called ‘institution costs.’”⁸³ The “property right” definition of transaction costs described by Douglas Allen similarly embraces the costs associated with establishing and operating property institutions.⁸⁴ Such a broad definition of transaction costs avoids some problems of underinclusiveness, but it does not help to structure the analytic work of designing entitlements or determining when legal interventions are called for. The problems of overinclusiveness and lack of specification remain. Indeed, the broadest definitions of transaction costs address underinclusiveness by opening the door to an essentially unbounded class of costs, as the next section explains.

C. Latent Transaction Costs

All of the definitional debates outlined above stem from a single cause: the uneasy relationship between property rights and transaction costs. The discussions above hinted that there must be some practical stopping points in even the broadest definitions of transaction costs, such as not including all of the costs associated with developing language and a currency system. This intuition seems necessary if we want a tractable category. But a hard look at the transaction costs concept shows that it is actually quite difficult to bound in this way; in our efforts to address underinclusiveness, we end up with an unhelpfully overinclusive category.

The nature of the problem becomes evident if we consider what the expression “zero transaction costs” means. If the phrase means just that there are no observable transactions occurring on the ground that generate any costs, then we would be in a zero transaction cost world anytime bargaining was shut down by some external factor like a governmental prohibition on trades, as well as anytime parties became too discouraged by the prospects of transacting to even give it a try. This is not the zero transac-

⁸¹ Coase, *supra* note 1, at 16.

⁸² See, e.g., Thráinn Eggertsson, *Analyzing Institutional Successes and Failures: A Millennium of Common Mountain Pastures in Iceland*, 12 INT’L REV. L. & ECON. 423, 425 (1992) (treating “costs of exclusion and internal governance” as transaction costs).

⁸³ CHEUNG, *supra* note 66, at 34.

⁸⁴ See Allen, *supra* note 2, at 895–99.

tion cost world Coase meant to reference.⁸⁵ Zero transaction costs must, therefore, mean not just a literal absence of costs associated with transacting, but rather an ability to costlessly complete transactions.

By the same token, positive transaction costs exist not only when we actually observe them being incurred (“realized transaction costs”), but also when incurring such costs would be necessary to complete a given transaction through the market (“latent transaction costs”⁸⁶) — even though the entitlement in question is never transferred or is transferred using some nonmarket means. Positive transaction costs are a condition that, much like gravity, exists in the background even when arrangements exist to counter or eliminate its immediate effects. Even if a zero-gravity chamber can be created on Earth, every detail of its construction and operation is a product of the force it is fighting to overcome. Likewise, the costs of transactions are a latent and shaping presence even in contexts where observable transaction costs, and even transactions themselves, are absent.⁸⁷

A central way in which latent transaction costs manifest themselves in absentia is through the formulation of property rights, which avoid the need for certain kinds of transactions and lower the costs of others, but also carry costs of their own. The implications of this point are interesting for property scholars. Suppose a particular configuration of property rights, such as liability rule protection that allows for unilateral transfers of entitlements, makes transactions unnecessary. This in no way implies we have reached a zero transaction cost world; rather, it is quite consistent with a world in which (latent) transaction costs are high, even though the liability rule regime keeps anyone from having to experience them. The same might be said about ownership structures that encompass a variety of disparate enterprises in order to control transaction costs. More generally, property rule protected entitlements, which substitute a simple in rem regime for private deals with every would-be encroacher, have been cast as mechanisms for economizing on transaction costs.⁸⁸

At this point, the reader will detect a troubling unraveling effect. Coase assumed the existence of property rights, but if property rights are really just a manifestation of latent transaction costs, why would they (how

⁸⁵ See CHEUNG, *supra* note 66, at 34 (explaining that “transaction costs” may, on a broad definition, “occur in the total absence of market transactions or even where property rights are not transferable”). *But cf.* Driesen & Ghosh, *supra* note 25, at 99 (pairing an assertion that transaction costs can be “too low” with an example in which parties are discouraged from undertaking any expenditures on transactions).

⁸⁶ The term “latent transaction costs” has been used by scholars previously in a variety of ways. David Driesen and Shubha Ghosh use the term “phantom transaction costs” to refer to unincurred transaction costs. See Driesen & Ghosh, *supra* note 25, at 82–84.

⁸⁷ See CHEUNG, *supra* note 66, at 34. I am not advancing a principle of conservation here. Transaction costs (and those costs they occasion) can clearly drop in absolute terms, whether through technological or legal innovation.

⁸⁸ Chang & Smith, *supra* note 3, at 31 (arguing that “property is a law of things . . . for transaction cost reasons”).

could they) even exist in a zero transaction cost world?⁸⁹ Yet it is hard to conceptualize what a “transaction” would mean in a world without any property rights — what would there be to transact over?⁹⁰ Indeed, imagining the conditions under which no *latent* transaction costs would be present requires stripping away not only property rights, but also all forms of government, transportation, communication, education, monetary systems, firms, households, and so on. The notion of a zero transaction cost world quickly becomes a metaphysical sinkhole, lending credence to Coase’s suggestion that “[i]t would not seem worthwhile to spend much time investigating the properties of such a world.”⁹¹ So let us step back from the abyss and make some observations.

Positive transaction costs might be understood to produce three effects in the real world: (1) the realized costs associated with actual transactions that we can observe on the ground; (2) prohibitive, unincurred transaction costs that manifest themselves latently in thing-misallocation; and (3) unincurred transaction costs that manifest themselves latently in other costly resource access structures, such as property entitlements, legal institutions, firms, and norms, as well as in behaviors like self-help, stealing, shirking, and so on. When transaction costs are of the latent variety, we observe not the cost of the (unconsummated) transaction but rather some other costly result that, as a first cut, we might assume to be cheaper than that transaction would have been: Demsetz’s efficiently unshipped shipment. Perhaps the costs of completing the transaction could be cost-effectively reduced by incurring further costs of the (3) variety, but perhaps the reverse is true and we should have fewer (3) costs and more (1) and (2) costs. Any observed combination of the three effects may be efficient; the question is whether there is any way to reduce any of these costs without increasing the others by an offsetting or larger amount.

The three effects above can unwind the “chicken and egg” nature of transaction costs and property rights. Imagine that the world starts in a

⁸⁹ One answer is simply that property rights would be unnecessary in a zero transaction cost world. *See id.* at 31 n.92; *see also* CHEUNG, *supra* note 66, at 37 (“[W]e discover that the *assumption of private property rights can be dropped* without in the least negating the Coase Theorem! That is . . . in the absence of transaction costs the allocation of resources would be the same regardless of the nature of property rights or regardless of the operative economic institution.”); COASE, *supra* note 44, at 14–15 (agreeing with Cheung’s statement).

⁹⁰ *See* Allen, *supra* note 2, at 898. Scholars who maintain that “property” refers to a set of entitlements with certain core institutional features might answer that if transaction costs were zero, individuals could transact over bare use privileges and their own labor inputs on a moment-by-moment basis — all without ever using the institution of “property” as such. *See* Lee & Smith, *supra* note 3, at 147–48 (discussing the possibility that “ultra-thin” entitlements might be traded, but for prohibitive transaction costs). Although this approach would allow for transactions without property (simply by narrowly defining the term property), it would not wholly succeed in stopping the unraveling effect noted in the text. Even the barest entitlement, and even the idea of an entitlement, is a mechanism for delivering a stream of benefits in a sensible way where transaction costs are not zero.

⁹¹ COASE, *supra* note 44, at 15.

state of nature dominated by effect (2), where resources are widely misallocated because transactions are prohibitively expensive. It will be impossible to move from this world to a world of realized transaction costs without first laying some sort of institutional groundwork to enable transactions. That is, only after we see a certain amount of effect (3) (including the formation of property rights) does it become possible for effect (1) (the costs of actual, realized transactions) to be observed. Thus, transaction cost expenditures of the latent variety can logically precede property rights even if transactions themselves realistically cannot. Yet because transaction costs also persist even after private property rights and other ways of structuring access to resources are in place, it is easy to identify them with the costs of market transactions (effect (1)) and lament their contribution to thing-misallocation (effect (2)) without revisiting their latent role in the institutions and practices surrounding resource access (effect (3)).

The awkwardness of thinking in terms of latent transaction costs suggests that the transaction cost category suffers from boundary problems that run deeper than a list of terminological quibbles. There is a reason why transaction costs are so hard to define: the movement of entitlements is entwined with a set of costs relating to property ownership, yet ownership sits uneasily in the transaction cost framework, either relegated to the sidelines, partly in and partly out of the game, or swallowed up by it in ways that make its relevance unclear. There is a better way of thinking about the relationships among property entitlements, transaction costs, and the efficient allocation of resources.

II. RESOURCE ACCESS COSTS

Let us start over from a somewhat different place by considering the problem to which legal innovations and interventions must respond. People derive value from the use of resources. The total amount of value gleaned from the enjoyment and deployment of resources depends on the specific ways those resources are accessed — how and when and by whom and in what combinations. Thus, the law must find ways (and has found ways) to structure access to resources. The challenge is to determine where resource access improvements can be cost-effectively pursued, whether through entitlement redesign or otherwise. The first step toward meeting this challenge is to construct a broad category of resource access costs that includes all of the costs associated with structuring access to resources.

Before turning to the components of this category, it is worth explaining why introducing a new label, resource access costs, is preferable to simply redefining the term transaction costs. One reason is simply to avoid confusion associated with a term that already has multiple, contested meanings. More importantly, though, constructing the resource access cost category is a way station toward a shift in approach from transaction cost *minimization* to resource access *improvements*. While it is possible to

speak in terms of transaction cost improvements, doing so is awkward, especially when some such improvements might involve *fewer* or *more costly* transactions. The change in terminology is consistent with a change in focus. Our problem is not a lack of transactions, but rather a larger set of impediments to optimal patterns of resource access in a world where resources must be consumed to create and maintain those patterns.

Section A below works through the components of the resource access cost category, while section B shows how building this broad and inclusive category causes us to ask different questions than does a focus on transaction costs. Fully answering those questions, however, requires the refinements in Part III that address the remaining problems of overinclusiveness and insufficiently specified subcategories.

A. Constructing the Category

The resource access costs category includes the costs of resisting transfers, the costs of completing transfers, and the costs associated with resources ending up in the wrong hands.⁹² Section 1 starts with this third element, the costs associated with thing-misallocation, which can result either when a resource stays in the hands of a lower-valuing user, or when a resource moves into the hands of a lower-valuing user. Significantly, shifts can occur through mechanisms other than markets — whether through giving, lending, sharing, stealing, adverse possession, eminent domain, or internal management decisions. Likewise, resources may be kept from moving not only by formal property rights, but also by norms, force, and so on. Sections 2 and 3 collectively take on the costs of completing and resisting transfers. Section 2 focuses on individual efforts to complete and resist transfers, while section 3 examines institutional arrangements directed at completing and resisting transfers.

1. *Thing-Misallocation.* — High-valuing users⁹³ can be separated from things in two basic ways: through transfers that occur, and through trans-

⁹² Getting resources into the hands of the higher valuer is a question of allocative efficiency. Questions of productive efficiency are also in play: we wish to produce transfers and transfer resistance at the lowest possible cost, but we should produce them only to the extent that they generate sufficient gains in allocative efficiency. Rather than separate out these types of efficiency and trace their interaction, it is more helpful to apply a Kaldor-Hicks standard to proposed alterations in resource access arrangements to test whether the social losses incurred in making or resisting transfers (or in reducing the costs of doing so) are outweighed by gains in access to resources by higher valuers. In other words, could the winners compensate the losers and come out ahead? My use of the term “efficiency” in the balance of the Article is directed toward this question.

⁹³ A high-valuing user might be understood as one who possesses human inputs that are complementary to the resource in question and that, when combined with it, will maximize the value that can be derived from that resource. This could be through simple consumption or through the act of combining multiple resources to which one has access; for example, I am the high valuer of the berry if my input of eating the berry or of mixing it into a pie will cause it to produce greater value than it would have in some alternative use. Significantly, the institutional structures that provide access to resources also must be designed to elicit the human inputs that will make that access valuable. See R.H. Coase,

fers that do not occur.⁹⁴ Of course, these are the same two ways that high-valuing users get (or keep) access to resources. Table 1 lays out the possibilities.

TABLE 1: KEEPS AND SHIFTS

	No Transfer Occurs	Transfer Occurs
Current Possessor Is the High Valuer	A [Good Keep]	C [Bad Shift]
Current Possessor Is the Low Valuer	B [Bad Keep]	D [Good Shift]

In the “No Transfer Occurs” column, we have two situations in which the current possessor remains in possession. In Cell A, this is a good thing;⁹⁵ the high valuer keeps the resource. Cell B contains the unhappy result in which the high valuer does not gain access to the resource. This may be due to strategic or emotional behavior in the bargaining process on the part of one or both parties (blocking by the owner or walking away by the would-be purchaser). Or it could instead be the result of parties’ failure to locate each other and work through the necessary coordinating steps to complete the transfer. Third parties, including governmental actors, might also block worthwhile transfers where they control a needed input (such as liquidity or a necessary permit). These blockades, too, could either be strategic or the product of failed coordination, or they might (as in the case of some governmental impediments) stem from other normative commitments.⁹⁶

The “Transfer Occurs” column contains completed transfers. Cell C represents transfers that go to a lower valuer, a bad thing. Such transfers

The Institutional Structure of Production, 82 AM. ECON. REV. 713, 718 (1992) (“It is obviously desirable that these rights should be assigned to those who can use them most productively and with incentives that lead them to do so . . .”).

⁹⁴ Under some property regimes, these problems become interwoven. For example, where resources are held in common, commoners can block each other from using resources, or may misappropriate resources that would be more valuable if left in place. A similar story can be told where resources are held not in common but in agency relationships: the agent may misappropriate resources of the principal or block the optimal use of the agent’s own human capital, via shirking.

⁹⁵ The terms “good” and “bad” in Table 1 are accurate only insofar as all other costs are held constant. As emphasized below, the normative desirability of these keeps and shifts depends not only on whether they give the high valuer access to the resource in question, but also on how much it costs to achieve this result.

⁹⁶ See Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1111–15 (1972) (discussing inalienability rules and their rationales).

may involve the misappropriation of a resource by a lower valuer or the foisting of an asset upon a lower valuer through a value-reducing exchange. Alternatively, a Cell C transfer may happen inadvertently, as when a resource is transferred to a lower valuer as a result of mistake on the part of one or both parties — a kind of fumble. Cell D reflects shifts to higher valuers.

It would be tempting, but wrong, to automatically associate Cells A and D with efficiency, and Cells B and C with inefficiency. Whether the transfers or nontransfers reflected in these cells are efficient or inefficient depends not only on whether they get or keep the resource in the hands of a high valuer, but also on the resources expended to produce that result. To put it another way, the resource under discussion in the chart (whether a chunk of land, a chattel, or a particular use right) is never the only resource in the story. We must also think about the other resources that must be expended to complete or stop each transfer. Thus, we should think of Cells A and D as containing goods that we must pay for in some manner. Likewise, Cells B and C contain bads that we must pay to avoid. Framing things in this way makes it clear that we as a society can make the mistake of purchasing too many Cell A retentions and too many Cell D transfers, and that we can also pay too much to avoid Cell B and C outcomes. The costs involved may be institutional in nature or may take the form of self-help or wrangling of various sorts, as the next section explains.

2. *Individual Transfer and Transfer Resistance Measures.* — Parties can engage in a wide variety of defensive and reactive moves in an effort to stop transfers or to carry them out. For example, an owner can protect her property by building fences, adding locks, or procuring watchdogs. A would-be invader can invest in ladders, lockpicks, and meaty bribes, spurring counterinvestments in higher fences, better locks, bribe-proof dogs, and so on. Similarly, a commoner might respond to another commoner's conflicting claim on a resource with violence or harsh looks, or might attempt to forestall such conflicting claims by, say, camping out by the berry patch with an automatic weapon at hand.

Defensive and reactive moves may produce suboptimal use of the primary resource under consideration, if the resource is destroyed or damaged in the fray or sits fallow during the dispute. But such moves also involve the suboptimal use of other resources — time and expenditures devoted to guarding, fighting, invading, and so on. Costly defenses and reactions may be undertaken not only by high valuers of the target resource, but also by low valuers who wish either to fend off thieves or to overcome the fending-off in order to act as thieves themselves. These sources of dissipation explain why theft is not governed by a liability rule that would enable a

higher valuer to simply take and pay.⁹⁷ The thief may be the higher valuer of the thing in question but, by circumventing the law's "transaction structure,"⁹⁸ she triggers wasteful deployments of other resources by the possessor. In Table 1's classification scheme, a move to a higher-valuing thief looks like a "good shift," but it is not normatively desirable (even from an efficiency perspective) because of the costs involved in bringing it about.⁹⁹

Another reactive move to an actual or threatened appropriation is a failure to invest optimally in productive uses of resources. Although there are complex theoretical and empirical questions about exactly what effect certain kinds of appropriations may have on investment levels, the potential skewing of human capital away from projects requiring resource inputs represents another resource misallocation, and one that keeps the possessor and others from enjoying the would-be products of investment.

The costs of defending and reacting to defenses can also explain why a commons featuring a fixed quantity of a given resource may generate tragedy, even though it would seem to present a zero-sum game that implicates only matters of distribution. In fact, there is always a linked resource-gathering commons that may be subject to tragedy, even if the underlying resource is not.¹⁰⁰ Likewise, we can extend our understanding of defensive and reactive dissipation to encompass a wide variety of moves that may be made within the context of actual and prospective market transactions to gain more surplus from a given transaction. Strategic holdout problems can emerge where monopoly power is present, and free riding may crop up when public goods are on offer.¹⁰¹ Even when private and relatively fungible goods are involved, consumers may still expend effort attempting to wring surplus from small increments of heterogeneity in identically priced items, as by picking through the apple bin.¹⁰²

3. *Institutional Arrangements for Completing and Resisting Transfers.*

— Although the discussion above abstracted away from institutional detail, societal arrangements for resource access can make it easier or harder for

⁹⁷ See, e.g., Richard L. Hasen & Richard H. McAdams, *The Surprisingly Complex Case Against Theft*, 17 INT'L REV. L. & ECON. 367, 371–74 (1997); Fred S. McChesney, *Boxed In: Economists and Benefits from Crime*, 13 INT'L REV. L. & ECON. 225, 227–28 (1993); Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies, and Theft*, 5 W. ECON. J. 224, 228–30 (1967).

⁹⁸ See Alvin K. Klevorick, *On the Economic Theory of Crime*, in CRIMINAL JUSTICE: NOMOS XXVII 289, 301–03 (J. Roland Pennock & John W. Chapman eds., 1985).

⁹⁹ Of course, many thefts are not "good shifts" even in this very limited sense, in that the thieves are not the higher valuers of the thing in question. More generally, the absence of a market test makes it impossible to know who is the higher valuer, unless the punishment for theft is calibrated in a way that effectively elicits this information.

¹⁰⁰ See Fennell, *supra* note 50, at 922–24.

¹⁰¹ See, e.g., Cohen, *supra* note 49.

¹⁰² See YORAM BARZEL, *ECONOMIC ANALYSIS OF PROPERTY RIGHTS* 103 (2d ed. 1997); Yoram Barzel, *Transaction Costs: Are They Just Costs?*, 141 J. INSTITUTIONAL & THEORETICAL ECON. 4, 7–10 (1985). Yoram Barzel observes that the seller is effectively "placing in the public domain his right over the differential between the more valuable units and the price charged." Barzel, *supra*, at 9.

parties to complete or resist transfers. It is intuitive to think of property as an institutional arrangement directed at resisting transfers, and markets as an institutional arrangement directed at completing transfers. But of course transfers can also occur within the envelope of property ownership; for example, internal governance can structure the movement of resources. Indeed, transaction cost analysis has examined in great depth when it is cheaper to manage resource access outside of markets and within the structure of a firm.¹⁰³

Analysis similar to that which has been applied to the question of firm organization can also be applied to more fundamental questions of property rights configuration. How permanent and exclusive should the pathways be that link users and resources? Who gets to sever relationships between resources and their users, or reroute resources to other users, and under what circumstances? When and how can packages of entitlements be split up and transferred separately, or aggregated together and moved as a unit? Considering these questions reveals that the law is involved not only in structuring access to resources, but also in structuring control over the institutional features that structure access to resources.¹⁰⁴ Here it becomes helpful to speak functionally about the core institutional elements in play.

Property rights operate to simultaneously grant and deny access to resources by identifying those who will enjoy a privileged relationship to a given resource.¹⁰⁵ Encoded into these entitlements are rules about how one's relationship with the entitlement may be altered or maintained over time. Following the distinction between exclusion and governance,¹⁰⁶ we can distinguish between institutional elements that do the work of providing resource access by walling others out, and those that do their work by giving individuals access to resources in more fine-grained ways.

Alienable property rights premised on boundary exclusion represent gated walls that keep the uninvited out while allowing insiders continual access to the resources within the walls.¹⁰⁷ Walls are not the only way to manage resource access, however. For example, a home's co-owner might have a prioritized relationship to a particular part of the house, even if she

¹⁰³ See sources cited *supra* note 18; see also Raghuram G. Rajan & Luigi Zingales, *Power in a Theory of the Firm*, 113 Q.J. ECON. 387 (1998) (examining how access, in the absence of property rights, can produce incentives for investment).

¹⁰⁴ Cf. Calabresi & Melamed, *supra* note 96, at 1090–93 (observing that a decision must be made about not only whom to entitle, but also about how to protect the entitlement).

¹⁰⁵ See ARNOLD M. FADEN, *ECONOMICS OF SPACE AND TIME* 215 (1977) (“The entire institution of private property may be construed as a system of selective barriers, denying access to all except those authorized by the owner of the property or those having special access rights . . .”).

¹⁰⁶ See generally Henry E. Smith, *Exclusion Versus Governance: Two Strategies for Delineating Property Rights*, 31 J. LEGAL STUD. S453 (2002).

¹⁰⁷ FADEN, *supra* note 105, at 215–16 (using the analogy of walls to discuss property); J.E. Penner, *The “Bundle of Rights” Picture of Property*, 43 UCLA L. REV. 711, 744 (1996) (characterizing property as a “gate” that, unlike a wall, permits “selective exclusion”).

cannot wall out her co-owners. Likewise, a commoner's right to draw berries from a common supply under a complex rotation scheme tethers those resources to her conceptually, even though she does not harbor them within a private walled garden. Property ownership often combines complex resource tethering within the walls with blunt exclusion of those outside.¹⁰⁸ Where multiple activities are being undertaken simultaneously on different scales, wall placement becomes an interesting and important problem.¹⁰⁹

Strong property rights protection is often conceptually paired with markets. It is standard to assume that in a low transaction cost world, property and markets are all we need. But property rights and markets themselves help to construct the transaction cost environment in which they will operate,¹¹⁰ and are themselves costly to construct and maintain.¹¹¹ Further, some resources resist walling, whether because it is infeasible to subdivide a given resource system, or because a resource system has external effects that cannot be brought fully within the scope of any one owner. Markets may also be ineffective conduits if the parties to a potential transfer fail to cooperate with each other, whether by strategically holding out for a better deal or attempting to free ride on transfers to others.

In addition to institutional arrangements for initiating and resisting the movement of entitlements, we have institutional mechanisms for aggregating and disaggregating sets of entitlements. First, consider aggregation mechanisms. The economic analysis of law has been faulted for paying insufficient attention to the design of property rights.¹¹² Getting the right elements together in one place (in anyone's hands) is as much a challenge for efficiency as getting particular entitlements into the right party's hands. If property is configured in a way that puts together complementary elements (like access to the land and the right to farm it), then transactions to put these elements together will be unnecessary; instead, the entire useful chunk can be transacted over at one time.¹¹³ In fact, property law tends to group together certain entitlements in ways that may be intentionally resistant to unbundling. An antifragementation rationale has been invoked to explain a variety of doctrines, including minimum lot sizes and the rule against perpetuities.¹¹⁴

¹⁰⁸ See Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 155 (1998) (describing "limited common property" as "commons on the inside, property on the outside").

¹⁰⁹ See Ellickson, *supra* note 19, at 1332 ("Decisions on where to set land boundaries are fiendishly complex because most tracts of land are suited to multiple uses for which scale efficiencies vary.").

¹¹⁰ See generally, e.g., Dari-Mattiacci, *supra* note 4.

¹¹¹ See Demsetz, *supra* note 19, at 350 ("[P]roperty rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization.").

¹¹² See, e.g., Thomas W. Merrill & Henry E. Smith, Essay, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357 (2001).

¹¹³ See Merrill & Smith, *supra* note 67, at S89.

¹¹⁴ See, e.g., Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163, 1173-82 (1999).

Just as property bundles may be suboptimally thin, they may also be suboptimally thick, encompassing elements that would be more valuable if held separately.¹¹⁵ Subdividing entitlements can create new property interests, as where an access easement is carved out of a fee simple estate, or rights to pollute are parceled out in particular ways. If optimal bundles of property are contingent on particular social, economic, and technological conditions, then bundling and unbundling will be necessary as time goes by, however well-calibrated the initial default bundles may have been.

Another question that property institutions address is when and why and how parties' access to resources ends and begins. An access change might occur voluntarily through gifts, markets, abandonment, or destruction, or through sharing, loaning, delegating, and so on. Parties may also hold the power to unilaterally sever ties between other people and the resources to which they are attached. Viewed broadly, much of property law can be understood as specifying who holds the power to end relationships between people and things, and over whose objections. Closely related is the question of splitting up the surplus associated with changes in resource access. If nobody has the unilateral power to divide the surplus definitively, each of two (or more) transacting parties holds an effective veto over the change in the resource's ownership, use, or configuration. Sometimes the law will step in and divide surplus itself, or designate who will be entitled to do so within the context of a given deal. The entire family of liability rules can be understood as specialized mechanisms for dividing surplus.

All of these institutional elements grapple, with varying degrees of success, with the core problems of unwanted transfers and nontransfers, and with the defensive and reactive moves that those problems prompt. And they introduce costs of their own, some of which are publicly borne, and some of which are privately borne.¹¹⁶ Recognizing that institutional features introduce as well as control costs is central to a taxonomic approach that captures all that is costly about completing and resisting resource transfers.¹¹⁷

B. A Revised Look at the Costs of Transacting

The analysis above emphasizes that transactions are only one way of facilitating access to resources, and that transactions themselves require resources that might better be devoted to some other purpose. The sections below suggest how attending to this point reframes efforts to reduce trans-

¹¹⁵ See Fennell, *supra* note 65, at 13–14 (explaining that property rights often comprise blocks of control that are suboptimally extensive).

¹¹⁶ For example, governments must incur costs to regulate markets and run police departments and courts, and private parties must incur costs to keep track of, change, or terminate ownership interests.

¹¹⁷ Cf. CALABRESI, *supra* note 35, at 26–31 (noting relevance of prevention costs and administrative costs as well as accident costs).

action costs.¹¹⁸ I retain the transaction cost terminology in this section to highlight the lens-widening work that the resource access costs approach brings to inquiries about transaction costs. This analysis prefigures (and underscores the need for) the subdivisions that I introduce in Part III, below.

1. *Transaction Cost Reductions as Products.* — Demsetz has usefully suggested that we view transactions as products like any other.¹¹⁹ It costs something to produce them, and their production should not be undertaken unless it generates benefits in excess of those costs. In other words, the resources that might be used to make a transaction might be better employed making something else, like a widget. For this reason, the mere existence of high transaction costs does not itself bespeak inefficiency, much less make out a case for legal intervention. It should, however, push us to ask two further questions: (1) under what conditions can the market be expected to undersupply (or oversupply) transactions? and (2) are other methods of accomplishing the ends of transactions (getting or keeping resources in the hands of a high-valuing user) being underprovided or overprovided relative to the cost savings they produce?

Both questions can be more easily approached by taking Demsetz's point one step further and viewing transaction cost *reductions* as products that the law can purchase, whether by reducing the cost of inputs, increasing the internalized benefits of transactions, or making the need for the transaction moot through the use of a substitute. Whether it is worth purchasing those reductions depends on what they cost and what they do for us in terms of improving resource access.

An initial question is what we mean by transaction cost reductions. We might mean that individual transactions are *subsidized* so that their private cost falls even though their social cost remains unchanged. Or we might instead mean that individual transactions are *streamlined* in real terms, as through a legal rule that removes a procedural requirement, or some form of standardization that makes transacting easier. Or we might mean that entire classes of potential transaction costs are *sidestepped* because transactions are no longer necessary to bring actors together with (or keep them together with) the resources for which they are the high valuers. Each of these approaches will have its own sets of costs.

2. *Subsidizing.* — A naïve response to the reality that transaction costs can separate high valuers from resources might be to simply subsidize

¹¹⁸ My use of the term transaction costs in this section is limited to costs of transacting in the marketplace. Some of the more expansive definitions of the term discussed above would be consistent with the analysis here, which goes primarily to the problem of underinclusiveness. But the questions that this analysis pushes us to ask can only be successfully answered through further refinements and sub-categorizations that address the problems of overinclusiveness and insufficient specification that are hinted at here.

¹¹⁹ DEMSETZ, *supra* note 7, at 109–10.

transactions. Suppose that after misreading Coase, the government decided to start a “transaction cost counterpunch” initiative in which individuals could get their transaction costs rebated from a central fund. Citizens would be invited to turn in records on the time and money spent transacting, in the same way workers turn in receipts to an employer for reimbursement. Even assuming the scheme could be perfectly enforced and all efforts at fraud deterred, this would not be a good idea. Just as reimbursing for transportation costs would lead people to overuse transportation inputs to the exclusion of cheaper alternatives, reimbursing for transactions would lead to too many, and too costly, transactions. High valuers might be united with “things” more frequently as a result, but the subsidized transactions themselves would pull resources away from higher-valued uses at an even greater rate, generating net losses. Getting rid of private, realized transaction costs would be a recipe for inefficiency, not efficiency.

If an across-the-board transaction subsidy scheme seems suspect, what about a more tailored approach that subsidizes certain kinds of transactions? We might start by asking whether there is any reason to think that the transactions in question are being underproduced by the private market. This might be the case where transactions generate significant positive externalities.¹²⁰ A subsidy in such a context would be a standard Pigouvian move. A recent example is found in the idea of “agglomeration bonuses” offered to owners of adjacent land parcels who agree to retire contiguous lands.¹²¹ In this case, the sweetener for private agreement is added onto an existing subsidy scheme in recognition of the larger public benefits accruing from contiguous rather than scattered habitat. Put another way, the system returns some assembly surplus to the parties who are relinquishing certain rights in their properties. The same problems that support the buy-outs in the first place (the inability of the general public to transact easily

¹²⁰ Transactions might also be underproduced if the government is already taxing or otherwise burdening them. In such an instance, the subsidy might address the artificial suppression of demand and restore matters to the pre-burden baseline. An obvious question is why it would ever be more cost-effective to counteract the initial burden than to eliminate it. This might be the case if the burdens on the transaction came in the form of incentives for appropriate action within the context of the transaction. For example, Nuno Garoupa and Chris Sanchirico point out that certain ways of structuring legal rules can act as transaction taxes by reducing joint surplus. See Nuno Garoupa & Chris William Sanchirico, *Decoupling as Transactions Tax*, 39 J. LEGAL STUD. 469, 469–72 (2010). An invariant inducement to enter into such a transaction could counter the distortive effects of the incentive scheme without undoing the scheme itself. *But see id.* at 486–87 (noting problems with this approach).

¹²¹ See Gregory M. Parkhurst et al., *Agglomeration Bonus: An Incentive Mechanism to Reunite Fragmented Habitat for Biodiversity Conservation*, 41 ECOLOGICAL ECON. 305, 307 (2002); see also Todd G. Olson et al., *The Habitat Transaction Method: A Proposal for Creating Tradable Credits in Endangered Species Habitat*, in BUILDING ECONOMIC INCENTIVES INTO THE ENDANGERED SPECIES ACT 27, 28–30 (Hank Fischer & Wendy Hudson eds., 1994) (describing and depicting the “habitat transaction method,” which adjusts the value assigned to a given “habitat patch” based on its degree of contiguity and configuration); Jonathan Remy Nash, *Trading Species: A New Direction for Habitat Trading Programs*, 32 COLUM. J. ENVTL. L. 1, 20–29 (2007) (discussing and critiquing the habitat transaction method and variations on it).

with the landowners) also support a change in the subsidy scheme that better calibrates the benefits accruing to the public.

Another place where the external benefits of transactions might play a role is in the context of transactions for which a counterparty is not yet identifiable.¹²² As I have discussed elsewhere,¹²³ there may be settings in which the law can play a role in matching temporally offset buyers and sellers. Suppose some landowners are willing to cede their rights to grow trees or build additions in ways that would block their neighbors' solar panels, but the neighbors with solar panels have not yet arrived (and may not do so, in the presence of uncertainty about the potential for blockages). The government could play a role in buying up options on the blocking rights which could later be conveyed to in-movers. The apparatus to carry out this operation would be costly, but it would in part be covering costs that a counterparty would cover were she present to do so.

In cases like these, a transaction that would operate to internalize externalities may be underproduced because not all of the parties benefited by the transaction can or will contribute to the costs of completing the transaction. The existence of externalities surrounding transactions does not provide definitive guidance, however. We must ask a further question, following Demsetz: whether the transactions necessary to internalize the externality in question are themselves subject to private underproduction. Underproduction of such internalizing transactions cannot be inferred from the mere persistence of an externality, since externalities cost something to internalize and may not be worth internalizing in a given instance.

This point becomes clear when we recognize that private owners may choose to leave goods in the commons. Demsetz gives the example of a parking lot adjacent to a shopping area.¹²⁴ It would be possible to propertize the parking spots and charge a fee for their use; indeed, this happens all the time in urban areas. This approach requires fewer parking spaces (because people overconsume a zero-priced commodity) and thus lower costs to create parking lots. But it would also mean higher transaction costs because people have to pay each time they park. As Demsetz explains, “[W]hile we have reduced the resources committed to constructing parking spaces, we have increased resources devoted to market exchange. We may end up by allocating more resources to the provision and control of parking than had we allowed free parking because of the resources needed to conduct transactions.”¹²⁵ In short, creating and enforcing short-term property interests in the individual spaces may not be worth

¹²² I thank Ariel Porat for discussions on this point.

¹²³ See Fennell, *supra* note 65, at 24–27.

¹²⁴ Harold Demsetz, *The Exchange and Enforcement of Property Rights*, 7 J.L. & ECON. 11, 14–15 (1964).

¹²⁵ *Id.* at 14.

it.¹²⁶ In a case like this one, the inputs into the foregone transactions (an entry control gate, a gatekeeper, and so on) are readily available through competitive markets, and the costs of these inputs could be directly imposed on those who would benefit from the arrangement. Transactions are not being produced in this example because it is not efficient to produce them. They are not being inefficiently *undersupplied*. The same point holds when we move outside the property envelope of a single owner.¹²⁷

Even if we feel quite certain that a given kind of transaction is being underproduced, a subsidy may not be helpful. We need to know *why* it is being underproduced. A subsidy might work quite well to ease interactions between willing buyers and sellers (paying them for the time it takes to meet, for instance), but not at all well to address their desire to extract disproportionate surplus from a deal. As Cooter has noted, reducing certain kinds of transaction costs can actually have a pernicious effect where strategic holdout behavior is at issue.¹²⁸ The cheaper it is to transact, the lower the opportunity cost of wrangling over surplus, and hence the more of it we are likely to see.

3. *Streamlining*. — If subsidies seem like an often unhelpful approach to the problem of high transaction costs, we might turn our attention to more broad-based measures and expenditures that make market coordination less expensive. Consider government investments in transportation and communication infrastructure, the public education system, the legal system, and the currency system. Property rights comprise an especially interesting and important category of such transaction cost lowering technologies. By creating a tradable commodity — a property entitlement — the cost of coordinating over a transaction is diminished. Within the broad category of property rights lie a number of specific “transactability features,” from land registries to standardization protocols to antifragmentation doctrines. All of these things help reduce coordination costs.

In each instance, we would want to make sure that the returns to these investments are worth the cost — that is, capable of facilitating transactions that will generate more surplus than was expended in the process. We do have reason to suspect that the private market would undersupply many of the things that globally reduce transaction costs, to the extent those things take the form of public goods or goods with large network ef-

¹²⁶ Of course, this calculus would have to be rethought if technology, demand, or other factors were to change in ways that made metering the parking less costly. See Eirik G. Furubotn & Svetozar Pejovich, *Property Rights and Economic Theory: A Survey of Recent Literature*, 10 J. ECON. LITERATURE 1137, 1145 (1972) (observing that parking meters would reduce the costs of transacting over rights to individual parking spaces).

¹²⁷ See, e.g., Jonathan Remy Nash, *Economic Efficiency Versus Public Choice: The Case of Property Rights in Road Traffic Management*, 49 B.C. L. REV. 673, 703 n.200 (2008) (noting potential difficulties and costs associated with using “tradable roadway access permits”).

¹²⁸ See Cooter, *supra* note 41, at 28 (“In fact, it is cheaper to engage in strategic behavior when communication is inexpensive.”).

fects or spillovers. But streamlining costs something, and the fact that the charges are dispersed across the population should, if anything, make us more vigilant in comparing what we are getting with what we are giving up.¹²⁹

Not all streamlining takes the form of advances in infrastructure or institutions. It might instead involve simply rolling back the formal requirements associated with transactions. Coase mentions one example: easing the requirements for completing a contract.¹³⁰ For example, land transactions would be cheaper to accomplish were it not for the Statute of Frauds, which requires certain formalities, including the use of a written document. Likewise, various consumer transactions could be completed more quickly if merchants did not have to comply with disclosure requirements, offer “cool down” periods, and so on.¹³¹

Coase rightly questions whether a given change in the contractual rule is worth it, when considered across the full run of cases to which it would apply.¹³² These formalities add to the costs of transactions, but are also thought to produce benefits.¹³³ Many of these formalities are meant to keep consumers from unwittingly engaging in inefficient transactions — ones that leave them worse off — or to keep fraudsters from accessing resources outside of voluntary channels of trade. Against transaction cost savings, then, we must weigh the losses from value-reducing trades or misappropriations as well as associated forms of defensive, reactive, and institutional dissipation. Put another way, we cannot analyze the effects on the costs of transfers without considering the effects on transfer resistance costs.

4. *Sidestepping.* — Neither streamlining nor subsidies get rid of market transactions; they simply make market mechanisms less expensive for willing participants to use. Such approaches are not designed to deal with strategic behavior that can impede bargains. A great deal of legal attention

¹²⁹ An insight of public choice theory is that scattered impacts may elicit a muted political response relative to those concentrated on a small, cohesive group. See, e.g., DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE* 12–37 (1991) (discussing the role of interest groups in the political process). As Benito Arruñada has observed in the context of registries, to avoid inefficiency, “[R]eformers have to be attentive to signals indicating whether demand really exists for a new institutional development.” BENITO ARRUÑADA, *INSTITUTIONAL FOUNDATIONS OF IMPERSONAL EXCHANGE* 7 (2012).

¹³⁰ COASE, *supra* note 44, at 25–26.

¹³¹ Merchants may themselves intentionally increase the transaction costs that some or all of their potential customers face, whether to screen out some customers, price discriminate among customers, or for other reasons. See generally David Gilo & Ariel Porat, *The Hidden Roles of Boilerplate and Standard-Form Contracts: Strategic Imposition of Transaction Costs, Segmentation of Consumers, and Anticompetitive Effects*, 104 MICH. L. REV. 983 (2006).

¹³² See COASE, *supra* note 44, at 25–26.

¹³³ See *id.*; see also Driesen & Ghosh, *supra* note 25, at 87 (“Transaction costs slow down the process of transacting and provide a means for parties and the market system to sort out the good transactions from the bad.”).

has focused on ways to bypass transactions altogether, primarily through liability rules. Liability rules permit transfers to occur on the unilateral initiative of one party upon payment of a stipulated amount to another party.¹³⁴ These “substitutes for transactions”¹³⁵ avoid struggles over surplus by setting a price. But, like every other approach to structuring resource access, liability rules have costs of their own.

One set of concerns has been strongly associated with liability rules in the existing literature: the possibility that they will undercompensate, and the associated risk that they will transfer resources to low valuers and thereby discourage *ex ante* investments. These possibilities represent costly resource misallocations. But there are other costs associated with liability rules, ones that apply even when they achieve their goal of moving resources to a higher valuer. In addition to the cost of setting up and running the liability rule regime, defensive and reactive dissipation may occur as parties attempt to protect their property against unilateral, undercompensated appropriation (or, alternatively, attract overcompensated appropriation) through rent-seeking or otherwise.

Liability rules are not the only substitutes for transactions. In addition to outright theft, there are a variety of legally approved transfers without compensation, such as adverse possession, prescription, and regulations that fall short of compensable takings. Here too we see how avoiding transactions introduces other costs (defensive and reactive moves following invasion or the threat of invasion).¹³⁶ To the risk of value-reducing transfers (bad shifts) we must add costs that apply regardless of whether the transfer goes to a lower- or higher-valuing user. An especially interesting set of such costs is political in nature and relates to literatures on transition relief,¹³⁷ as well as to Frank Michelman’s notion of “demoralization costs.”¹³⁸

All of these costs become implicated in entitlement design choices. For example, property regimes that grant owners a robust veto power across a wide range of dimensions allow owners to choose from an expansive slate of possible activities without having to transact with anyone

¹³⁴ See Calabresi & Melamed, *supra* note 96, at 1092, 1105–06.

¹³⁵ Calabresi, *supra* note 35, at 69. Liability rules do not produce true transactions because they do not involve the voluntary participation of two or more parties, but instead allow one party to override the veto power of the other.

¹³⁶ These costs include defensive moves that are the product of errors, or that represent overreactions. See, e.g., *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 156–57 (Wis. 1997) (homeowners refused to allow parties delivering a mobile home to cross their land to avoid dangerous conditions on an alternate route, based on an earlier experience of losing land to adverse possession).

¹³⁷ See, e.g., Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 517–19 (1986); Jonathan S. Masur & Jonathan Remy Nash, *The Institutional Dynamics of Transition Relief*, 85 N.Y.U. L. REV. 391 (2010).

¹³⁸ Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law*, 80 HARV. L. REV. 1165, 1214–18 (1967).

first.¹³⁹ But that same breadth of choice, which constrains the options left open to others, may lead to more conflicts than would a more restricted set of ownership vetoes. In the absence of any incentive or mechanism for owners to head off future trouble,¹⁴⁰ the ensuing clashes may well require coercive governmental intervention. Against the claimed benefits of such large and blocky sets of rights, then, we must balance the potentially greater need for coercive interventions to address the problems that such rights create. And we must also add the political fallout from that coercion, as well as any costs that are incurred to reduce that fallout to acceptable levels.

There are at least two other ways to sidestep transactions. One is for the law to simply assign resources to their high valuers, through court judgments or otherwise.¹⁴¹ The other is to create organizational structures that eliminate the need for transactions with outsiders. Both of these possibilities have been extensively addressed in the existing transaction cost literature. I will make just two points here to connect these possibilities to the resource access costs perspective.

First, property law plays an often unsung role in assigning resources to parties who are likely to be high valuers. One way it does so is by creating durable sets of rights that extend forward indefinitely in time and run against all outsiders. Were it not for these features, a possessor could maintain possession moment to moment only by constantly paying everyone else to stay away or by engaging in more costly transaction substitutes, like violence or guarding. We can thus see embedded in the durable structure of property a rebuttable presumption that possession today is complementary to possession tomorrow, and that if the current possessor is the high valuer today, she is most likely to be the high valuer tomorrow, and tomorrow, and tomorrow.¹⁴² Following this Article's analysis, however, the durability of property rights should not be taken as a given simply because it eliminates the need for certain kinds of transactions; its overall impact on systems for providing access to resources must be assessed.

¹³⁹ See generally Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719 (2004).

¹⁴⁰ I have elsewhere offered a proposal along these lines, whereby owners could receive payments for alienating options on certain aspects of their property holdings, thus effectively downgrading certain aspects of their bundles to liability rule protection. See Fennell, *supra* note 65, at 22–52.

¹⁴¹ This point connects to the one above about political costs, to the extent that the assignment disrupts expectations about entitlements.

¹⁴² This presumption relates to property's trait of "persistence." See Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1711–12 (2012). There are instances where the opposite presumption of non-persistence applies (think of vacation campsites, public restroom stalls, or seats on a thrill ride). In these cases, it is assumed that value is maximized by rotating possession rather than leaving it perpetually with one person — but these are thinner slices of possession than many people would identify with property rights.

Durability reduces societal flexibility, and it does so in a way that may not be appropriately priced.¹⁴³

The second point is that choices about organizational structure or, analogously, the size and scope of property holdings, may not incorporate full social costs and benefits. This is because there is a discontinuity in responsibility that occurs at the property line, with governance inside largely falling on private parties and governance outside largely falling on public entities. Parties can sidestep transactions by expanding their holdings, but doing so means giving up some in-kind subsidies, especially with respect to transfer resistance. The result may be unwitting legal encouragement of particular organizational forms or spatial configurations, at least in the absence of countermeasures. This point has received much less attention from legal scholars than has the potential for the fragmentation of entitlements to impede later reaggregation.¹⁴⁴

III. TOWARD RESOURCE ACCESS IMPROVEMENTS

The umbrella category of “resource access costs” offers a starting point for a new analytic approach. It addresses the problem of under-inclusiveness associated with transaction costs by taking into account all of the costs of transferring resources and of keeping them where they are, as well as the losses that are sustained when either set of costs becomes too large to bear. It also provides a new perspective on where transaction costs, and transaction cost reductions, fit into the overall mission of improving access to resources.

Constructing this category is only a first step, however. On its own, the category is too all-encompassing to helpfully inform entitlement design or decisions about legal interventions. For the same reason, it is not sufficient to simply expand the definition of transaction costs to encompass every element that grants, withholds, or regulates access to resources. Recognizing that all ways of structuring access to resources implicate costs is necessary to avoid an unduly narrow focus, but applying a cost-minimization function to all of civil society is not a tractable task.¹⁴⁵ Legal scholars interested in entitlement design enter the property story in *medias res*, confronted with institutional structures designed to solve resource

¹⁴³ See, e.g., T. Nicolaus Tideman, *Integrating Land-Value Taxation with the Internalization of Spatial Externalities*, 66 *LAND ECON.* 341, 347 (1990) (observing that landowners withdraw flexibility from a social fund, and proposing a tax on the right to remain as a possible solution).

¹⁴⁴ See, e.g., Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 *HARV. L. REV.* 621 (1998).

¹⁴⁵ This analysis highlights a baseline issue that lurks in transaction cost analysis. The Coasean baseline is, implicitly, a “perfect” resource allocation in which all things are held by their highest valuers. Transaction costs disrupt this pristine world. Broadening our focus to all resource access costs does not on its own alter this baseline, though it does make clearer its artificiality: we now must conceptualize a baseline world in which no property or other institutional elements exist, but in which all resources are nonetheless held by their highest valuers.

access problems and a stack of unresolved impediments to optimal resource allocation.¹⁴⁶ It is necessary to identify with precision the resource access improvements that particular changes or interventions can buy us, and trace the costs of these moves, including their impacts on already-addressed collective action problems.

This Part makes a start on that project. Doing so requires addressing two remaining problems in constructing a useful set of concepts for addressing resource access problems: overinclusiveness and insufficiently specified subcategories. Section A focuses on the second problem by drawing a distinction crucial to entitlement design: the degree to which the resource access costs in question stem from efforts to wrest something (including surplus) from another party, rather than efforts to coordinate with another party in the transfer or nontransfer of an entitlement.¹⁴⁷ Section B addresses overinclusiveness by differentiating costs that are the product of market forces and broad-based societal institutions from those that are the product of unsolved collective action problems. This distinction helps isolate resource access costs that are relevant to overall efficiency — the only resource access costs for which targeted legal interventions may be appropriate.¹⁴⁸

A. Conflict and Coordination Costs

As the earlier discussion emphasized, the owner (or current possessor) of a resource may or may not be the high valuer. When a nonowner comes along, the two parties may or may not agree with each other on whether a transfer should occur, or they may agree on the fact of the transfer but disagree on the price. In competitive markets where prices are nonnegotiable, it is entirely possible for both parties to be in full agreement on transacting at a given price; their only problem lies in coordinat-

¹⁴⁶ The point at which entitlement designers enter the story depends on prevailing social and legal conditions. In some instances, broad-based measures to solve large societal problems must precede the sort of fine-grained tinkering that might be contemplated in relatively affluent societies with well-developed property rights, education systems, and so on. I thank Deborah Weiss for comments on this point. Scholars have explored related points. See, e.g., ARRUNADA, *supra* note 129, at 118–22 (discussing, in the context of registries, how reforms interact with existing legal orders and how they might be sequenced); Langlois, *supra* note 14, at 1400–05 (examining how institutional and technological change over time alters the mix of transaction costs and the prospects for addressing them).

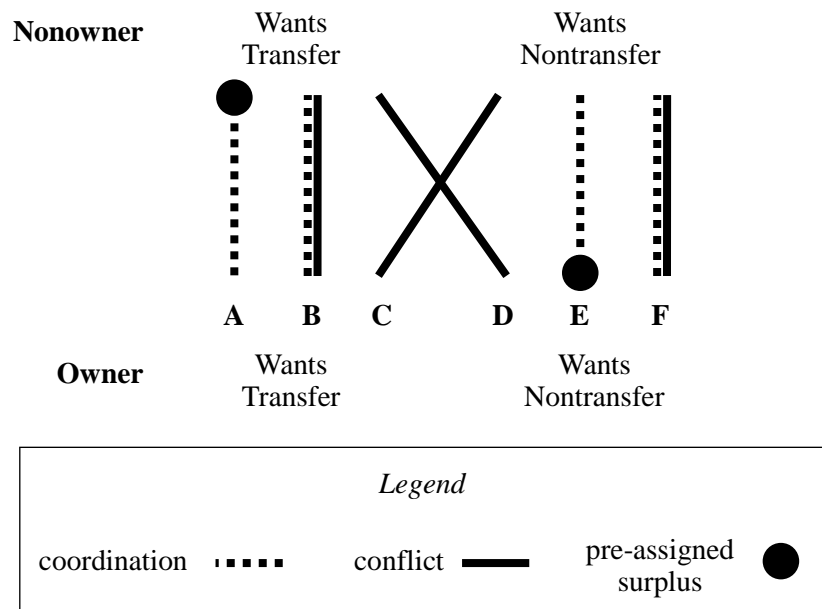
¹⁴⁷ The distinction between conflict and coordination can be seen in game-theoretic formulations. See, e.g., Richard H. McAdams, *Beyond the Prisoners' Dilemma: Coordination, Game Theory, and Law*, 82 S. CAL. L. REV. 209, 230–35 (2009) (emphasizing the significance of coordination games in modeling legal problems); see also Robert Ahdieh, *Beyond Individualism in Law and Economics*, 91 B.U. L. REV. 43, 62–65 (2011) (observing how conflict enters into coordination games).

¹⁴⁸ The idea that resource access costs may be either relevant or irrelevant to efficiency follows from the distinction drawn between Pareto-relevant and -irrelevant externalities in James M. Buchanan & Wm. Craig Stubblebine, *Externality*, 29 ECONOMICA (n.s.) 371, 373–81 (1962). See also Dahlman, *supra* note 28, at 145, 150, 152–53 (discussing the idea that transaction costs do not generate Pareto-relevant externalities); section III.B.2, *infra* TAN 169–178 (examining how the relevance of resource access costs to efficiency might be assessed).

ing the transaction. In many other cases, the absence of established prices means that parties who both desire a transfer (or nontransfer) may nonetheless disagree about how the surplus from that event should be divided.

Thus, sometimes interactions over resources involve only coordination, sometimes they involve only conflict, and in most cases of interest to legal scholars they involve both. Entitlement design must, therefore, grapple with both types of resource access costs. Carol Rose made just this point in distinguishing Type I and Type II transaction costs, where the former represent what I here call coordination costs, and the latter represent conflict costs.¹⁴⁹ I extend her typology to include not only the costs involved in moving entitlements, but also the costs of keeping them in place. Figure 1 lays out the possibilities.

FIGURE 1: CONFLICT AND COORDINATION



The lettered lines in Figure 1 represent six possible combinations of interactions between nonowners and owners over resources. Line A represents the desired (by both parties) transfer of a good at a competitive market

¹⁴⁹ See Rose, *supra* note 14, at 2184–88; see also Langlois, *supra* note 14, at 1390 (drawing a parallel distinction between “transaction costs as frictions” and the problems that arise from opportunism).

price. This price preassigns surplus to the consumer, as indicated by the black circle, and therefore involves no haggling, only coordination. Line B obtains when there is no competitively determined market price but both parties desire a transfer. The situation mixes together conflict and coordination — coordination over the fact of the transfer, but conflict over the division of the surplus. Line C involves an owner who wishes to force a transfer upon an unwilling nonowner, while Line D involves a nonowner who wishes to force a transfer to herself from an unwilling owner; both situations involve conflict.

Sometimes owners and nonowners agree that no transfer should take place. Line E presents the common situation in which neither party desires a transfer and both parties converge on the convention that this nonevent should happen in a way that leaves all surplus with the owner. Here, they need only coordinate. For example, most people who park their cars in a parking lot or put their coats in a cloakroom hope to leave with (and only with) the item they already own. Line F represents the situation in which both parties desire a nontransfer but conflict over how to divide the surplus from this nonevent. Nonowners' attempts to extract surplus for a nontransfer (by, say, taking a person or chattel hostage and demanding a ransom) tend to be criminally punished, and hence situations of the Line F type are highly unusual. Where they occur, however, both conflict (over surplus division) and coordination (over how to accomplish the nontransfer) may be involved.¹⁵⁰

Much of the confusion surrounding transaction costs goes to whether the term refers just to the costs of using markets to facilitate trade between willing buyers and sellers at set prices — that is, the coordination costs incurred by parties whose interactions track Line A. As Figure 1 suggests, this is only one possible type of interaction, and it does not describe many of the contexts that are most interesting to legal scholars.

In contexts where set prices are not found and the parties must decide on their own how to divide the surplus (Line B in Figure 1), both conflict and coordination costs are usually strongly implicated. For example, if I want to buy a car from you,¹⁵¹ we must find each other, decide when and where to meet, incur the costs of getting there, and bear the costs of the necessary paperwork to complete the transaction (I must write a check, you must sign over the title). These are all coordination costs. Before the

¹⁵⁰ Note that this situation is quite different from one in which a party already owns a particular right (such as to make noise, locate a stable, or exclude a crane from the airspace) and attempts to obtain a large amount of surplus from its transfer; this scenario fits easily into situation B in Figure 1. See generally Larissa Katz, *Spite and Extortion: A Jurisprudential Principle of Abuse of Property Right*, YALE L.J. (forthcoming 2013), available at <http://ssrn.com/abstract=1417955>; Kelly, *supra* note 48.

¹⁵¹ Cooter also uses a car-buying example to distinguish what he terms “transaction costs” from strategic behavior. See Cooter, *supra* note 41, at 17.

transfer can take place, I must also gather quite a bit of information about the car and the price you are willing to accept. Otherwise, I cannot be certain that the trade is advantageous to me. Likewise, in order to be sure that the trade will be advantageous to you, you must gather information from me about the price I am willing to pay.

This information gathering still involves coordination between us because of our common interest in completing a worthwhile deal, but the specter of conflict is beginning to loom. The deal, if it is worth doing, will produce at least some surplus. That fact raises the question of how the surplus will be divided, and here our interests conflict.¹⁵² We may strategically misrepresent our reservation prices in an effort to gain more of the available surplus. If your car is unique and my desire for it is unquenchable, and if I am the only buyer within range and your need for cash is pressing, we may find ourselves locked in a bilateral monopoly situation. We incur conflict costs as we wrangle over how low or high each of us will go.

There are other conflict costs in this story as well. I will worry that you are misrepresenting some of the attributes of the car in an effort either to gain more of the surplus or to generate a transfer in your own favor under circumstances that will leave me worse off. Whether or not you are actually engaging in misrepresentations or covering over the car's defects, I will likely incur defensive costs in trying to verify its attributes, as by running a Carfax check on it, or taking it to a mechanic of my own before buying it. You may react to my defensive moves by expending greater resources to fool me (and Carfax, and my mechanic). Conversely, you will worry that when I take the car for a test drive I will simply make off with it. You will incur defensive costs in trying to determine if I am a good type before handing over the keys. You might require me to show you my driver's license and perhaps hand over the keys to my own car as a "hostage." If I am in fact bent on making off with the car, I might incur costs to thwart your defensive moves, causing you to be even more cautious.

A close look at how conflict can infect the transaction process reveals that even some of the costs that were earlier identified as "coordination costs" occur in the shadow of conflict and are shaped by the potential for conflict.¹⁵³ For example, we may incur extra costs (in waiting or transportation) to meet in broad daylight in a public place rather than in the nearest dark alleyway at night — and these costs would be unnecessary if we fully trusted each other. Similarly, you might demand a cashier's check from me rather than a personal check if you are not sure I am good for the purchase price, causing me to make an extra trip to the bank. More funda-

¹⁵² See *id.*

¹⁵³ To put the point a little differently, conflict costs must be controlled in certain ways before the prospect of cooperation even becomes possible. Thus, the property rights literature emphasizes the role of secure rights in facilitating trade.

mentally, the signing over of title is necessary only in a world where disputes might arise over who is to be granted access to the resource.

A similar blending of coordination costs and conflict costs can be found in many other situations. Consider the familiar polluting factory that creates misery for nearby residents far in excess of the value that the factory creates. When high transaction costs are cited as a reason why an inefficient outcome could persist, legal scholars mean more than just that it is logistically difficult for the residents to communicate with each other and coordinate a buyout, although they do mean that. The transaction cannot occur without resolving conflicts that arise among the residents over who should contribute and in what amounts (free-rider problems) and conflicts between the factory and the residents as a whole over the division of surplus.

Despite the fact that conflict costs and coordination costs are often blended, it is useful to distinguish them conceptually. In some settings, either conflict or coordination costs dominate while the other category of costs is absent or trivial. Notably, conflict costs do not produce much difficulty when a transaction is conducted in a competitive market backed by strong protections against force and fraud. Haggling is entirely absent because the surplus division is fixed in advance; the price is set at marginal cost. Transactions are costly (at the margin) in this context only if the cost of coordinating is high relative to the available surplus. Very often this is the case. For example, I buy fewer pairs of shoes than I would if transacting over them were costless. The shoe market is highly competitive, and I have no fear of shoe fraudsters. It is just a hassle to bother with shopping for them. I am not acting inefficiently when I forgo a purchase that I would have made were it costless.¹⁵⁴ This is Demsetz's point.

In other contexts, conflict costs dominate and coordination costs are trivial. For example, suppose I plan to build a high privacy fence and my next-door neighbor would rather I did not. Assume the law is clear on my right to build, but my neighbor will lose more than I will gain if I go through with it. In theory, he could pay me some amount not to build. We would have no trouble finding each other, communicating with each other, or traveling to transact with each other; we already live next door, and no third parties (let us assume) are affected. If we cannot come to terms, it is because one or both of us wants more surplus (pecuniary or nonpecuniary) from the transaction than the other is willing to cede.

Conflict costs and coordination costs also come into play in various mixtures where resource access is structured without the use of market transactions. Conflict costs, including defensive and reactive behavior, are incurred whenever parties resort to force or fraud to allocate resources to

¹⁵⁴ Here, I set aside the (likely) possibility that my failure to do more shoe shopping inflicts harm on others.

themselves outside of approved channels. Similarly, conflict costs are incurred when parties shirk or overappropriate in a commons, or react to such actions in kind or through other defensive or reactive moves. Organizational structures that give a single owner authority over a range of uses and decisions may avoid the need for transactions, but will typically also produce conflict costs when agents try for larger shares of surplus and principals respond to those attempts. Coordination costs will be incurred in many of these nonmarket settings as well. Even the most faithful agent must be directed, and this takes time and effort. Likewise, even commoners who have no thought of taking advantage of each other must spend time and energy devising a workable system for sharing access to resources.

Finally, coordination costs dominate in most cases when both parties desire a *nontransfer*, as shown in Line E. This is a ubiquitous state of affairs. Most people, most of the time, have no desire to take resources from each other by encroaching on property rights. Yet, as Henry Smith and Thomas Merrill argue, steering clear of property violations (inadvertent transfers) requires that both owners and nonowners use information.¹⁵⁵ The way in which property rights are configured and protected will affect the content and legibility of that information, and hence will impact the costs of coordination that the parties incur in avoiding unwanted transfers.¹⁵⁶

Property design choices can be used to influence both conflict and coordination costs. However, features that have a salutary effect on some subset of these costs may have either no impact or a countervailing impact on other costs. The question that entitlement designers must confront is whether a given feature saves more in net conflict or coordination costs, and in the associated improvements in resource access, than it costs. Table 2 presents again the situations we saw in Figure 1, along with the design features that would be conducive to overcoming the conflict and coordination costs they present.

¹⁵⁵ See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 26 (2000).

¹⁵⁶ Merrill and Smith make this point when discussing the role of the numerus clausus in controlling information costs. See *id.* at 26–28; see also Peter J. Menell and Michael S. Meurer, *Notice Failure and Notice Externalities*, 5 J. LEGAL ANALYSIS (forthcoming 2013), available at <http://ssrn.com/abstract=1973171> (discussing the need for effective notice in both tangible and intangible property contexts to enable parties to avoid infringing others' rights).

TABLE 2: CONFLICT, COORDINATION,
AND DESIGN FEATURES

Line from Fig. 1	Owner Wants Transfer?	Nonowner Wants Transfer?	Role for Surplus Division?	Conflict or Coordination?	Design Features
A	Yes	Yes	No	Coordination	Transactability
B	Yes	Yes	Yes	Both	Surplus-Dividing
C	Yes	No	N/A	Conflict	Veto Power
D	No	Yes	N/A	Conflict	Veto Power
E	No	No	No	Coordination	Legibility
F	No	No	Yes	Both	Veto Power

Much of the disagreement about entitlement design comes down to a debate between those who focus on Line A, where transactability features are key, and those who focus on Line B, where surplus-dividing features play a primary role.¹⁵⁷ Each group claims to be talking about reducing transaction costs, but they are talking about different things — different facets of the overall enterprise of minimizing resource access costs. While scholars concerned with coordination costs have emphasized the importance of transactability features, scholars concerned with conflict costs have emphasized mechanisms (notably liability rules) that control struggles over surplus. Recognizing that these two very different strategies address different sets of problems is an important prerequisite to examining the tradeoffs involved in designing property rights.¹⁵⁸

¹⁵⁷ It is true that the coordination element in Line B could also make transactability features relevant, but there are two complications that make this proposition uncertain. First, surplus-dividing features often take the form of transaction substitutes, like liability rules, that render some or all of the transactability features moot. Second, easier transactability may actually exacerbate the problems associated with strategic behavior. See Cooter, *supra* note 41, at 28. Thus, it is not clear that a well-defined and highly transactable property package will actually produce more efficient results than a more cumbersome one, where the real impediment is strategic behavior.

¹⁵⁸ See Rose, *supra* note 14, at 2184–88.

As Table 2 illustrates and as this Article emphasizes, we must be concerned not only with market transactions but also with other sorts of transfers and with efforts to keep transfers from occurring. The counterpart of transactability for parties who are both trying *not* to engage in a transfer is rendered here as legibility. Thus, clearly marked boundary lines and clear systems of titling would help owners and nonowners to coordinate in ways that avoid unwanted (by both parties) transfers from the former to the latter. The ability of an owner to resist a transfer to a nonowner who desires one, and the ability of a nonowner to resist a transfer from an owner who wants one, can both be addressed by giving parties veto rights. These veto rights, in turn, contribute to the strategic interactions in Line B when both parties desire a transaction but disagree on the surplus division.

Some standard features of property entitlements, such as well-defined exclusionary edges, can advance more than one goal at once. Transactability features may double as aids to legibility by making it easier for other parties to steer clear. The genius of property lies in precisely this double-sided accomplishment: stopping resource movement while at the same time facilitating it. State-enforced exclusion rights not only facilitate coordination over nontransfers, but they also address conflicts that take the form of misappropriation. However, not all of the familiar characteristics of property entitlements reduce all of the costs in Table 2. Significantly, transactability features are not designed to, and generally do not, ease fights over surplus. They might even make things worse.¹⁵⁹ By the same token, some legal interventions are designed to address conflict costs (liability rules, which cut through fights over surplus, are a good example) but do not reduce coordination costs and might increase them.¹⁶⁰

This analysis shows that private property arrangements solve certain kinds of resource access problems very well. Transactability and legibility facilitate voluntary transfers and nontransfers, respectively, where coordination is the relevant obstacle. Private property rights also handle certain kinds of conflict well, by giving owners and nonowners alike a veto over transfers that are not mutually desired. But these property entitlements embed another source of conflict by leaving unassigned the division of surplus upon transfer. This embedded incompleteness follows from the choice to make the owner the residual claimant, a position granted to the party whose inputs are the hardest to measure and who must be indirectly incentivized to invest optimally.¹⁶¹ Here, the incentive takes the form of property rule protection, which grants the owner the right to collect the returns that the property generates unless and until she gets a price she likes.

¹⁵⁹ See Cooter, *supra* note 41, at 28.

¹⁶⁰ See Rose, *supra* note 14, at 2187–88.

¹⁶¹ See Smith, *supra* note 139, at 1795–97; see also BARZEL, *supra* note 102, at 78–80 (discussing property holders as residual claimants).

The relevance of investment incentives flows in turn from the owner's right to control other inputs, including her own human capital. Property offers a mechanism for inducing individuals to shift these inputs to socially valuable uses. In a world of zero transaction costs, appropriate contracts could be written to provide for all imaginable contingencies. There would be no need to grant anyone a residual claim over anything because rewards for desired investments could be set using the information that would be costlessly available in such a world.¹⁶² Property rights would disappear, along with the problem of dividing surplus. Here we see again how property can be understood as both a response to and a cause of positive transaction costs.

It is significant that some institutional responses, both past and potential, have the power to alter the mix of situations falling within each of the six alternatives outlined above. For example, prior to the development of any property rights or any rule of law, we would expect to see more conflict over whether a transfer would occur, and perhaps even more attempts to extract surplus from allowing possession to continue. Property rights and the development of markets make possible Line A, where coordination becomes the central preoccupation, but also contribute to the development of Line B, where surplus division presents conflict. It is not impossible to imagine further institutional developments that would help to pre-divide surplus in cases that now present conflict.

For example, suppose a group of 100 people currently find themselves locked in a free-rider dilemma that keeps them from being able to buy out a polluter whose benefits from continuing in operation are less than their collective costs. They face problems of coordination, but also problems of conflict: each person hopes to gain additional surplus from the buyout by not contributing to it. Yet the conflict may be driven in very significant part by the fear of being taken advantage of by others (that is, being "suckered") rather than by a desire to take advantage of others. If everyone in the group would be happy to contribute if others paid their fair share, a mechanism might be designed to enforce equal contributions in a manner that would help to turn the conflict problem into one of coordination.

Setting up such a mechanism is not costless. But all property arrangements involve costs. We must examine what various design features buy us (in, say, transactability and the unblocking of human capital) and what we have to give up (in the potential blocking of resources that follows from leaving surplus from future transfers unassigned). Matching design features to resource access impediments offers a clearer way of making these sorts of tradeoffs.

¹⁶² See CHEUNG, *supra* note 66, at 37.

B. Resource Access Costs and Collective Action Problems

Another way of subdividing the umbrella category of resource access costs is to distinguish costs that represent unsolved collective action problems from those that do not. This distinction addresses the overinclusiveness built into the concept of transaction costs by asking whether costs hide untapped surplus that the law can unlock. Legal scholars (including myself) often reflexively equate thing-misallocation with uncaptured surplus. After all, the resource could be used more efficiently by someone else. But there is no surplus available to be captured if fixing the misallocation will cost more than it is worth. Such surplus exists only if the impediments to the thing's efficient allocation embed inefficiencies themselves — ones that the law is in a good position to (further) address. This will not always be the case.

Legal scholars have skipped over this point for two reasons. First, there is a tendency to focus on the costs of thing-misallocation and to ignore the costs that are saved by leaving those misallocations alone. Second, there is really no doubt that transaction cost reductions (and reductions in other transfer and transfer avoidance costs) would be underproduced by markets and private actors working alone, so that at least *some* legal interventions are plainly warranted. Yet we should not lose sight of the fact that transaction cost reductions are products like any other, ones that can become too expensive for society to purchase.

1. *Identifying Unsolved Dilemmas.* — Inputs into transfers or transfer resistance may be underproduced by the market if the parties who would benefit cannot coordinate among themselves. Institutional responses, including property itself, address such collective action problems.¹⁶³ The question for legal scholars is whether there are any unaddressed collective action problems that artificially elevate the cost of, or the need for, these inputs. Consider the following factors: the length of time it takes a human being to read a paragraph of text, the cost (in time and gasoline and automobile wear and tear) to travel to a meeting, the cost of printing out a contract, the ease with which a phone call can be made, the cost to repair a nose broken in a trespass dispute, the expense of fencing in livestock.¹⁶⁴

¹⁶³ A rich literature addresses how property rights emerge, develop, and change over time. See generally, e.g., GARY D. LIBECAP, CONTRACTING FOR PROPERTY RIGHTS 4–28 (1989); Demsetz, *supra* note 19; Saul Levmore, *Two Stories About the Evolution of Property Rights*, 31 J. LEGAL STUD. S421 (2002); James E. Krier, Essay, *Evolutionary Theory and the Origin of Property Rights*, 95 CORNELL L. REV. 139 (2009). A central puzzle is how parties faced with a tragedy of the commons can solve the second-order collective action problem of coordinating to create property rights to address this tragedy. See, e.g., James E. Krier, *The Tragedy of the Commons, Part Two*, 15 HARV. J.L. & PUB. POL'Y 325 (1992); Carol M. Rose, *Evolution of Property Rights*, in 2 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 93, 94–95 (Peter Newman ed., 1998).

¹⁶⁴ See, e.g., Anderson & Hill, *supra* note 68, at 172 (noting that the development of barbed wire in the 1870s “greatly reduced the cost of activities aimed at enclosing one’s land”).

In important ways, these quotidian costs are no different in kind from the costs of producing other goods and services, or of carrying out other activities. By and large, they are produced by ordinary market processes and background physiological, social, and economic conditions.

This is not to say that these costs are immutable or that law has no bearing on them. Certainly, there are many things that law and social policy can do at a high level of generality to influence such costs. Governmental bodies provide transportation infrastructure and public education, and they determine city layouts and speed limits.¹⁶⁵ The law broadly supports private innovation, which can lead to such transaction-relevant innovations as better mobile phones, faster laser printers, improved surgical techniques, or better fencing. Competition policy and general laws that govern the manufacture and sale of products further contribute to the background conditions that produce these costs.

Yet these legal and policy influences primarily represent *existing solutions* to collective action problems that operate at a broad level of generality. Those solutions may be quite imperfect, and it is entirely fitting that legal (and other) scholars should revisit them. But because of the level of generality at which these solutions operate, further alterations would at least presumptively apply broadly as well, rather than be uniquely targeted at completing or resisting transfers.

For example, the law would be concerned about distortions in the paper market caused by paper mill pollution regardless of whether the paper in question is used to write a contract, make a paper airplane, or draft a novel. Likewise, innovation policy broadly supports mobile phone advances, whether a phone is used to call a sick friend or to close a major deal. Public education is valued not only because it lets people transact more easily, but also because it makes people better voters and citizens, and prepares them to work in a wide variety of jobs — including jobs producing goods and services other than transactions. There is no reason to expect a transfer-specific legal intervention to improve matters, absent some additional, unsolved collective action problem that uniquely plagues transfers or transfer resistance.

Yet even if the inherent costliness of factors like phone calls or fencing is determined by a combination of market forces and broad-based features of the legal and social context, their prevalence in ordering resource access can be directly affected by transaction-specific legal rules and entitlement design features. For example, the law's requirements for titling and bills of sale might shorten or lengthen the time the parties must meet or alter the amount of text that has to be read or written to finish a trade.

¹⁶⁵ For a discussion of the economics of infrastructure provision and maintenance, see generally Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917 (2005).

Even more significantly, legal rules and assignment protocols influence the need to engage in transactions in the first place, which determines whether these categories of costs will be incurred at all. Thus, in rem rights avoid many separate transactions with nonowners (saving countless pieces of paper, phone calls, and so on). Other features, like standardized property forms or property registries, may reduce the need to gather information.¹⁶⁶ Analogous points might be made about transfer resistance. Some design features, such as strong exclusion rights, stand in for self-help and may, for instance, allow owners to get by with clear property markers rather than unscalable walls. Similarly, certain organizational forms that the law might encourage or discourage can reduce the total amount of transfer resistance necessary within a particular realm.¹⁶⁷

In all these instances and many more, we should be on the lookout for some kind of collective action problem that stands unsolved and that law would be in a position to address (or to address better, if the existing law produces suboptimal results). A variety of such problems may exist. Parties may have difficulty coordinating if property rights are ill-defined or insufficiently standardized.¹⁶⁸ Collective action problems in the political process may produce suboptimal transfer requirements — as well as suboptimal transfers. Outdated entitlement menus may stick in place because there is no market incentive for anyone to take the lead in altering them. Perhaps most significantly, parties may have trouble reaching agreement due to holdout or free-rider problems.

2. *Assessing Inputs.* — Asking whether particular resource access costs stem (in whole or in part) from unsolved collective action problems is a proxy for a deeper set of questions about the relevance of those costs to efficiency. I use the word “relevance” here to consciously invoke the concept of irrelevant externalities introduced in an important article by James Buchanan and William Stubblebine.¹⁶⁹ Externalities are irrelevant to efficiency if internalizing them would not change behavior, but rather would only alter distribution. For example, a polluting factory may reap benefits

¹⁶⁶ See, e.g., ARRUÑADA, *supra* note 129, at 43–75 (discussing the role of titling and registration systems in facilitating transactions); Douglas Baird & Thomas Jackson, *Information, Uncertainty, and the Transfer of Property*, 13 J. LEGAL STUD. 299, 309 (1984) (comparing “possession systems” and “filing systems” for property from an information perspective).

¹⁶⁷ The point here is similar to the geometric one often made about fencing. Bringing holdings under common ownership expands the domain in which transfer resistance is unnecessary, but not without increasing internal management burdens. See Ellickson, *supra* note 19, at 1332–33.

¹⁶⁸ See Merrill & Smith, *supra* note 155, at 27.

¹⁶⁹ Buchanan & Stubblebine, *supra* note 148, at 380–81 (distinguishing Pareto-relevant externalities from externalities generated in situations in which “[t]he internal benefits from carrying out the activity, net of costs, may be greater than the external damage that is imposed on other parties,” *id.* at 381); see also, e.g., David D. Haddock, *Irrelevant Externality Angst*, 19 J. INTERDISC. ECON. 3 (2007).

that are so great that it would continue to emit at the same level even if it had to cover the costs it imposed on its neighbors.¹⁷⁰

We can draw a similar distinction among resource access costs based on their relevance or irrelevance to the production of efficient overall outcomes.¹⁷¹ Recognizing this distinction requires examining the inputs into completing or stopping resource transfers. Costs associated with inputs that are available through well-functioning, competitive markets — for example, the paper on which contracts are written, the phone calls with which meetings are arranged, or the fences that keep out the uninvited — are presumptively irrelevant to efficiency in the sense they will not stand in the way of an efficient *overall* allocation of resources.¹⁷² Some inputs, however, are not available through competitive markets. These inputs include a variety of legal or institutional arrangements that can be understood as past attempts to solve collective action problems, the efficiency of which can be independently assessed. Another important and ubiquitous class of inputs into transfer and transfer resistance that is not provided through competitive markets is the consent of the relevant rightholders to changing or maintaining existing resource access arrangements. Coercion, on which the state holds a monopoly, represents a potential substitute for the consent of the parties involved.¹⁷³

To take the simplest example, a sale requires the consent of both buyer and seller, each of whom holds certain rights (the seller to hold onto her property, the buyer to hold onto his money). That each rightholder has a monopoly on her own consent to the transfer creates no difficulty where markets are competitive; the consent of some other rightholder will form a ready substitute. Difficulties can arise, however, where the consent of two or more *specified* rightholders is essential in order for a resource to be transferred or kept in place.¹⁷⁴ In such cases, we would want to know

¹⁷⁰ See JESSE DUKEMINIER ET AL., PROPERTY 49 (7th ed. 2010) (giving a similar example to illustrate that not all externalities produce inefficiencies).

¹⁷¹ Dahlman likewise examines the relationship between Pareto-relevant and -irrelevant externalities and transaction costs, although he does not ultimately distinguish categories of transaction costs along these lines. See Dahlman, *supra* note 28. Instead, his analysis seems to set up a choice between circularity (in which transaction costs are built into the constraints pursuant to which optimization takes place, so that the world is always deemed to be optimal) and unbounded normativity (in which “externality” becomes a placeholder for a political view that the government can do the job better than the market). See *id.* at 152–56. Dahlman appears to conclude that we can avoid the horns of this dilemma by attempting to reduce transaction costs wherever possible. See *id.* at 161–62.

¹⁷² This is not to suggest that these costs have no impact on resource allocation. They may well stand in the way of efficient thing-allocation. But they do so efficiently, insofar as it is cheaper to conserve the resources associated with changing the thing’s allocation than it is to reap the benefits of doing so.

¹⁷³ This coercion could be exercised in a specific setting, as with eminent domain, or it could be built into institutional arrangements that allow, for example, a majority to alter zoning rules.

¹⁷⁴ In a two-party case, there may be a problem of bilateral monopoly. A multiparty case might be styled as an anticommons problem, though it could also arise from circumstances traditionally under-

whether the input in question (consent to the resource access change) is being underproduced as a result of Pareto-relevant, uninternalized externalities — that is, whether the fact that parties do not bear all the costs of withholding consent has constricted the supply of that input. If so, the next question is whether the government is well positioned to cost-effectively address that constriction of supply, through coercion or otherwise. The answers to these questions may be difficult to discover in a given case, but as suggested above, we can begin with an easier one: whether a collective action problem is present in the story.¹⁷⁵

The fact that an unsolved collective action problem is in the picture does not always argue for legal intervention. Perhaps the problem cannot be cost-effectively solved through law or (to put it another way) cannot be solved without producing larger negative impacts on other things that are connected to the problem at hand.¹⁷⁶ In particular, we must be mindful of how attempts to solve remaining collective action problems can undermine existing arrangements that address other collective action problems.¹⁷⁷ Nonetheless, the existence of a collective action problem does help to identify situations in which the government may have a comparative advantage over the market in facilitating resource access improvements.

By contrast, if all the costs in the picture are the product of well-functioning markets, then it is unlikely that targeted legal interventions are warranted.¹⁷⁸ This will be the case in many categories of market exchange where there is no feasible prospect of altering allocation protocols so as to obviate the need for the transactions altogether, and no obvious way in which entitlement design interacts with the costs of transacting. Shoe

stood as commons problems. See Fennell, *supra* note 50, at 934–37; Demsetz, *supra* note 19, at 354–55.

¹⁷⁵ The collective action problem in question could be a commons or anticommons dilemma surrounding the transfer or retention of specific resources, or it could be a collective action problem that impedes innovation in entitlement design or institutions that would solve a recurring set of problems, as by making certain transactions unnecessary or providing a protocol for surplus division.

¹⁷⁶ See COASE, *supra* note 44, at 25–26 (recognizing this point in the context of contract formalities); Schlag, *supra* note 8, at 1688–89 (discussing the role of indivisibilities in addressing transaction costs).

¹⁷⁷ This is the essential lesson contained in Rose's examination of Type I and Type II transaction costs. Rose, *supra* note 14, at 2184–88. She critiques Ayres and Talley for not appreciating the way in which addressing Type II costs can run up Type I costs by partly dismantling a property system that goes a great distance to control (what I here call) coordination costs. See *id.*

¹⁷⁸ Inputs into transfer or transfer resistance that appear efficiency-irrelevant from a static perspective may be efficiency-relevant when examined from a dynamic perspective or at a higher level of generality. Consider a variation on the factory hypothetical above in which neighbors who are bothered by the factory's fumes would collectively gain more than the factory would lose if it stopped emitting, but cannot coordinate with each other due to language barriers. If the market for translators is competitive, the prohibitively high cost of transacting would appear efficiency-irrelevant because it does not impede the optimal allocation of resources (counting those that would go toward translation). However, from a longer-range perspective and considered at a higher level of generality, changes in education that would enable more people in the area to share the same language might be a cost-effective improvement.

shopping is again a good example. There is no feasible way to simply assign me the shoes that I value most highly, and all of the impediments in the picture (the distance I must travel to and from the store, the time it takes to identify and try on likely shoes, and the queuing and other efforts required to complete the purchase) are ones that targeted legal interventions can do relatively little to influence. Because none of these inputs into would-be transactions represent unsolved collective action problems that can be cost-effectively addressed through law, the resulting thing-misallocation is efficient.

Legal scholars' conventional focus on transaction costs has in some ways been too narrow, but this analysis shows that it has also been in another way too broad. Some costs that fall under the heading of transaction costs do not make out a good case for legal intervention or even sustained scholarly attention. Yet we presently lack a good vocabulary for distinguishing the shoe case from instances in which costs of transacting are highly amenable to reduction through legal innovation. The absence of an unsolved collective action problem offers a useful basis for ruling out resource access costs that are unlikely to impede overall efficiency.

IV. OBJECTIONS AND EXTENSIONS

There are several objections that might be raised to the approach taken here. Answering these objections suggests some ways in which the analysis might be extended.

A. *Didn't We Know All This Already?*

The discussion above has been abstract and conceptual, and it is fair to ask how, or if, adopting a resource access costs approach would change the way legal scholars think and write about resource problems. More to the point, does the analysis here tell us anything we did not already know? I do not claim to have discovered entirely new ground; many of the points raised here can be found in one form or another in scattered places throughout the literature. But the current way of framing the problem of resource access runs counter to identifying useful solutions. Only by changing the way we approach the problem can the existing knowledge be brought together in a way that legal scholars can use.

The approach here adds analytic clarity in a manner analogous to other significant theoretical advances. Quite simply, it is possible to do an inefficiently *good* job of getting entitlements ("things") to higher valuing users, or of keeping them there. The idea of an inefficiently high level of law enforcement has been well accepted since Gary Becker's work on crime and punishment.¹⁷⁹ Similarly, Calabresi made the possibility of an

¹⁷⁹ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 170 (1968) (observing that the question of optimal enforcement can be "[p]ut equivalently, although more

inefficiently low level of accidents part of the standard operating equipment for the economic analysis of tort law.¹⁸⁰ There should be a similar level of familiarity with the possibility of too many efficient thing-transfers, where too many resources are drawn into the resource-structuring process. Subsuming transaction costs into a broader inquiry into optimality in resource access helps to make this point intuitive.

A resource access approach also emphasizes a basic parity among costs that is undermined by designating some subset of costs as “transaction costs” worthy of special attention. The costs of moving resources to new owners are no more and no less problematic than the costs of keeping them in place when they should not be moved, or of altering them in ways that make them less useful. Consider the metaphor of an ice block that melts in transit, which economists often use to illustrate transportation or transaction costs.¹⁸¹ Suppose we can reduce melt by loading the ice block into a speedy transport vehicle or slotting it into well-engineered chutes — that is, through intelligent entitlement design and market facilitation. We have made the resource easier to move, but we may not have improved resource access. For example, if we must chop resource units into blocks of standard size to ready them for transit, we may end up with resource transfers that look artificially cheap (in melt) if we forget to notice what they cost up front (in chop). We might have been better off with less chop and more melt. We might have been better off forgoing both chop and melt, if the surplus associated with the resource’s rearrangement is outstripped by the costs of such rearrangement.

This metaphor relates to a number of current debates in property, including the relative merits of property rules and liability rules, and the degree to which property should come in standardized packages. We should be willing to accept less useful property rights in order to make them easier to handle — but only if we gain more than we lose. Appreciating this point turns transaction cost savings from a trump card into a conversation starter.

strangely, [as] how many offenses *should* be permitted and how many offenders *should* go unpunished?”).

¹⁸⁰ See generally CALABRESI, *supra* note 35.

¹⁸¹ See, e.g., Langlois, *supra* note 14, at 1390 (citing Paul A. Samuelson, *The Transfer Problem and Transport Costs, II: Analysis of Effects of Trade Impediments*, 64 *ECON. J.* 264 (1954)) (discussing Paul Samuelson’s “famous iceberg model of transportation costs” in which “a certain amount of the iceberg melts away as it is transported — or, we might add, as it waits around while being exchanged”). The caveat about the resource “waiting” to be exchanged can be extended: a resource capable of throwing off a stream of value greater than that which its present possessor can capture has some of its value melt away if it is not transferred. Guarding and other efforts to preserve the resource represent additional sources of melt.

B. Isn't This Too Drastic a Departure?

A converse objection might be that the approach here breaks with existing approaches too sharply to be realistically adopted at this stage in the development of law and economics. Here, two clarifications are important. The first is that this Article's analysis is not in fundamental disagreement with Coase's approach. On the contrary, it represents an extension of that approach. Coase wrote against the view that the presence of an externality means something has gone wrong *in a way law can and should fix*. Indeed, if transaction costs are zero, Coase correctly observed, we can safely draw the opposite conclusion. Coase never made the converse claim that high transaction costs always evince inefficiency that the law can and should address. Just as we must look behind externalities to see if there are impediments to bargaining over them, we must also look behind those impediments to see what they are made of and what is causing them, and whether their magnitude or incidence can be cost-effectively reduced. Some externalities should remain uninternalized (internalizing them would cost too much) and some transaction costs should remain prohibitively high (lowering them would cost too much). Coase's analysis is fully consistent with this observation.

Because of the nature of his inquiry, Coase emphasized the potential for high transaction costs to keep resources from reaching their highest-valuing users (rather than the potential for transaction cost reducing institutional elements to have the same effect). He undertook a partial equilibrium analysis in which many features (including property rights) were taken as given.¹⁸² This approach was well suited to his project, but it is not an approach that is well suited to the work of legal academics whose job it is to pull apart and examine the very variables that interact with the costs of transacting in the market. To say that doing this or that will lower transaction costs is neither here nor there without an analysis of what else happens to resource access as a result.

My second clarification returns to the question of terminology. It may seem rather late in the game to tell people to abandon a term, "transaction costs," that is so central to the economic analysis of law. In fact, I am not recommending that the phrase be eliminated from the scholarly vocabulary altogether. It is a perfectly useful stand-in for a whole set of obstacles that contribute to thing-misallocation. The problem arises when this descriptive term is imported into normative analysis without recognizing its limitations. Once attention turns to questions about what law should do, it becomes necessary to use terms that can identify ways to improve resource access. The transaction cost term cannot do this effectively on its own be-

¹⁸² See Oliver E. Williamson, *Hierarchies, Markets, and Power in the Economy: An Economic Perspective*, 4 INDUS. & CORP. CHANGE 21, 24 (1995) (describing the Coase Theorem as "a partial rather than general equilibrium construction").

cause it is beset by problems of underinclusiveness, overinclusiveness, and insufficiently specified subcategories. We can improve the quality and precision of the discourse by having terms at hand that help us frame the problem of entitlement design appropriately, sift relevant costs from irrelevant ones, and distinguish coordination costs from conflict costs.

C. *Why Maximize Value?*

The analysis in this Article tries to improve how we think and talk about the efficiency of resource access. We would do better to speak more precisely about how property arrangements impede or facilitate access to resources by high valuers. But it is also possible to read this Article as a first step toward a more radical rethinking of resource access questions. By making clear that the real issue is not who gets to own which entitlements, but rather who gets access to which resources, the Article invites a deeper questioning of the efficiency inquiry's reliance on willingness to pay.

The focus on transaction costs has led to a way of thinking about efficiency that uses market transactions as the elusive ideal; it suggests that other ways of accomplishing transfers merely stand in for those transactions when they become too costly. The goal is to mimic the outcomes we would get if transactions were not so expensive to produce — outcomes that would be determined by willingness to pay. Once we stop thinking about transactions as the prototype and instead examine how to optimally arrange access to resources, the question arises of why value (interpreted in terms of willingness to pay) should be the right metric.

The question is a larger one than I can take up here. But it is interesting that simply moving one step away from a focus on transaction costs highlights the distributively conservative character of that focus. Indeed, the use of money as a marker can be viewed as yet another bit of fallout from our positive transaction cost world — a stopgap measure that fills in as best it can, and at some positive social cost, for transactions based on utility alone.¹⁸³

To put the point a different way, we might follow Pierre Schlag's lead and consider an alternative to the Coase Theorem that starts with the counterfactual assumption of perfect, costless governmental allocations.¹⁸⁴ If governmental allocations were costless, it would be possible to directly pursue social welfare maximization rather than rely on market allocations.¹⁸⁵ If we then introduced governmental costs into such a world —

¹⁸³ The evolution of money has indeed been understood as a response to transaction costs. See Coase, *supra* note 93, at 716–17.

¹⁸⁴ See Schlag, *supra* note 8, at 1693–97.

¹⁸⁵ Cheung makes a similar point, observing that “[i]f all transaction costs, broadly defined, were truly zero, . . . consumer preferences would be revealed without cost” — a state of affairs that would

information costs, political costs, and so on — we might find that using markets ended up being a reasonable second-best solution for allocating many resources. But we would count it as a cost of the system, and not a benefit, that its method of aggregating information through the price system directed resources to high valuers rather than to those who would derive the greatest welfare improvements from the resource.¹⁸⁶

D. Why Stop at Access?

I have centered my attention on resource access. This focus might seem to replicate in some ways the problems I identify in this Article. Just as transactions are only one way (and an imperfect and costly way) to structure access to resources, so too is resource access merely instrumental to the ultimate aim of resource use. Is something of consequence to legal scholars lost by focusing on resource access rather than resource use?

This question, too, deserves more attention than I can give it here, but a few points are worth emphasizing. We can start with the empirical connection between optimizing access to resources and optimizing resource use. There are two facets to this connection: the degree to which access is a necessary precondition to optimal resource use, and the degree to which access is sufficient to induce optimal resource use.

Access is sometimes necessary to optimal resource use in a visceral and clear-cut way. If a given berry is best used as nutrition for Jed, it will be impossible for it to be deployed in that way without getting the berry into Jed's stomach, which requires giving Jed access to the berry. In other cases, access is a practical necessity because the costs of arranging optimal resource use in its absence are too high. Lloyd Cohen gives the example of a department-store developer who would not need to worry about a holdout retaining ownership (or, presumably, physical possession) of a corner of the planned store's footprint if it were feasible to contract over this resource's optimal use — here, as a seamlessly attached segment of the store.¹⁸⁷ These two examples together suggest that access by high-valuing end users is essential to optimal resource use, but access by parties involved in producing value for end users is only instrumental to that goal. Whether to grant producers of value something less than physical access to inputs or something more (such as formal property rights) is thus an open and contingent question.

permit optimality to be achieved from any sort of institutional arrangement. CHEUNG, *supra* note 66, at 37–38.

¹⁸⁶ Schlag makes a related point when he observes that focusing on a costless market transaction “is really an invitation to look at certain forms of information . . . [that] a market produces such as prices, payments, outputs, etc.” and “to disregard other types of information — notably the kind that the government obtains such as votes, protests, expertise, etc.” Schlag, *supra* note 8, at 1695.

¹⁸⁷ Cohen, *supra* note 50, at 351–53.

Further, it is clear that access will not always be sufficient to ensure optimal resource use, whether in production or consumption. The step from resource access to resource use requires the essential ingredients of human effort and choice. By and large, the law can only structure access to resources and set up incentive systems; it cannot directly compel uses.¹⁸⁸ The law can grant Jed access to a berry patch, but he must decide to pick the berries; it can grant him a bowl of berries, or a voucher for berries, but he must take additional steps to wring nutrition out of this arrangement.¹⁸⁹ Even when the government “itself” engages in a use, like using land for a highway, it is really only structuring access to the land, the paving equipment, and so on, and giving its human agents incentives to use these resources in a particular way. It is not without justification, then, for law to focus on access, the tractable margin, rather than on inputs that it cannot directly control.

Nonetheless, the gap between access and use is an interesting one for law, and it should not be neglected in examining how entitlement structures and other incentive systems operate. This Article has pursued an instrumental view of transactions that casts them as part of a larger set of resource access structures that includes, but is not limited to, private property rights. Access, in turn, may be viewed instrumentally as well. As Raghuram Rajan and Luigi Zingales have shown, access can be used to elicit optimal investments in the absence of property rights, and sometimes this arrangement can dominate the residual rights associated with ownership.¹⁹⁰ Here, access to production factors creates incentives that, ultimately, improve access to consumption items by end users. But end users too may require encouragement to use resources optimally.

Informal or nonpecuniary methods of persuasion or coercion may become important in translating access into use. For example, rather than regulate access to water directly, the law might try to convince people that using too much water is shameful. This would be an indirect method of trying to secure access to water for other users, or later versions of the same users. Likewise, access to healthy foods or opportunities for exercise may be accompanied by exhortations to make use of these resources. Viewing access instrumentally thus opens up new lines of inquiry. For example, some resource access structures might require more norms-creation work than others to achieve the ultimate end of optimizing use. If so, we

¹⁸⁸ To be sure, the law frequently rewards and penalizes use and nonuse, and thereby influences how resources are used and not merely how they are accessed. But these legal approaches really come down to a set of rules about how people gain and lose access to resources (whether the resources that they are being encouraged to use or not use, or other resources that the state presents as incentives). The government can also strongly encourage certain kinds of uses by removing alternatives.

¹⁸⁹ See Noah D. Zatz, *Poverty Unmodified? Critical Reflections on the Deserving/Undeserving Distinction*, 59 UCLA L. REV. 550, 573–74 (2012) (discussing what it means for a resource like bread to be “available”).

¹⁹⁰ See Rajan & Zingales, *supra* note 103.

might explore how these norms, and their supporting structures, produce costs or benefits for society.¹⁹¹

CONCLUSION

Regardless of exactly how the term is understood, “transaction costs” does a poor job of focusing legal scholars’ attention in all, and only, the right places. If transaction costs are worthy of special attention from legal scholars, it must be because they relate in some important way to legal processes, structures, entitlements, or institutions — dials that the law can twist. But if that is our criterion for paying special attention — legal remediability or tractability — then our attention must extend not just to the cost of transactions (however defined), but also to the costs of doing things through law that make transactions less costly or less necessary. Rather than taking center stage on their own, then, transaction costs are one of several cost factors implicated by resource access arrangements, and transactions are only one of several ways of structuring resource access. At the same time, there is no reason to focus attention on costs that cannot be cost-effectively reduced through the law’s dial-twisting, or to twist dials that are disconnected from the real problems at hand.

To address the problems of underinclusion, overinclusion, and insufficient specification that have plagued the use of the transaction cost category, it is first necessary to widen our lens to take in all the costs of structuring access to resources. The next step is to usefully subdivide this set of costs to home in on places where targeted legal interventions can improve resource access. Emphasizing the distinction between conflict and coordination costs better frames the tradeoffs in entitlement design. Likewise, the distinction between costs that are and are not produced by collective action problems helps to focus attention on the improvements for which property design has a comparative advantage.

Instead of reading Coase’s analysis as a directive to “use the law to lubricate private bargaining,”¹⁹² property scholars should be concerned with improving access to resources — including those resources that must be used to structure access to other resources. With the approach presented here, I hope to have made a start toward that goal.

¹⁹¹ Cf. Gregg P. Macey, *Coasean Blind Spots: Charting the Incomplete Institutionalism*, 98 GEO. L.J. 863 (2010) (critiquing the “incomplete institutionalism” of law and economics and urging greater attention to the internal responses of firms to transaction costs).

¹⁹² Cooter, *supra* note 41, at 14.