Who Owns What?
Re-Thinking Remedies in Private Law

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Abstract

Guido Calabresi and Douglas Melamed ("C&M") categorize remedies as either property rules, implemented by injunctions, or liability rules, implemented by damage awards. In the C&M scheme, the state should protect an entitlement with the remedy that has the lowest implementation cost. We argue that the remedy choice is second order: the entitlement itself implies the remedy that best protects it. For example, if the buyer purchases the right to receive particular goods, only specific performance – a property rule – protects his contract entitlement; but if the buyer purchases the right to receive the value the goods have for him, only damages – a liability rule – protects his entitlement. Thus, when a promisee seeks specific performance, the question the court should ask is not whether the promisee has an adequate legal remedy but what type of contract the parties wrote. The C&M mistake was to ask the second order question – which remedy is least costly? – rather than to ask the first order question – which attributes do or should constitute the entitlement? To ask the first question is thus commonly to make choosing a remedy an interpretive rather than a policy making exercise. In addition to making this point, we show, among other things, that (i) exchange efficiency often is best implemented with weak property rights while investment efficiency often is best implemented with strong property rights, so that the modern state's decision *always* to protect property entitlements with property rules is incorrect; (ii) contract entitlements, properly understood, commonly imply liability rule protection, so that the recent trend to protect them with specific performance or gain based damages should be reversed; (iii) the US decision to vest a strong property right to exclude in a company's board, so that it can reject hostile bids, is exchange inefficient relative to vesting a weaker property right in the shareholders because they are more likely to accept ex ante efficient bids; but (iv) the US rule that the victim of a theft has a strong property right, so that she can recover her property even from a good faith purchaser, is efficient relative to the European rule that the victim has a weak property right so that she cannot recover; and (v) contrary to C&M's claim most productive property is liability rule rather than property rule protected.

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1. Introduction

> This Essay deconstructs the most important distinction in private law – between what Guido Calabresi and Douglas Melamed ("C&M") called *property rules* and *liability rules*.[1] Courts and scholars employ the distinction in two ways: to classify remedies and to choose among them. The distinction helpfully facilitates classification. For example, to enjoin a trespass is to protect property with a property rule because the owner is entitled to an injunction but not money; to award damages for a trespass is to protect property with a liability rule because the owner cannot prevent the trespass but is entitled to recover damages for it.

The C&M distinction is normatively unhelpful, however. To see how, consider three questions that present in cases: (a) What are, or what should be, the properties of the relevant contract or property entitlement E? (b) To whom should the state assign entitlement E? and (c) Which remedy best protects E? On the C&M view, each of questions (b) and (c) require an independent normative exercise and the answer to question (a) commonly is assumed rather than derived. This view of remedies has seemed natural to private law scholars – indeed, illuminating – because the C&M distinction is applied in the shadow of the free-standing place that remedies hold in conventional private law theory. By "independent" and "free-standing" we mean that remedies are conventionally analyzed, both in legal theory and in doctrinal practice, as separate from the rights that they protect and without serious consideration of how the properties of an entitlement may imply answers to the questions of who should hold it and which remedy best protects it. We mean to dislodge this view.

Consider how a court would apply the C&M method. The court would proceed in two stages. In the first stage, the court would presuppose the entitlement E's properties and so begin by asking to which agent – two usually appear in the cases – it should allocate E? In the second stage, the court would ask whether it should protect the allocated entitlement E with a liability rule or a property rule? A recent analysis – written for a reference book on private law – accurately describes this process.

> "In a seminal article, Calabresi and Melamed (1972) distinguished between the allocation of entitlements and the remedies for protecting them, as two distinct stages in promoting efficiency. In particular, they argued that once entitlements are allocated, they can be protected by either property or liability rules. … Thus, suppose Polluter inflicts harm on Resident. The law should allocate the entitlement, either to Resident to live without the pollution or to Polluter to pollute without interference. Assume first that the law made the former choice …. Now *a second choice must be made: to protect the entitlement with either a property rule*

[1] See Guido Calabresi and A. Douglas Melamed, "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral," 85 Harv. L. Rev. 1089 (1971-72).

or a liability rule."[2]

Notice that the properties of an entitlement to be free from pollution are assumed to be obvious, so the court can immediately proceed to what are described above as questions (b) and (c). In practice, courts and commentators answer question (c) by reference to substantive factors – e.g., would a property rule injunction adequately protect the right? – and administrative factors – would a liability rule do as well (or almost as well) at rights-protection but impose lower costs on parties or the state?

The mistake that we foreground in this methodological scheme is the failure to recognize that an entitlement's content determines how the entitlement should be protected. Thus, the court errs if it attempts to answer question (c) – which remedy? – without first answering question (a) – which right? The C&M mistake also can be put this way: C&M did not recognize that when agents create a right they necessarily reject the remedies that *cannot* protect the right in favor of the remedies that *can*. In light of this insight, courts and commentators should substantially revise their view of C&M's normative contribution.[3] Indeed, because answering the rights question also answers the remedy question, the second, methodological, prong of the C&M distinction will usually disappear.[4] On our view, then, private law remedies raise an *interpretation question* – which remedy does the right imply?—rather than a policy question – which remedy is best on independent (from rights) policy grounds?

Our methodological stance thus contests the common understanding that there is a gap between characterzing an entitlement and deciding how to protect it, so that answering the characterization question does not conclude the answer to the implementation question. In the general case, no gap exists because the properties that entitlements have imply the legal forms that protection of those entitlements should take.[5] Therefore, once a court locates (or assigns) the entitlement, it is left with a single question: which remedy provides the best fit with the properties that interpretation of the entitlement revealed?[6]

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[2] Ariel Porat, "Economics of Remedies", in The Oxford Handbook of Law and Economics Volume II: Private and Commercial Law 308 (Oxford University Press, Francisco Parisi Ed. 2017) at 309 (emphasis added).

[3] The initial parts of this Essay focus on the relation between questions (a) and (c): how rights characterization implies rights remedies. Part 6 below focuses more on question (b): to whom does the state assign important entitlements today? Characterizing the right, we note, often implies the answer to question (b) as well,

[4] The classification prong remains. To clarify, we accept that extant legal remedies sometimes serve a useful epistemological function: the scope and meaning of a right can be illuminated by an analysis of the remedy the law has chosen to vindicate the right. This epistemological view was first clearly set out in Jules Coleman and Jody Kraus, "Rethinking the Theory of Legal Rights", 95 Yale L. J. 1335 (1986) (property rules and liability rules are best understood not as different means of entitlement protection but rather "as devices for specifying the *content* or *meaning* of such [legal] rights.") at 1343-45). A more recent version is Hanoch Dagan, "Remedies, Rights, and Properties", 4 J. of Tort Law Article 3, 4 (2011) ("one way we understand the meaning and content of a right is by looking at how we protect it."). We argue, to the contrary, that while remedies and rights are linked, wisdom usually runs from the right to the remedy rather than the reverse. The best way to specify the content and meaning of a right, that is, is by first (and commonly last) directly analyzing the right itself.

[5] This view is contested. See Dagan, supra note 3, summarizing arguments that specifying the entitlement sometimes leaves space for an independent inquiry into remedies. We respond further to this position below.

[6] Henry Smith, in a recent short discussion of the C&M thesis, makes a similar critique: "It is the entitlement structure itself that typically receives too little attention in the economic analysis of property law." Henry E. Smith, "Economic Analysis of Property Law", in Oxford Handbook 148, at 164.

Beginning with remedies rather than putting this interpretive question first not only reduces intellectual clarity; it also avoids two normative mistakes. Regarding the first, in the C&M scheme, a court is implicitly licensed to avoid critical engagement with rights in favor of taking a pre-analytic view of the entitlement at issue. The quoted description above of the C&M method applied exhibits this practice. Hence, to accept C&M often is to slight normative critique. As to the second mistake, not fully understanding the content of a right, or the content such a right should have, can lead a court, or other decision maker, to choose the wrong remedy. Parts 4 and 5 below shows that private law makes both mistakes.

In addition, because the C&M distinction pervades private law, the failure to appreciate that there is a decision that should precede the choice between protecting an entitlement through a property rule or a liability rule necessarily distorts lawyers' conventional understandings of what the law in fact is. The confusion in the conventional view is particularly deep with respect to the legal entitlements typically called *property*. We therefore also claim that the commonplace failure to appreciate the antecedent backdrop against which the distinction between property rules and liability rules must always apply engenders systematically false views about the forms of protection that private property typically receives. These views support incorrect assumptions about the identity of rights holders: that is, to incorrect assumptions about who owns what.

2. The C&M Distinction Further Explained and First Challenged

A brief review of C&M's distinction sets up our argument. A property rule protects an owner ("O") from an involuntary expropriation of her entitlement (the E): an O whose entitlement is property-rule-protected can retain possession of E against all comers unless she agrees to exchange E for a different entitlement on which she places a higher value.[7] Property rules thus are conventionally associated with injunctive relief, such as an order of replevin allowing a plaintiff to recover a particular item of personal property following a conversion or an order of ejectment allowing a plaintiff to regain possession of real property following a trespass.[8] When these remedies do not avail because, for example, a converter has sold the property to a buyer in good faith, property rules protect O by imposing a constructive trust on the sale proceeds, restitution of any consideration paid and, sometimes, punitive damages.

An owner whose entitlement is liability-rule-protected, by contrast, cannot always retain possession of the entitlement: a liability rule, that is, does not protect O's right to E itself but rather protects O's right *to the value* that E has for her. Accordingly, an agent may take a liability-rule-protected E over O's objection, as long as the taking agent pays O a sum, to be determined by a third party (sometimes, but not always, by a court). Liability rules thus conventionally restrict rights holders to money damages: just compensation in property, the reliance remedy in tort, and the expectation remedy in contract.

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[7] Such an entitlement is commonly called a right in rem.

[8] To forestall confusion, we observe that this use of injunctions does not make property rules necessarily equitable. See Samuel L Bray, "The System of Equitable Remedies," 63 UCLA L. Rev. 530, 560 (2016) (showing that replevin and ejectment are not equitable remedies).

Three propositions organized C&M's effort to interpret legal practice with a methodological scheme that, in application, assumes the independence (from rights) of the property rule/liability rule choice.

First, entitlements usually are protected with property rules. This proposition is implicit in the very name that C&M gave to their categories. As they wrote, "[i]n our framework, much of what is generally called private property can be viewed as an entitlement which is protected by a property rule."[9] Indeed, C&M began their discussion of the choice between property rules and liability rules by asking, "Why do we need liability rules at all?"[10]

Second, protecting an entitlement with a property rule requires only one legal intervention but protecting an entitlement with a liability rule requires two. Property rule protection thus enhances individual liberty. "Property rules," C&M observed, "involve *a collective decision as to who* is to be given an initial entitlement but not as to the value of the entitlement," and therefore "give rise to the least amount of state intervention."[11] Liability rules, by contrast, "obviously . . . involve an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves."[12] In this respect, C&M channeled pre-theoretical political intuitions, formed independently of the distinctions that they introduced, that connect putatively less intrusive property rule protection to respect for private property and thus to the owner's political liberty.

C&M's third proposition is much the most familiar in light of the subsequent history of legal thought. It holds that the state should protect an entitlement with the remedy that is least costly to implement.Thus, consider cases that possibly involve multiple parties: farmers and railroads or homeowners and developers. In the C&M scheme, the question is whether the transaction costs of coordinating the behavior of sellers and buyers on an efficient outcome exceed the costs of third party identification of what an efficient outcome would be. When coordination costs are higher, social welfare favors liability rule over property rule protection.[13] This transaction cost case for liability rules seems especially strong when costs are high on both sides of the relevant entitlement. In such cases, property rule protection would freeze the entitlement's location whereas liability rule protection would allow both those who own and those who want the entitlement to persuade the court of whose valuation is higher.[14]

C&M call these transaction cost considerations "a very common reason, perhaps the most common one, for employing a liability rule rather than a property rule to protect an entitlement."[15] Moreover, the considerations explain some core cases of liability rule protection in the positive law. Takings for public use solve hold-out problems concerning public projects on previously private property; and the expectation remedy solves the problem of bilateral

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[9] CM at 1105.
[10] CM at 1106.
[11] CM at 1092 (emphasis added). Notice that C&M stress the allocation task, taking the nature of the relevant entitlement as given.
[12] CM at 1092.
[13] CM at 1107, 1110.
[14] CM at 1119.
[15] CM at 1110.

monopoly that would otherwise arise when a promisor can make a higher gain by trading with a third party but the contract promisee, protected by an entitlement to specific performance, has the power to block the trade.

Over the nearly fifty years since C&M created the basic remedial distinction, enormous attention has been devoted to the central issue their third proposition raises: to assess and to explain how to reduce the transactions costs associated with property and liability rules. C&M's article thus engendered a vast array of analyses of the transactions costs of voluntary transfers, the transaction costs of third-party valuations, and the comparative cost considerations that favor property rule or liability rule protection. These efforts have made C&M's account into one of the most celebrated and cited law review articles of all time.

By contrast, C&M's first two propositions – concerning the balance between the two types of entitlement protection that exists in legal practice and the effects of the rules on freedom – have received relatively much less, and absolutely very little, attention. We focus on these two neglected propositions to argue for a view nearly opposite to C&M's. In particular, this Essay makes three claims. The claims apply generally, including to entitlements valued principally for non-economic reasons. Nevertheless, we develop our claims primarily by exploring rights associated with economic interests in property and contract.

Our first claim cabins C&M's assumption, summarized above, that it is state agents who primarily construct entitlements. This assumption is too broad, and making it distorts contract law.We briefly illustrate with the inconsistency between two contract doctrines: freedom of contract and court control of the remedy. Contract doctrine permits parties to construct the contract entitlement, which the contract's terms constitute. But under current American and English practice, it is the court that then decides whether to protect the promisee's right with a property rule -- specific performance, or a restitutionary or disgorgement award --[16] or whether to protect the promisee's right with a liability rule -- expectation damages.

This is error because the contract right implies the contract remedy. Thus, if the contract allocates the right to receive the contract goods themselves to the promisee/buyer, the court has no first order legal task to perform: rather, the court should use whatever property rule is apt. Liability rule protection – i.e., damages – could not adequately compensate the buyer because the buyer had rejected money when he purchased the entitlement to the actual goods. On the other hand, if the buyer purchased the right to the value the goods would have for him, he is not entitled to a property rule remedy because these protect a right to the goods. This insight generalizes: when agents have constructed the entitlement that is their contract, *they have already chosen the remedy* that protects that entitlement. A law that makes contracting free but

[16] To explain disgorgement damages, let the seller transfer the contract goods to a third party for a higher price. If the buyer has a right to the highest value the goods could yield for anyone, rather than a right only to the gain the goods would have created for him, the buyer is entitled to the profit the seller realized by breach. Gain based damages award the buyer this profit. Whether these damages should be awarded thus should turn on which right the buyer purchased. Gain based damages are becoming more common [citations] because courts and commentators believe it is just to award them rather than let the seller profit from her wrongful breach. As we show at greater length below, the belief that the seller's breach is wrongful would be well grounded only if buyers generally buy the right to the goods' maximum value rather than the right to the goods value for the buyer. Courts thus should identify the right that sales contracts commonly create rather than ask which remedy is fairest.

remedies mandatory – the promisee gets only expectation damages unless the court says otherwise – is incoherent: its remedial rules deny freedoms that its substantive rules grant. Accordingly, where (as is typical in contract) the law grants private agents control over the content of their entitlements, the law should also deny state officials the plenary power over remedies that the conventional approach, consistent with C&M, now embraces.

Our second claim is that a shift in normative focus from remedies to rights uncovers questions that private law has slighted. We introduce these questions by distinguishing the two types of efficiency that are relevant in the economic analysis of property law: (a) exchange efficiency, which holds that property should go to the agent who values it most highly; and (b) investment efficiency, which holds that property should go to the agent who can maximize its value. These are familiar categories: the newly prominent questions follow from asking how best to resolve the potential conflicts between them. Exchange efficiency apparently implies relatively *weak property protection*, so that agents cannot inefficiently refuse to trade; while investment efficiency apparently implies relatively *strong property protection*, so that others cannot expropriate an agent's investment. Can property be both weakly and strongly protected?

"Getting behind" the C&M distinction permits us to address these matters in two stages. The first stage continues to develop the insight that the protection question is answered by the entitlement question. The second stage is primarily substantive: it develops the insight that the regulator should construct legal entitlements with regard to which efficiency goal is best pursued in the commercial context at issue. We do not analyze this second stage question fully because the relevant theory is in a preliminary state.[17] Rather, we introduce questions into private law scholarship that a recognition of the possible conflicts between exchange and investment efficiency raise: (i) When are efficient trades difficult for agents to conclude? (ii) How does, or how should, regulation to overcome bargaining inefficiencies affect investment efficiency? (iii) When should regulators avoid the need for agents to allocate entitlements through bargains in favor of directly assigning an entitlement to the agent who is most likely to maximize its value? The two-stage inquiry that we construct thus attempts to illustrate the exchange/investment efficiency tradeoff's relevance to important issues in property, contract and corporate law.

Our third claim is both descriptive and normative. Beginning with the former, where C&M – channeling ordinary language and common sense – suppose that property rules provide the normal form of protection for entitlements, we argue that the most economically important entitlements in a modern market order receive liability rule protection. Property rule protection is largely (although we acknowledge not exclusively) reserved, in the modern world, for a narrow and special class of entitlements whose owners often withdraw them from exchange,

[17] Economic theory has not made much progress characterizing optimal tradeoffs between exchange and investment efficiency. For example, "no existing research combines the allocative efficiency costs of private property with the investment efficiency benefits." E. Glen Weyl and Anthony Lee Zang, "Ownership of the Means of Production", University of Chicago Coase-Sandor Institute for Law and Economics Working Paper No. 765 at p. 2 (2016); "Although overwhelming evidence shows that strong property rights foster investment and trade, only recently have economists begun to study the tradeoff between the dispersed coercive power [of property rights] in a state of anarchy and the predation by a central authority." Carmine Guerriero, "Endogenous Property Rights", 59 J. Law & Econ. 313 (2016). See also Eric A. Posner and E. Glen Weyl, Property is Another Name for Monopoly (Oxford University Press 2017) (suggesting exchange and investment efficiency may be harmonized by self-assessed taxes that would reduce property owners' incentives to hold out for deal killing high prices).

production, and even investment in favor of devoting the entitlements principally to their own consumption. With a nod to Marx, we call such entitlements not private but rather *personal* property.

Turning to our third claim's normative part, where C&M assumed that property rules involve less collective intrusion into individual choice than liability rules, we argue that concerns for respecting liberty favor liability rules. This claim about what ought to be builds on our prior insight into what is. Agents, we show, when given the normative power, commonly construct entitlements to the *value* that goods or services *have for them* rather than to the goods or services themselves; that is, agents construct entitlements that imply liability rule protection. When the law enacts a liability rule, it thus is rejecting the imposition of a collective judgement of value on individual agents in favor of respecting the agents' individual choices.

Part 3 below fills out the first claim sketched here, that choosing an entitlement also entails choosing the remedy that protects the entitlement. Parts 4-6 show that recognizing the primacy of rights clarifies important issues in property, contract, and corporate law, and sometimes permits the analyst to correct errors in the current resolution of those issues. We focus here on the inefficiencies that a strong right to exclude can create and tentatively suggest how to avoid some of these inefficiencies. These Parts use examples in which the extant remedy is easy to identify: the entitlement is either property-rule- or liability-rule-protected. Part 7 reframes common views about what some important entitlements are, such as the entitlement to own (shares in) a corporation, to show that, on a deeper analysis, many entitlements that are commonly thought to be property-rule-protected actually are, and ought to be, liability-rule-protected. Part 8 briefly connects our argument to some non-instrumental norms, elaborating the liberty inherent in liability rules. Part 9 concludes the argument, revisits the relationship between rights and remedies, and assesses the argument's scope. In particular, we renovate C&M's distinction for the few, though significant, cases in which beginning with the remedy question helpfully clarifyies the properties of the relevant right.[18]

3. The Shadow Over Entitlement Theory

Part 2 showed that the distinction between property rules and liability rules helps a court or commentator to classify remedies but is unhelpful when the task is remedy choice.The appropriate order for the decision maker is first to identify or construct the entitlement and then *to infer*, rather than to choose, what the remedy should be. We use three examples further to clarify this methdodological point. Subsequent arguments will build on the examples to generalize to a more nearly comprehensive account.

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[18] We note here Henry Smith's complementary analysis. Smith rejects the C&M claim that the choice between liability and property rule protection should turn on second order transction cost issues. Instead, according to Smith the nature of property will preclude some remedial choices while permitting others. This is consistent with our claim that private law should focus on the entitlement rather than the remedy. See Henry E. Smith, "Complexity and the Cathederal: Making Law and Economics More Calabresian", Manuscript (2018). In our analysis, one agent owns or claims property. We are not concerned with multiple claims on a single asset: that is, with priority rights in property. For a recent analysis of this issue, see James Y. Stern, "The Essential Structure of Property Law", 115 Michigan L. Rev. 1167 (2017).

Our first example involves fiat money and contract rights. Let O own ten $100 bills. A second agent takes the bills. Under the law, the owner need not identify the specific bills to replevy; rather, she can sue the taker for $1,000. It would be otiose to say that the law protects the initial agent's ownership of the $100 bills with a liability rule. This formulation would support an accurate prediction of what a court would do: require the taker to pay the owner a $1,000 rather than require O to trace the bills. The formulation, however, mischaracterizes O's actual entitlement. To own money *just is to possess a claim to a sum of value*, not to a particular instrument of accounting for that value.[19] This is why a bank deposit agreement does not require a separate negotiation about which tokens—which bills or coins—the depositor may claim on making a withdrawal. (Consider in this connection the contrast to an agreement for the rental of a safe-deposit box, which contemplates the "withdrawal" only of the tokens placed into the box and gives an owner the right to these tokens only.)

Turning to contract rights, let an automobile dealer sell the sales contracts it makes with consumers to a financial intermediary. The intermediary did not purchase the right to the physical form in which the contracts are cast. Instead, the intermediary purchased the right to the payment streams that the contracts, called "accounts receivable," require the consumer-obligors to make. On the other hand, if the dealer required the consumer to gave it security interests in the cars and the dealer sold the security interests along with the sales contracts, the intermediary would also be entitled to a physical thing: the defaulted cars themselves.

To sum up, the essence of an entitlement to a contract to pay money is an entitlement to the value of that contract: these are "Entitlements to Value" or "EVs". Presently, we will elaborate on this point and place it in a moral and political context. It is enough for now to see that recognizing the essence of an entitlement to receive money, which is to the value of the money at issue, decides the remedy issue: if an agent has only a right to the value of a thing, the law cannot coherently give him a right to the thing itself.[20]

We next consider the nature of an entitlement in a personal effect: a favorite item of clothing or a home. Unlike fiat money, the entitlement to the clothing or to the home runs to the property itself—it is what we call an "Entitlement to the Thing" or an "ET". Such personal property is not held for exchange, but rather is held indefinitely because the agent's personhood is partly constituted by the possession of things that are dear to her.[21] The value an agent places on an aspect of her personhood is knowable only to that agent, so that a court could not specify the sum that accurately equates to the loss the agent would incur were her property taken. It follows that to have an ET in favored clothing or one's home *is necessarily to have the right to*

[19] We focus here on the role of money as a store of value rather than as a medium of exchange. For an analysis of why fiat money has value and for other functions that money serves see Mark S. Peacock, "The Ontology of Money", 41 Cambridge Journal of Economics 1471 (2017).

[20] This account may be clarified, as regards money, by recognizing that money is an accounting system for relations of constraint. In a modern economy, these relations vary with the supply and demand of other goods which set prices and thus alter the constraints and permissions that any fixed sum of money imposes. This is what entails that money just is its value – that the content of the award of $1000 is an award of a sum of value rather than particular bills, but also that the sum of value cannot be understood as anything other than an abstract value, whose value at a particular time is set by the transactions of other agents in the economy.

[21] See, e.g., Margaret Jane Radin, Property and Personhood, 34 Stanford L. Rev. 957 (1982).

exclude others from these possessions. Further, a person who buys property that will be, or that she intends to make, personal in this sense necessarily purchases the property itself, not the value of that property. A contract to transfer such property therefore again decides the remedy issue; the buyer is entitled to the property. A court need not also ask whether the owner's entitlement to what she owns or buys should be protected by a property rule or by a liability rule: these questions have been answered when the agent chose her entitlement.

While it is again possible to characterize the legal regime surrounding such things in two stages – as involving first a decision that O owns her home, say, and second a decision to protect this entitlement with a property rule – the two-stage approach again adds nothing and disguises much. In particular, the approach may distract the decision-maker from focusing on the primary question: what is the point of owning peculiarly personal property? For O, the power to exclude, or to get specific performance, are not exogenously supplied remedies to protect O's primary right in peculiarly personal property; rather, the remedies are endogenous aspects of the right itself.

Our last example concerns a person's ownership of parts of her body: say, her kidneys. Unlike the entitlement to personal property just described, a person can give a kidney away (to save another) but cannot sell it. The person's entitlement to her kidneys therefore is to the kidneys themselves but not to their exchange value. We therefore call her entitlement an "Entitlement to only the Thing" or an "EoT". Constructing an entitlement to one's body parts that lacks an entitlement to their exchange value again entails that the state need not make a separate inquiry into how the entitlement is best protected: the mode of protection can be read off the entitlement itself.

In addition, beginning with the relevant right resolves a paradox concerning entitlements in one's own body. The conventional account introduces a tension into the law: between the property right in the agent's body that the law protects and the agent's remedy when that right is invaded. The agent can enjoin others from invading the right; but the agent, as plaintiff in a lawsuit, is usually restricted to compensatory money damages from a negligent invasion rather than to one of the property right remedies. This legal practice resists explanation on the conventional approach because Es that receive property rule protection *ex ante* apparently should be entitled also to property rule remedies *ex post*. This paradox casts a substantial doctrinal shadow. It has long been recognized as odd that courts will grant injunctions to prevent irreparable injuries to property or contractual interests but will not, in general, enjoin conduct that threatens bodily injury.[22]

Our account resolves the paradox. Because an O is not entitled to the exchange value of her body, money damages should not be characterized as the legally set price in the forced sale of O's limb or other part from O to the tort-feasor. Instead, money damages for personal injury torts reflect *a social judgment* regarding how best to reconcile a concern for efficient deterrence with what fairness to victims requires. Also consistent with our account, money damages are not set by asking what price the victim would have accepted *to sell* to the tort-feasor the right to

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[22] For a discussion of the paradox and its historical context, see Mark A. Geistfeld, The Principle of Misalignment: Duty, Damages, and the Nature of Tort Liability, 121 Yale L.J. 142, 161-62 (2011).

injure her or what price this right would command on the market. Rather, money damages are set to make the victim whole: to restore the *status quo ante* rather than to mimic a sale *ex post*.

As this discussion shows, entitlements to body parts raise fundamental problems for any approach that separates rights from remedies. Indeed, it is difficult even to articulate a formal equivalence between the C&M view of remedies and ours in such cases, of the sort that was available (if misleading) in our first two examples. C&M do make the attempt, following their discussions of property and liability rule protection, by discussing a property of entitlements that they call *inalienability* (a proscription on the right to sell). But this discussion sits awkwardly in C&M's broader frame: it is difficult to justify prohibiting an entitlement holder from trading within a scheme that attempts to justify the entitlement holder's right to *refuse* to trade. By contrast, it is straightforward to explain inalienability in terms of the substantive construction of an O's primary entitlement, as an EoT.

We conclude this illustrative Part with two methodological remarks. First, a decision-maker or analyst may begin a remedy inquiry with the C&M question how to protect an entitlement and then ask whether the answer is consistent with the content of that entitlement. This possibility suggests that our argument that analysis should begin with the entitlement itself re-describes, but does not advance, thought about remedy issues.[23] We resist this suggestion. Our claim has a substantive aspect – an entitlement determines the form of its protection – and a methodological aspect – the decision-maker is more likely to answer correctly the first-order question what the entitlement is or should be by actually asking that question. An analyst working within the C&M framework seldom analyzes the entitlement directly because in their framework the entitlement functions as an assumed constraint rather than as the premise for reasoning. An analyst working within our framework thus is more likely to ground a remedy choice in the relevant normative premise than a C&M analyst is.

Also, the objection that an analyst can invert back from the remedy choice to the entitlement choice assumes that a single analyst is doing the inverting. The inversion task is more difficult when different decision makers decide what to protect and how to protect it. This is especially so when the content of an E is chosen by private persons, including the E's O, whereas the type of protection for any Es, no matter how constructed, is fixed by legal institutions, most notably courts and legislatures. These are cases in which the alleged connection between liability rule protection and liberty will rise to special prominence.

4. Private Law in a Rights Framework: Efficiency Concepts and Bargaining Efficiency

We illustrate the value of changing the analytic frame from remedies to rights by reconsidering important issues in property and contract. By "property" we mean assets that are held for exchange or investment, and only secondarily for consumption. This covers considerable ground but excludes the "personal things," discussed above, that reflect and partly

[23] A variant of the point in text is the view that remedies are constitutive features of rights. See Dagan, supra note 3 (setting out and criticizing this view). Hence, important features of rights can be uncovered by focusing on remedies. We argue here that this view is backward: one better understands the remedy by understanding the right the remedy is supposed to vindicate.

constitute the holder's personality.[24] Second, our discussion is primarily in economic terms, though we include other considerations.[25] After treating property and contract issues directly, we turn to property questions in other private law fields, such as property held in corporate solution and again fiat money. These cases (and especially the last) will introduce the role of liberty in making the case that many commercially important entitlements have the substantive properties from which liability rule protection is most naturally derived.

4.1 The Incidents of Property

Any theory of private entitlements must account for "ownership," which typically involves a right of possession/exclusion and a power to exchange. Property and contract law together elaborate these rights and powers. The conventional focus on remedies, however, incorrectly implies that that these bodies of law function in separate domains: property law typically protects rights with property rules; contract law typically protects rights with liability rules. Focusing on rights rather than remedies reveals the commonalities between these legal fields. A property owner has three rights: to exclude others (and so to block involuntary transfers)[26]; to trade with others (and so to make enforceable voluntary transfers); and to be paid value if another expropriates the owner's property. These three rights constitute a single whole. Hence, an analyst or decision maker who analyzes a particular remedy without considering the whole is attempting to analyze a tree limb without considering the tree. We focus here on one of the major mistakes that this way of proceeding causes: to suppose that an owner's right to refuse to trade ensures efficient trades just as the owner's right to refuse to licence physicial incursions ensures efficient investments. Rather, the right to refuse trade can prevent efficient trades from occurring. Part 4 distinguishes the exclusion and trading rights; Parts 5 and 6 then pursue the legal implications of this unappreciated difference in the welfare effects of the two rights.

Our analysis begins with property law. A property right (in contrast to a contract right) is good not just *in personam* but *in rem*—not just against an agent's commercial partner but against the entire world. This entails that the state, rather than private agents, must specify the content of entitlements to private property. No individual agent has the normative power to bind persons with whom she does not deal, and likely does not know, to respect her view of what it is that she owns. A crucial aspect of a property right that is held in rem is the right of a holder to prevent physical (or also today infringing) incursions. And because a right in property commonly is protected by enjoining the incursion, the state in the C&M scheme does and should protect property rights with property rules. A corollary of the owner's right to exclude is the right to

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[24]Such personal property necessarily is held for individual use, which typically involves consumption but may also involve saving or investment. A house held by its owner as a residence thus functions both as consumption and as a saving vehicle. We are interested in property's commercial role.

[25]A state may wish to pursue values besides efficiency in respect of personal property—distributive and perfectionist values come to mind. Efficiency functions as a constraint on the pursuit of even these values, however, because no state will attempt to implement them at infinite cost. In the commercial sphere, efficiency is generally put first, but its pursuit should be constrained by other important values. Because our concern is commerce, we ask how entitlements to private property should be constructed—what substantive content they should have—in order to maximize efficiency in production and exchange, but we also inquire, in the contexts we consider, into the consistency of efficiency with liberty.

[26] The right to exclude is a fundamental or defining aspect of a property right. See, e.g., Abraham Bell and Gideon Parchomovsky, "A Theory of Property", 90 Cornell L. Rev. 531 (2005); Thomas W. Merrill, "Property and the Right to Exclude", 77 Neb. L. Rev. 730 (2001).

reject trade with a potential purchaser. The corollary today receives, and is thought appropriately to receive, the same treatment as the basic right because the corollary right is thought to have the same welfare implications as the basic right.

The positive view of the corollary is correct but the normative view is questionable. In contrast to other analysts and courts, we focus on the normative view, to argue that refusals to trade sometimes are inefficient; and we then identify certain legal implications that this insight yields. There are two takeaways. First, important areas of contract, property and corporate law should be rethought in light of the insight that weak property rights sometimes are more efficient than strong ones. Second, begining with the remedy question—how a particular "property right" should be protected—rather than begining with the entitlement question—what incidents should the particular property right have or should have – can produce bad law.

To introduce how our analysis will go, we reprise the two kinds of efficiency. Investment efficiency holds that an asset owner should have the opportunity to maximize her asset's value. Exchange efficiency holds that an asset should transfer to its highest valuing user at the least cost. The right to exclude is necessary for investment efficiency because the asset owner will not invest efficiently if another could expropriate some or all of the value she creates. In contrast, the right to refuse trade actually can impede exchange efficiency because the asset owner may refuse to accept a bid that exceeds her cost. Because a court seldom will know when the owner's refusal to trade is efficient or not, the asset owner should, and she does, have the same jure rights in exchange economies that she has in investment economies. On the other hand, when inefficient refusals are possible, private agents attempt to avoid, and the state should not rely on, bargains in order to realize exchange efficiency. Rather, agents and the state should assign the property right to the most likely efficient rights holder.[27]

Because agents commonly will bargain to efficient outcomes when information between them is symmetric[28], our argument necessarily turns on the assumption that asymmetric information is common. Thus, we begin by setting out the "asymmetric information concern". Part 4 then reviews the familiar case for a strong right to exclude in investment economies. The analysis next moves to the more novel part of the argument, to exhibit the difficulties that a strong right to exclude can create in exchange economies.

4.1.a. The Asymmetric Information Concern

An asymmetric information concern exists when a buyer may not know the seller's costs and the seller may not know the buyer's value. We begin, however, by supposing that agents do know each other's costs and values (here their "valuations"). A court could then order the agents to trade an asset when a prospective buyer placed a higher value on the asset than the owner did because each agent could inform the court of her costs or value. Informing the court would be inefficient, however. When the agents are symmetrically informed, bargaining theory teaches

[27] This claim may seem inconsistent with the Coase Theorem which holdss that, when transaction costs are low, initial rights assignments do not matter because a rights holder will sell her right to a higher valuer. The Theorem does not apply, however, when agents are imperfectly informed. We focus here on these asymmnetric information environments.

[28] When agents are informed, rational and free from coercion, they will make efficient trades.

that the agents will voluntarily trade the asset when trade would be efficient: that is, when the potential buyer values the asset more highly than the potential seller. Using a court would be an unnecessary step. Now suppose that the agents do trade, but the original owner wants to reverse the trade. Her circumstances may have changed such that her valuation has increased. Again, if the court knew values and costs, or could be informed of them, the court could order the agents to retrade, but this too would be unnecessary. If the agents continue to be symmetrically informed, they will retrade when that would be efficient but otherwise not.

This simple reasoning suggests that efficiency may be imperiled when potential parties to trades are asymmetrically informed. To be sure, if the potential seller truthfully reported her costs to the court and the potential buyer truthfully reported his value, the court could order the agents to trade when (and only when) trade would be efficient. But the agents may misreport their values: the seller may overstate her costs to induce the court to set a high price; and the buyer may understate his value to induce the court to set a low price. Courts lack the administrative apparatus to check. The agents *may* nevertheless make an efficient trade on their own if the seller's best offer is lower than the buyer's best bid, but there is no certainty, as we show below, that these privately efficient offers and bids will always satisfy this "public" efficiency condition. Hence, if parties do make a sale but one wants to renege, the court could not know whether the new owner's value was less then the original owner's updated value or not; and so the court would let the trade stand. We can describe this result in two accurate ways: (a) a trade of an entitlement ordinarily is irreversible; or (b) to enforce a contract means not to reverse the result the contract directed. Property and contract law here are the same.[29]

Either description is generalizable because it rests on the property of agents' valuations that often they are private information. A court would not order the buyer/new owner to trade the asset back to the original owner because – this is the generalizable result -- courts do not order agents to trade with each other. And the courts' refusal is the contract law basis for the property law result: an owner has the right to refuse to sell an asset.The asymmetry in judicial behavior – courts *enforce* trades but do not *order* trades -- reflects the asymmetry in the agents' information. In asymmetric information environments, made trades are efficient *just because they are made,* but unmade trades – here the possible inefficient rejection of the original owner's offer to retrade —are not efficient *just because they are not made*.

4.1.b. Investment Efficiency

Investment efficiency is the primary consideration when the the state's goal is to encourage agents to maximize the value of assets. There is an investment economy when agents purchase land to farm or mine it, build factories to produce goods, or attempt to develop new

[29] When parties contract but circumstances change, the parties will renegotiate efficiently if information has become symmetric, but otherwise may not. Economic theorists have devised "message games" – messages about their valuations that parties can send to a court ex post. Versions of these games, in theory, will induce truthful party reporting. For an accessible discussion see Alan Schwartz and Joel Watson, "The Law and Economics of Costly Contracting", 20 J. Law, Econ. & Org. 1 (2014). We do not discuss these message games because actual litigants never play them.

products or services. Strong property rights are necessary to make such economies function efficiently.

We initially review the traditional justification for the right to exclude: to encourage asset holders to maximize the value of their assets. To begin, let O possess an asset A. Efficiency requires O to invest in maximizing A's value: that is, to invest until the marginal increase in investment cost equals the marginal gain in the asset's value. Denote this optimal value v(A*). Now suppose that another agent could appropriate a fraction β of the asset's value, where $\beta \leq 1$. Because the owner could then keep only $(1 - \beta)$of the asset's realized value, she will invest in the asset until the marginal cost equals $(1 - \beta)$ of the marginal gain. As β – the share the outside agent can take – increases, the fraction of the asset the owner has an incentive to maximize decreases. In the limit, when $\beta = 1$ – the other agent can just take the property --, O's marginal gain from investment would be zero and she would invest nothing; the social loss would be the entire efficient value: v(A*). Hence, O's right to the asset A should be property-rule-protected.

This justification may seem too strong, however, because the other agent – the "taker" – also could invest in increasing A's value. Hence, the welfare question is which agent is the more productive investor. Because expected returns are included in valuations, the two agents would answer this question for themselves *if* they knew each other's expected return from investment. The parties then would trade the asset to the agent who could best maximize its value: that is, to the agent who had the higher expected valuation. But we have seen that information often is asymmetric. Hence, if a potential taker of the property appears, the original owner and this taker may not bargain so that the highest valuer ends up with the property. Permitting the taker to expropriate thus could cause the underinvestment result to obtain: anticipating the taking (and a possible refusal to trade by the appropriator if the owner wanted to buy the asset back) , the owner may not invest to maximize her asset's value. Therefore, in investment economies such as those noted above the right to exclude is necessary for investment efficiency.

Note that this is a counter-intuitive justification for the right to exclude. The right is necessary for investment efficiency not only because another agent may expropriate the owner's investment if the right did not exist. It also is because potential takers and actual owners may not bargain such that the most efficient user of the asset ends up owning it. Hence, we move next to exchange efficiency to explore more deeply just why and when bargains are likely to fail.

4.1.c. Exchange Efficiency

Exchange efficiency is the primary consideration when the state's goal is to encourage efficient trade. There is an exchange economy when the agents' primary activity is the sale of goods or services. Examples include middle men, factories or mills selling goods to each other or to retailers and the like. There has been a scholarly discussion regarding whether a right to exclude is necessary in such economies when information is symmetric. Then, as just said, the original owner could bargain with a potential taker such that the agent with the higher exchange value would ultimately own the asset. The right to exclude apparently may be rescued, even when information is symmetric, by relaxing the assumption that only one potential taker for each asset exists. Instead, let the set of potential takers exceed one, with each member of the set

having a lower value for the asset than the owner O has. On this assumption, O could retain the asset only if she bribed every potential taker who appeared. Because the owner must pay bribes out of the value the asset has for her, even the highest valuing owner could exhaust her value before she exhausted the set of potential takers; and then she would refuse to pay another bribe, preferring insead to give the asset up. Therefore, giving an owner a right in rem – a right to exclude the world – is necessary for exchange efficiency.[30]

This argument for the right to exclude in symmetric information exchange economies overlooks the recursive character of the taking problem, however. The first potential taker will recognize that he may himself face a taker, whom he would have to bribe from the exchange value his ownership could generate. This prospect reduces the initial taker's expected gain from taking the asset and thus reduces the size of the bribe the owner must pay to deter him from taking. Because every taker faces the problem of another taker, when the potential set of takers is large, the bribes the owner has to pay can be small.[31]

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Implementing this case for weak proterty rights, even when information is symmetric, apparently would be difficult. A court could not conveniently recover the set of potential takers or reconstruct the magnitude of bribes a particular owner would have to pay to keep her property.[32] Hence, the court could not know just when a particular owner's right to exclude should be strong or weak.The case for weaker property rights in exchange economies is more likely to support implementable reforms if the symmetric information assumption is relaxed, however.

Because the case for a strong right to exclude in investment economies and a weaker right in exchange economies both turn on how asymmetric information affects agents' incentives, we next show more precisely *how* assymetric information reduces bargaining efficiency, and *where* the legally relevant bargaining inefficiency – the agents' failure to make efficient trades -- is likely to exist. Part 5 then discusses how private parties respond; and Part 6 discusses more briefly how the state does and should respond. Both types of response are

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[30] Kaplow and Shavell first made this argument. Louis Kaplow and Steven Shavell, "Property Rules versus Liability Rules: An Economic Analysis", 109 Harv. L. Rev. 713 (1996).

[31] For this argument, see Oren Bar-Gill and Nicola Persico, "Exchange Efficiency with Weak Property Rights", 8 Amer. Econ. J. Microeconomics # 4 at 230 (2016). The Bar-Gill and Persico model importantly clarifies the appropriate scope of a property right, but it does not apply naturally to investment economies. This is because the involuntary taker in such an economy will invest in maximizing the asset's value; and investment commonly changes an asset's properties. The more unique the asset becomes, the less recursive the takings problem is: that is, the fewer involuntary takers after the first there may be. In these common cases, the initial taker would not be influenced by the prospect of future takings.

[32] Bar-Gill and Persico recently qualified their defense of liability rules for exchange economies because the defense makes strong informational demands on the initial asset holder. This agent must anticipate and quantify the series of required bribes, which, these authors claim, individual asset owners may be incapable of doing. See Oren Bar-Gill and Nicola Persico, "Bounded Rationality and the Theory of Property", Manuscript (2018). An individual judge may not be much better at calculation than the individual asset owner so their "computability justification" for strong property rule protection in exchange economies when the rights holder is an individual person may generalize, the text above argues, to business contexts as well. In Henry Smith's theory of property the right to exclude is instrumentally valuable. The essence of a property right, in Smith's view, is the right to use. Hence, the state has no interest in exclusion per se; exclusion is needed to protect the right to use. See Henry Smith, "Property as the Law of Things", 125 Harv. L. Rev. 1691 (2012). We implicitly take this view into account because asset holders often invest so as to maximize (or protect) the use value of their property.

similar: parties do and the state should *choose entitlements that avoid contracting inefficiencies.* More concretely, agents and the state should rely less on bargaining to ensure that assets are in the possession of the highest valuing agents and rely more on properly allocating the relevant right initially.[33]

Turning to the analysis, an entitlement holder may not know the value potential buyers place on her entitlement, and potential buyers may not know her valuation. As a consequence, even a low valuing owner may demand a price that is too high for potential buyers to pay, or a prospective high valuing buyer may make an offer that is too low for the owner to accept. The consequent failure of the agents to make an efficient trade is difficult for the law to prevent: a court will not require prospective sellers and buyers to trade when, as would usually be the case, the court does not know the agents'valuations either.[34] Private law scholars have not focused on this "too little trade" problem.

In a general version of the problem, every market agent wants to trade but behaves strategically, with the result that the "allocative institution" excludes a positive fraction of the agents from trading. To illustrate, let a market be populated with buyers who make bids for a good and sellers who make offers to trade the good. There will be trade, if at all, in the "trading interval" within which at least one bid exceeds at least one offer. Seller offers are bounded from below by the sellers' costs. Potential buyers have beliefs regarding how seller costs are distributed but seldom know what a particular seller"s costs are. Similarly, buyer bids are bounded from above by buyer valuations. Potential sellers have beliefs as to how buyer valuations are distributed but seldom know any particular buyer's valuation. If there are few buyers and sellers, a particular buyer's bid (or seller's offer) will partly define the "trading interval", and therefore will affect the market price. In these cases, buyers have an incentive to make low bids, to skew the trading interval toward seller costs, while sellers have an incentive to make high offers, to skew the trading interval toward buyer valuations. As a result, the trading interval necessarily will exclude some buyers (their bids are too low), and some sellers (their offers are too high).

The market inefficiency that follows is quantified as one minus the ratio of gains from the "made trades" to the gains from trade if agents made every possible trade. This inefficiency falls as the number of buyers and sellers increase because the more agents there are the less influence any one bid or offer can have on the location and width of the trading interval. Market agents that recognize their inability to influence the market's trade terms have incentives to bid and ask truthfully. But a possible exchange inefficiency always exists when only a few agents are

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[33] The next few pages a little technical. Readers who do not find technical presentations illuminating can skip to the last paragraph in this Subpart beginning "To summarize", and then move on to Part 5.

[34] An additional reason to protect an owner's right to refuse to trade presents when an agent confers an unsought benefit on another and then demands restitution. A court that permitted restitution but which does not know values and costs would require a seller to pay the average valuation. This would reduce the incentive of high value sellers to enter a market and increase the incentive of low value sellers to enter; and it would deter low value buyers from entering because they would have to overpay. These inefficiencies could be avoided by requiring the owner to consent in advance to receiving benefits: that is, to have the ability to refuse a trade of dollars for the benefit. Oren Bar-Gill and Lucian Bebchuk, "Consent and Exchange", 39 J. Legal Stud. 375 (2010), develop this argument but they do not focus on the downside of refusals; they may occur too frequently.

available to trade.[35] In a world—our world—where products and services often are highly differentiated, so that there may be few sellers and buyers on each side in many differentiated product or service markets, the social welfare loss from strategic agent behavior may be large.

In the limit, when there is one seller and one buyer for a particular entitlement, there always exists a positive probability that agents who should trade will not trade. The seller's optimal offer is bounded away from her cost because her profit is the difference between price and cost, while the buyer's optimal bid is bounded away from his valuation because his profit is the difference between his value and the price. As a consequence, each buyer's maximizing bid may be above his valuation and each seller's maximizing ask may be above her cost. In these cases, agents whose values and costs are such as would have made trade efficient may not trade.[36] The consequent inefficiency may present in bargaining over a differentiated good, a real property easement, a job, and so forth, and it likely often exists.[37]

Economists have developed bargaining mechanisms that could yield efficient trade, but these do not entail weakening the seller's property rights; rather, the mechanisms involve

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[35] An example may be illuminating. Let there be three buyers and three sellers. There are three bids for the good at issue: .80; .55; .44. There are three offers: .60; .40; .20. The trading interval thus is between .55 and .44. Assume that the "trading institution" weights the high and low end of the trading interval equally when calculating the market price. Then, the weight is k = .5; the high end is x; and the low end is y. The price is p = (k)x + (1 – k)y = .5(.55) + .5(.44) = .495. The seller who offered .60 and the buyer who bid .44 do not trade. The market inefficiency is one minus the gains from trade divided by the total possible gains, or 1 - .35/.55 = 36.4%. Notice also that the buyer who bid .55 would prefer to have bid .51 because this would have reduced the trading interval such that the market price would have been .475; the buyer would have increased his gain from trade to .075 from 0.055. Hence, agents have incentives to misrepresent their true values and costs in order to increase their expected surplus from trading. The agents, however, are constrained by the possibility that if their bid is too low, or their offer is too high, they will be excluded from trading. It has been shown that the incentive to misrepresent falls as the number of potential buyers and sellers for the good at issue increases, to the extent that no agent's bid or offer itself can materially move the trading interval; then every agent makes truthful bids and asks. As to the logic, when the agent's bid or offer cannot affect the price, the agent has no incentive to misrepresent her bid or offer: a seller would not offer to trade below the market price because she can trade at that price; and the buyer would not bid above the market price because he too can trade at that price. For an extensive analysis of these issues, see Aldo Rustichini, Mark A. Satterthwaite and Steven R. Williams, "Convergence to Efficiency in a Simple Market with Incomplete Information", 62 Econometrica 1041 (1994).

[36] The first, and most famous, proof of this result is Roger Myerson and Mark Satterthwaite, "Efficient Mechanisms for Bilateral Trading", 29 J. Econ. Theory 265 (1983). An extensive, but technical, summary and generalization of the literature is Ilya Segal and Michael D. Whinston, "Property Rights and the Efficiency of Bargaining", 14 J. European Econ. Assoc. 1287 (2016). For a simple formal illustration of a seller's problem, suppose that the buyer's value, b, is drawn from a distribution of possible valuations G(b), and the seller's cost, c, is drawn from a different independent distribution. The seller does not know b, but she does know the distribution of b, and she can make one take it or leave it offer, s, to the buyer. The probability that the parties trade is the probability that s > b. The *ex ante* probability of this outcome is 1 – G(b). The seller chooses her offer s to maximize her ex ante gain, or Max_s (1 – G(b))(s – c). The solution is $s* = \frac{1}{G'(b)} + c = 1.$ Because $\frac{1}{G'(b)}$ is positive, s* > c: the *ex ante* efficient seller offer exceeds the seller's cost. While the agents may trade, it could also be that c < b < s*. The parties should trade because the buyer's value exceeds the seller's cost, but they may not trade because the seller's maximizing offer exceeds the buyer's valuation.

[37] See Abraham M. Othman and Tuomas W. Sandholm, "How Pervasive is the Myerson-Satterthwaite Impossibility?", Published in Proceedings of the International Joint Conference on Artificial Intelligence 2009. The paper concludes: ("… the Myerson-Satterthwaite impossibility did hold more than 65% of the time with ten possible [buyer] valuation points for all of the schemes of generating distributions we tried.")

subsidizing potential bargains. For example, consider a game in which the seller does not know the buyer's value and the buyer does not know the seller's cost. Under the game's rules, the seller announces a cost c*, which is either 0 or 1; and the buyer announces a value v*, which is either 0 or 1: there is trade if v* > c* (i.e., if the agents announce v* = 1 and c* = 0). When there is trade, the buyer pays the seller c* and the seller receives v*. The buyer will report truthfully because if there is trade, the buyer gets the item, which he values at v*, but pays only c*: the buyer, that is, gets the entire surplus if there is trade. The seller also will report truthfully because she too gets the entire surplus from trade: she yields the good, which she values at c*, but she receives v*. Hence, under this bargaining protocol the parties trade whenever the buyer's value exceeds the seller's cost.This mechanism requires a subsidy, however, because the buyer pays only c* but the seller receives v*; the subsidy must equal the difference.[38] Much of the literature speculates on the size of the efficient subsidy, which is a function of the assumed bargaining game the parties play and an optimal subsidy mechanism. Analysts have yet to identify an implementable subsidy strategy.

Independent agents sometimes do agree jointly to invest to develop a particular good—a drug or software program—which they later plan to allocate between themselves. These common arrangements may create sufficient surplus for the parties themselves to finance an allocation mechanism such as the one just summarized. [39] In a pure exchange economy, however, to ensure that agents always trade efficiently some third party must subsidize the trading mechanism.[40]

To summarize, under plausible assumptions agents' *trades* are exchange efficient but under the same assumptions agents' *refusals* to trade may be exchange inefficient. There are two implications. Initially, private agents likely are aware of this insight. Hence, they can be expected to create entitlements that take the insight into account. Part 5 next shows how they do this. And because the agents attempt to implement their own solutions, the court or other decision maker's role, even in these informationally impoverished environments, is interpretive: to read off the remedy from the entitlement the private agents created. Further, when the relevant agents do not deal with each other, or are otherwise constrained in the creation of entitlements – the good faith purchase context is an example – the state should attempt to allocate the entitlement such that exchange efficiency may be achieved *without having agents bargain to it*.

5. Private Law Applications I: Agent Constructed Entitlements and Contract Law

Contract law regulates transactions between rights holders. Exchange efficiency thus is the normative metric by which to mesure contract law rules. Also, an agency of the state constructs property entitlements; hence, the analysis in Part 4 respecting when property entitlements should be strong or weak is addressed to a court, in its lawmaking mode, or to a legislature. Contract issues require a different analysis because private parties are authorized to

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[38] A fuller explanation is John Nachbar, "The Myerson-Satterthwaite Theorem", licensed under the Creative Commons Attribution-Non-Commercial-ShareAlike 4.0 License (2015).

[39] For the theory and some evidence, see Tracy R. Lewis and Alan Schwartz, "Pay for Play: A Theory of Hybrid Relationships", 17 Amer. L&E Rev. 462 (2016).

[40] A recent analysis by Posner and Wyle, supra note 18, also claims that the monopoly – i.e., bargaining -- inefficiency is very large, and proposes a tax on entitlements to reduce their value and so reduce a seller's incentive to offer a strategically high price. We consider more limited, private law solutions below.

construct contract entitlements in principle and, because these entitlements apply only *in personam*, are capable of successfully constructing them in fact. Courts therefore must determine whether agents have constructed a strong or a weak contract entitlement, and must *infer* the appropriate protective remedy. Put another way, property rights analyses address legal institutions in their law-making mode. Contract rights analyses, we argue, should address legal institutions – primarily courts – in their interpretive mode.

To make this claim out, it is helpful to begin with where we are. Contract law typically, and indeed principally, vindicates a promisee's contractual rights through the expectation remedy. Promisees may have reliance or restitutionary interests in connection with their contracts, but the law expressly privileges the expectation remedy over alternatives that would directly protect these interests. In the words of the Restatement: the law "[o]rdinarily . .. enforces the broken promise by protecting the expectation that the injured party had when he made the contract."[41] To protect the expectation is to "put [the promisee] in as good a position as he would have been in had the contract been performed;"[42] which is to say that the law seeks to "give the injured party the 'benefit of the bargain.'"[43] The Uniform Commercial Code adopts this approach, providing that contract remedies should put disappointed promisees "in as a good a position as if the other party had fully performed."[44] Because this goal commonly is implemented by awarding the disappointed promisee damages, which a court sets, it is conventional to characterize the expectation remedy as providing promisees with liability rule protection.

To begin a critique of the conventional view, consider three possible contract types:

A. <u>The value contract</u>: The promisee purchases the goods' value to him: the seller performs either by transferring the goods or transferring a sum that equals the value the buyer would have derived from the goods.
B. <u>The goods contract</u>: The promisee purchases the goods themselves: the seller performs by transferring the goods.
C. <u>The transfer contract</u>: The promisee purchases the goods or the right to receive a monetary transfer that the contract specifies: the seller performs by transferring the goods or by transferring the contractually specified sum.[45]

Contract law is consistent with parties commonly making Contract A because the law gives the promisee only the right to receive the goods' value. This contract is optimal in an exchange economy because it authorizes the promisor to choose whether to transfer the goods or the goods' value. Because either choice would be performance, and because the promisor will choose her least costly option, Contract A ensures that the contract goods end up with the highest

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[41] Restatement (Second) of contracts s. 344, cmt. a (1981).
[42] Id.
[43] Id.
[44] U.C.C. s 1-305(a).
[45] In contract law language, the transfer term is called a "liquidated damage clause."

valuer at the lowest cost.[46] Therefore, if the expectation remedy were a default, most agents would accept the default when the promisee could verify his value to a court.[47]

When the promisee cannot verify his value, the parties must choose between Contracts B and C. The promisee could not recover damages for breach of Contract A because a court cannot order the promisor to transfer value when the court cannot observe value. The goods contract—Contract B—avoids this verification problem because it requires the seller to make a physical transfer. Contract B works well when two conditions are satisfied: (i) The promisor's performance is relatively simple and can be rendered quickly—the delivery of a particular good; and (ii) Uncertainty will resolve ex post.

When condition (i) fails to hold, specific performce is an unattractive contract. For example, if performance would require the promisor to perform a series of complex actions, such as to construct a building or to develop a product, the promisor may have difficulty verifying whether the promisor has done the actions, or difficulty verifying the consequences of the promisor not doing some of them. And because parties inform courts, a court would also have these difficulties. Thus, specific performance would be hard to get and hard for a promisee to police.[48] Regarding condition (ii), a value creating renegotiation would apparently be possible when sale to the promisee would generate less value than a sale to a third party, or would generate less value than reallocation of the promisor's resources to another use. As Part 3.2 showed, however, such renegotiations may fail if the parties cannot observe or verify either ex post possible gain. And if a renegotiation fails, the buyer may require the seller to transfer the goods even though performance would be inefficient. Agents therefore would be reluctant to make Contract B – to rely on bargaining to achieve exchange efficiency – when parties expect condition (ii) to fail: that is, when they fear that the asymmetric information that existed at

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[46] Though contract A is exchange efficient, conventional *accounts* of the law, in contrast to how the law actually functions, assume that parties commonly make Contract B. This assumption permits commentators to characterize expectation damages as "substituting for" contract performance rather than as constituting contract performance. The assumption that parties commonly make Contract B has never been defended. The assumption also is implausible because Contract A is efficient and is less costly to write. For further discussion of these points see Daniel Markovits and Alan Schwartz, "(In)efficient Breach of Contract" in The Oxford Handbook of Law and Economics Volume II: Private and Commercial Law (F. Parisi ed. 2017); and same authors, "The Myth of Efficient Breach: New Defenses of the Expectation Interest", 97 Va. L. Rev. 1939 (2011). Contract A, however, is investment inefficient in its pure form because it induces promisees to overinvest in creating value or reducing costs. See Steven A. Shavell, __ Rand J. of Econ. __(1980). Variants of Contract A can recover some investment efficiency. A promising variant, were penalties enforceable, would be to write Contract A but enforce it with a penalty damage scheme. See Aaron Edlin and Alan Schwartz, "Optimal Penalties in Contracts", 78 Chicago-Kent L. Rev. 101 (2003). .

[47] A party can verify a datum of information when the costs of proving the information in a legal proceeding would be lower than the party's gain from making the decision maker aware of the information. Contract A also would be efficient when there is a thick market for the contract goods. Under this version of the Contract, the promisor would agree to transfer the goods or to transfer the difference between the goods' contract and market prices. Both price and difference are verifiable and the difference, when added to the promisee's gain from replacing the contract sale with another, sum to the promisee's expectation, which is value less contract price. For an analysis, see Alan Schwartz and Robert E. Scott, "Market Damages, Efficient Contracting, and the Economic Waste Fallacy", 108 Colum. L. Rev. 1610 (2008).

[48] Courts retain discretion to deny specific performance when performance would be difficult for the court to supervise. [cite]

contract time and that made Contract B apparently attractive would not necessarily dissipate at renegotiation time.

Therefore, the two conditions that must be satisfied to make the goods contract attractive to potential contractors in asymmetric information environments can be difficult to satisfy. In these cases, Contract C is the agents' best response to the promisee's inability to verify the expectation because this contract specifies the value transfer in advance. When the transfer approximates the promisee's realized value, Contract C performs similarly to Contract A; that is, the contract yields exchange efficiency without requiring a possibly ineffective renegotiation. [49] Contract C also is investment efficient because it decouples the promisee's investment return from the transfer the promisor is required to make.

This analysis has two methodological implications. First, a court should not ask which remedy best (or most fairly) protects the promisee's contract rights. Rather, the issue is which contract—A, B or C— have the parties made, or would have made were contracting about remedies free. The rights that the contract creates and the remedy that best protects these rights are indissoluble. Second, the analysis is suggestive regarding commercial parties' preferences. Parties likely prefer Contract A when the promisee's value is verifiable because the contract yields exchange – i.e., ex post – efficiency without having to create a transfer term. Also, when the promisee's value is verifiable, parties would reject Contract B. This contract could achieve ex post efficiency only if two difficult to satisfy conditions hold: the seller could render a simple, prompt performance and bargaining ex post will be efficient. Rather, Contract B would be attractive to parties only when the promisee's value is unverifiable. But agents would then often prefer Contract C—the transfer contract—because Contract C avoids renegotiation. yields exchange efficiency when the agents' contractual estimate of the promisee's gain is close to the mark and is relatively investment efficient.

The analysis resolves an increasingly heated dispute between lawyer/economists and moralists regarding the desirability of the expectation remedy. The lawyer/economists recognize that it often is efficient to make the promisor the residual claimant on the parties' contract and so they created the theory of efficient breach. The theory holds that when trade between the contract parties is *ex post* inefficient, the promisor should be free to choose the less costly option: exit or pay the contract buyer his expectation. It is efficient, on this view, to frustrate the buyer's contract entitlement to the goods. The buyer would have such an entitlement, however, *only if* parties made Contract B: the goods contract. But parties are unlikely to make this contract when, as the lawyer/economists also suppose, the buyer's expectation is verifiable. In this case, parties make Contract A because this contract is more likely to permit the parties to capture the exchange efficiency gain. And under Contract A promisee exit *would not* breach the contract.

[49] A recent paper argues that when the expectation interest is not verifiable, the court should award the promisee damages equal to the mean of the ex ante distribution of the possible values the promisee could have realized from transfer of the goods. The authors argue that it is easier for a court to recover the ex ante value distribution than the ex post realization of a particular value. See Zhiyong Liu and Ronen Avraham, "Ex Ante versus Ex Post Expectation Damages", Manuscript (2018). When agents are risk neutral, the value that a transfer contract commonly specifies just *is* the ex ante mean. Hence, and as the authors recognize, their argument implies that courts should enforce transfer contracts.

Economists accurately identify the conduct that is exchange efficient but mistakenly characterize the efficient conduct as a breach.

A growing group of moralists regard themselves as the economists' opponents. The moralists implausibly suppose that parties *routinely* write the goods contract – that is, the promisee buys the right to the goods themselves rather than the right to their value – despite the stringent conditions that must be met in order to make the goods contract attractive to actual contracting parties. On the moralists' incorrect assumption, the expectation remedy is normatively questionable. The moralists thus claim, variously, that the remedy prices rather than sanctions the "wrong" of breach (and that it sets the price wrongfully low), that pricing breach undermines the immanent normativity of contract (by giving legal encouragement to breach of an obligation that the law purports to respect), and that the expectation remedy is immoral (because the norms of promising require performance rather than breach-plus-damages).[50] The moralists' view that rights should be respected is beginning to influence doctrine. Gain-based damages are increasingly being awarded in Commonwealth jurisdictions (and in Israel), and even the United States has begun to liberalize these awards when the promisor supposedly breaches "willfully".[51] But the moralists' attack is apt only for those who accept the economists' mistaken characterization that efficiency requires "breach." The fundamental insight—that exchange efficient contracts typically take form A or form C—is immune to the moralists' arguments: efficient behavior in both cases involves performance, not breach.

The new picture of contracting behavior set out here, because it fundamentally changes how one should understand contractual entitlements, also resolves another long-standing mystery. To see how, revisit two of the two decisions concerning entitlements that we distinguish: the choice of what substantive content a legal entitlement should have; and the choice of what remedy the law should provide for protecting the entitlement, so constructed. On the conventional view, the lawmaker (in common law systems, typically a court) makes both decisions. Our view, however, invites another, different understanding of contractual entitlements. According to this understanding, contractual entitlements are constructed by the contracting parties. This principle (which effectively everyone accepts with respect to any number of elements of contracts—prices, for example, or quantities, and also physical attributes of goods and services traded) necessarily extends to matters conventionally thought of as concerning remedies, which we now see actually involve the substantive contents of contractual entitlements (in just the ordinary way in which questions of price and quantity do). We therefore

[50] See, e.g., Seana Shiffrin, *Could* Breach of Contract Be Immoral?, 107 Mich. L. Rev. 1551, 1565–66 (2009); Seana Shiffrin, The Divergence of Contract and Promise, 120 Harv. L. Rev. 708, 710 (2007); Richard R. W. Brooks, The Efficient Performance Hypothesis, 116 Yale L.J. 568, 572–73 (2006); Melvin Eisenberg, The Disgorgement Interest in Contract Law, 105 Mich. L. Rev. 559, 562 (2006); Melvin Eisenberg, Actual and Virtual Specific Performance, the Theory of Efficient Breach, and the Indifference Principle in Contract Law, 93 Calif. L. Rev. 975, 977–78 (2005); Daniel Friedman, The Efficient Breach Fallacy, 18 J. Legal Stud. 1–2 (1989). Some of these critics also, and for much the same reasons, attack other conventional doctrines that operate in conjunction with, and support, the expectation remedy—including most notably that disappointed promisees must mitigate damages or risk not being made whole. The debate between moralists and efficiency theorists is extensively summarized in Matthew A. Seligman, "Moral Diversity, Efficient Breach, and the Regulation of Contracts", Manuscript (2018) (suggesting that when agents intend the contract we classify as A, the contract should make clear that paying the promisee's expectation is an alternative performance in order to prevent naïve promisors from believing that they must always transfer the goods (i.e., that they have made Contract B)).

[51] See note 11 for an explanation of gain based damages.

resolve a longstanding puzzle over why freedom of contract ends with the contract's substantive terms. The solution is to cut the knot: there is no good reason to restrict the parties' freedom to the substantive terms because the terms and the remedy are one and the same.

Our approach to contract is not just a theoretical curiosity; if adopted, the approach will alter legal outcomes because it changes the question that a court should ask when determining which remedy to award for breach of contract. On the conventional view, a court facing this issue must decide what the law should be—it must decide, that is, whether contractual interests should receive liability rule or property rule protection. As said above, this question is quite literally a nonsense. Instead, a court facing the remedial phase of a breach of contract action should ask the interpretive question—what substantive content did the parties give to the promisee's interest in performance.

There are two legal implications.

First, if parties make the goods contract, courts should routinely grant specific performance; and if parties make the transfer contract courts should routinely enforce the transfer. Under current law, however, courts can reject contractual demands for specific performance, and they police contractual transfers to ensure that the transfer reflects a reasonable prediction of the promisee's expectation. Courts thus ask whether the conditions for specific performance are met, such as whether the contract goods are unique or whether the buyer has an adequate remedy at law. To be sure, answering these questions correctly can put a court in the same place as if it had asked the right question. Thus, as said, the buyer cannot have an adequate remedy at law—damages—when his contract rejects damages. But parties should not risk judicial error. Similarly, it is a mistake for courts to review transfer contracts more skeptically than they review any other contract terms. Because the expectation remedy is optimal in an exchange efficiency world, parties have no incentive to write transfers that deviate from their best estimate of the expectation. Their contractual estimate will be more accurate than a court's ex post reconstruction of what the parties' ex ante estimate should have been.[52]

Second, courts should not award gain based damages. If parties have made Contracts A or C, the promisee is not entitled to a share of the gains that not trading with him could create. Rather, the promisee is only entitled to the value that transfer of the goods (or any subject of sale) would have yielded *for him*. And if parties made Contract B, the promisee has the power to capture a share of the "non-trading" gain on his own by requiring the promisor to buy the right to trade elsewhere or otherwise reallocate her assets.[53]

We conclude this discussion of contracts by discussing a jurisprudential question where the power to make private law lies. It is natural to say that the choice whether to protect a contractual interest with a property rule or a liability rule is for the court rather than the parties.

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[52] See Alan Schwartz, "The Myth that Promisees Prefer Supra-Compensatory Remedies", 100 Yale L. J. 369 (1990).

[53] If the promisor has sold the goods to a good faith purchaser, the law imposes a constructive trust on the sale proceeds in favor of the promisee. Because under Contract B the promisee has purchased the goods, rather than the value the goods would have had for him, the promisee is entitled to whatever the goods could bring on the market.

Contracting parties, as one judge has observed, do not establish the legal form within which they contract:

> ‘‘[the] obligation of the contract does not inhere or subsist in the agreement itself *proprio vigore*, but in the law applicable to the agreement, that is, in the act of the law in binding the promisor to perform his promise. When it is said that one who enters upon an undertaking assumes the legal duties relating to it, what is really meant is that the law imposes the duties on him. A contract is not a law, nor does it make law. It is the agreement plus the law that makes the ordinary contract an enforceable obligation.’’[54]

On this view of the proper roles of the private parties and the state, contracting parties could not create contract law—they lack the legal authority and normative power to do so. The decision whether to protect contractual entitlements through liability rules (as on conventional views of the expectation remedy) or through property rules (as on conventional understandings of specific performance and restitution) is therefore properly a choice of the law-maker. And it is therefore proper for legal theory to develop arguments that might aid the law-maker in how best to make this choice. That is what the conventional debate about contract remedies—the debate between economic champions and moralist critics of efficient breach—purports to do.

The quoted view does not determine the choice between "expectation damages" and "specific performance," however, because the choice which contract terms to adopt— what substance to give a promisee's contractual entitlements — *is for the parties* rather than for the courts. Parties clearly do create their contracts and give them substance and clearly do possess the legal authority and normative power to do so. Indeed, fixing the substance of individual contracts is distinctively the task of the parties and not of the courts—to observe this is just to restate the principle of freedom of contract that grounds contract law. Moreover, legal theory stands in a different and less didactic relationship to the parties than it does to the courts, because the same considerations that lead freedom of contract to insulate parties from judicial intrusion into their affairs also caution against theoretical meddling. A theorist might, to be sure, give the parties advice about what substantive contract terms they will find advantageous—in the way in which lawyers might give clients not just legal but also business advice. But business matters are best addressed by the parties, whose ears (and feet) are nearer the ground. Reframing the debate about the legal form of contract remedies as a debate, not about what courts should do, but about which contract the parties made, therefore leaves the conventional proponents of both sides of the debate with literally nothing to say.

The reframing does, however, open up a new question that is properly addressed by lawmakers and legal theorists. This is the question how far freedom of contract should extend to the choice between constructing contract entitlements as EVs – entitlements to value – or as ETs – entitlements to things. Concretely, should contracting parties be free to agree to promises that are not in the alternative, so that a promisor performs only by transferring the goods? Put more familiarly, should contracting parties be free to contract for specific performance? This is not just the old question dressed up in new clothes, because the principle of freedom of contract

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[54] *See* Groves v. John Wunder Co., 286 N.W. 235, ___ (Minn. 1939) (Olson, J., dissenting) (quoting 12 Am. Jur., Contracts, § 2.).

entails that substantial and systematic considerations—touching on values like dignity and equality of status—are required to sustain an argument that agents should not be free. Showing that contractual entitlements constructed as ETs tend to be inefficient thus is not enough to support the conclusion that the law should forbid them; nor is showing that contractual entitlements constructed as EVs tend to favor one or another type of agent is enough for law to require them. We have jointly argued that the expectation remedy does not in fact favor breaching promisors.[55] But these arguments are in a way beside the present point. Freedom of contract should apply to party-choices to construct entitlements as EVs or as ETs in just the ways in which it applies to party-choices concerning price, quantity, and quality.

The law regarding "specific performance" and "penalty clauses" is mandatory rules only because courts have treated these doctrines as concerning the legal form of protection that the law should offer contractual entitlements rather than concerning the substantive content of these entitlements. If party agreements concerning "specific performance" and "penalty clauses" were efforts to displace liability rule with property rule protection and in this way to change the law, then courts should block the efforts: the parties, once again, lack the normative power to make law. Treating such agreements as attempts to change the law also authorizes courts to impose themselves over and against party choice: freedom of contract would otherwise dictate that the substantive content of contractual entitlements is matter for the parties, not for the courts. But contracts that may require penalties or specific performance do not change the law. Rather, both types of arrangements represent agents' efforts to alter the substantive content of contractual entitlements only.

Once again, these reflections accept that remedy law (like every other area of doctrine) is properly for the state. Nor does anything we say challenge the view that the state might recognize legal rights and obligations that it, simultaneously, declines fully to enforce.[56] Reasons concerning justice or even merely prudence counsel modesty concerning remedies—as we earlier acknowledged in our discussion of tort remedies for personal injury. But where the state—for good reasons—gives private parties the legal power to fix the metes and bounds of their rights, then the reasons for giving the parties this power also entail that much of what commentators commonly (in the spirit of C&M) conceive as state choices concerning remedies should instead be understood in terms of party choices concerning the content of rights. And questions that are currently debated in terms of mandatory legal doctrines should be approached as exercises in interpretation. A state that is committed to freedom of contract in general should apply it to questions conventionally viewed as involving remedies and so should be hospitable to our approach.

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[55] See, e.g., Daniel Markovits and Alan Schwartz, supra note 43; Daniel Markovits, "Sharing Ex Ante and Sharing Ex Post:The Non-contractual Basis of Fiduciary Relations", in Andrew S. Goldand Paul B. Miller, eds., "The Philosophical Foundations of Fiduciary Law" (OUP: 2014); Daniel Markovits and Alan Schwartz, "The Expectation Remedy Revisited", 98 VIRGINIA LAW REVIEW 1093 (2012); Daniel Markovits and Alan Schwartz, "The Expectation Remedy and the Promissory Basis of Contract", 45 SUFFOLK LAW REVIEW 799 (2012) (symposium in honor of the 30th anniversary of the publication of Contract as Promise); and Daniel Markovits and Alan Schwartz, "The Myth of Efficient Breach: New Defenses of the Expectation Interest", 97 VIRGINIA LAW REVIEW 1939 (2011).

[56] An exchange with Liam Murphy helped us to clarify these claims.

6. Private Law Applications II: Good Faith Purchase, Preliminary Agreements, Adverse Possession and Hostile Takeovers

Part 5 considered the case when private agents created the relevant right and the court's task was to identify the remedy that the agents' choice implied. We now consider four cases in which creating rights by contract is infeasible. Rather, the state moves first, to allocate a property right to one of the possible agents. For example, an owner whose goods were stolen could not have bargained ex ante with an agent who purchased the goods from an intermediary. Instead, the state must decide which of these parties has the stronger right. But if the owner locates the goods, the two could bargain over who ultimately gets them. Hence, the decision maker should allocate the initial right to the goods with an eye to whether the agents could efficiently contract to alter the allocation if the rights holder was not the highest valuer. The cases we consider here thus lie on the intersection of property law – the allocation question – and contract law – the bargaining question. Following the analyses in Parts 4 and 5, we argue that the state sometimes does not look to the later contracting context: that is, the state sometimes creates property rights that require asymmetric information bargains to reallocate. This is a mistake because some of these bargains could fail.

6.1 Good Faith Purchase

We begin with the law of good faith purchase. In both Europe and America, owners' rights are property rule protected: an owner can exclude others from her property and can reject any offer to buy. We now consider the case when a thief takes the property and, through a chain of sales, a good faith purchaser comes to possess it. Is the original property owner's right strong enough to permit the owner to exclude the purchaser? Under American law, the right to exclude permits the original owner to recover the goods from the ultimate transferee. Under European law, she cannot if the transferee purchased in good faith on the market or from a merchant.[57] The American property right thus is stronger than the European property right. Using the framework Part 4 develops, we ask whether the content of the American right should extend as far as it does.

There are three cases to consider. In the first, the original owner and the ultimate purchaser value the stolen goods equally.[58] On this assumption, the European rule is preferable because it reduces transaction costs: the European original owner of stolen goods searches less for them than the American owner because the European owner probably could not recover the goods from the ultimate purchaser; and the European purchaser checks title less exhaustively than her American counterpart just because the European owner searches less. The additional transaction costs – to search and to check -- that the American rule induces agents to incur would be a dead weight loss because there is no utility gain from retransferring equally valued goods.

The assumption that original owners and ultimate transferees value the goods equally is unrealistic, however. When valuations are unequal, the state should allocate the stronger

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[57] A general analysis of good faith purchase issues is Alan Schwartz and Robert E. Scott, "Rethinking the Laws of Good Faith Purchase", 111 Colum. L. Rev. 1332 (2011).

[58] Landes and Posner assume equal valuations in their interesting analysis of the market for stolen art. See William Landes and Richard E. Posner, "The Economics of Legal Disputes Over the Ownership of Works of Art and Other Collectibles" in Selected Essays (V.A. Ginsberg & P.M. Menger eds., 1996).

property right to the original owner if the owner had the higher valuation. There are two reasons. Initially, suppose that information is symmetric but the good faith purchaser had the strong property right. This would disadvantage the original owner in the bargaining game. The low valuing buyer could make a series of take-it-or-leave-it offers or counteroffers that would extract much of the owner's gain from recovering the asset. An owner who anticipates receiving little surplus if she finds the asset would not search intensively for it.Thus, allocating the right to the buyer would reduce exchange efficiency.[59]

Next suppose that information is asymmetric. If the high valuer has the property right, there is no bid the low valuing agent could make that would cause the high valuer to sell the goods. And this would be the exchange efficient result. If the low valuing buyer had the property right, however, there is no certainty that the owner could buy the asset back. The argument here is similar to the argument for a strong property right in investment economies. The relevant investment would be the original owner's search for her goods. Because bargaining between the owner and low valuing buyer may fail, the owner with the higher valuation may not end up with the asset. An owner who anticipated that she may be unable to buy valued goods back from ultimate buyers would search less intensively for them. This is a variant of the underinvestment result that giving the property owner the right to exclude is meant to avoid.

The American rule, which allocates the property right to the original owner, thus is more efficient than the European rule *if* original owners usually have higher valuations than good faith purchasers. This is because the owner then would be appropriately advantaged in the bargaining game or could recover the goods just by making a demand. Which agent has the higher valuation is an empirical question, but it is the right empirical question. We speculate that original owners do have higher valuations. Initially, the good faith purchaser is buying on a market but nevertheless it is purchasing stolen goods. Commercial buyers from thieves usually offer low prices because the thieves' titles are problematic and thieves seldom can make credible title warranties. Because price equals cost in competitive markers, that the cost of stolen goods is low to merchant sellers implies that the these sellers charge low prices to ultimate market buyers.[60] The low prices permit buyers with low valuations to enter the market. On the other hand, original owners pay market prices that are not heavily discounted for the possibility of theft. And because they have not sold, the owners actually value the goods above the higher of the two market prices. Also, original owners may have invested in making the goods useful to them: i.e., altering a machine to fit the owner's building. These factors together suggest that original owners have higher valuations as a rule, a suggestion that is consistent with the owners' incurring what likely are the high costs of tracking down stolen goods.[61] The American rule thus is preferable to the

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[59] The theory is developed in Bar-Gill and Persico, supra note 32. They explain (at 247): Suppose that "in a series of take-it-or-leave-it offer bargaining games, high valuation agents were systematically relegated to 'second mover' status, regardless of whether they are owners or takers. In this case, high valuation agents would be fully expropriated and would therefore have little incentive to gain control of the asset. This disincentive works against efficiency."

[60] A low market price, as opposed to an inexplicably low price from a single seller, has never constituted bad faith.

[61] A more technical way to put our claim is that the mean of a distribution of original owner valuations would lie well to the right of the mean of a distribution of good faith purchaser valuations.

European rule because the American rule allocates the strong property right to the likely higher valuer.[62]

Two conclusions follow. Substantively, investment – here seach -- efficiency is better realized, in the good faith purchase context, by endowing original owners of goods with strong property rights in them as against involuntary takers and their transferees. Methodologically, American law, unthinkingly as it were, allocates the strong property right to the original owner. It would be a better procedure to ask, as an original matter, where the stronger property right should lie. Proceeding in the former, standard, way may be why European decision-makers miss that the American rule rests on a plausible but not rigorously verified assumption regarding the comparative valulations of original owners and good faith purchasers.

6.2 Preliminary Agreements

Our second example concerns what are called preliminary agreements. Agents make a preliminary agreement when they create a framework which governs how the agents – two usually but sometimes more -- will pursue a joint project such as creating a new drug or a new software program. The framework agreement allocates tasks – agent A will invest in R&D; agent B will invest in uncovering marketing opportunities – and creates obligations to report what the tasks revealed. One of these agents – call her Agent A – sometimes defects: that is, she fails to do the assigned R&D or the marketing research, instead waiting to see what Agent B's investment will reveal. She will exit if, in her view, the information is sufficiently negative. Defection makes Agent B's investment worthless because there will be no project. The law cannot award Agent B his expectation, however, because, when defection occurs before a final product is developed, B has no contractually created gain to protect. Another way to put this result is that the agents cannot allocate the right to a developed product by contract because the deal breaks up before there is a developed product. On the other hand, the state can allocate preliminary investment costs to one or the other of the two agents.

The law attempts to protect Agent B by preventing Agent A from defecting from a framework agreement unless she first "bargains in good faith" with her counterparty, Agent B, over the defection decision. If the court finds that Agent A failed to bargain in good faith, it will hold Agent A liable for Agent B's reliance costs. The bargaining issues will concern the plausibility of A's view that the project would not succeed and the magnitude and justifiability of the costs B incurred. Such bargaining could be inconclusive because Agent A could not observe B's costs and Agent B cannot observe A's reasoning process or the value of A's alternative opportunity, the pursuit of which A's defection made possible. If, however, bargaining does not lead to a mutually satisfactory outcome, further recourse to the court may not avail: because the relevant parameters commonly would be unverifiable, the court could not know whether Agent A bargained in good faith over them or not. As a consequence, Agent A's wrongful defection may go unpunished. A better approach, one of us has argued, is for the law to drop the good faith bargain requirement in favor of giving the agent who did not defect as much of a property right as the law could enforce. Under this rule, when Agent A wrongfully defects Agent B could

[62] The additional transaction costs the American rule induces an owner to incur are not wasted because they reflect optimal investments to maximize the relatively high value the goods have for her.

recover her verifiable investment costs. This may reduce inefficient defections.[63] And concluding with our framework, relying on bargaining to yield efficient exit decisions in the preliminary agreement context is a mistake; assigning the property right to the nondefecting agent likely would do better.

6.3 Adverse Possession

In dramatic contrast to the preliminary agreement cases, property law dispenses with bargaining altogether in adverse possession cases. In these cases, an agent – the adverse possessor "AP" – takes possession of an absent O's land. AP can obtain a good title if "her possession was actual, hostile, open and notorious, and continuous for the period of the statute of limitations."[64] AP's investment to improve the land's value satisfies these requirements. The investment, if nontrivial, would be "actual" and observable to third parties; and it would be hostile in that AP is investing to maximize its return, not O's return. When the elements of the rule are satisfied, title transfers from O to AP by operation of law: that is, without bargaining between the agents. Adverse possession doctrine encourages investment efficiency by permitting the adverse possessor who makes long-term investments in land to realize the product; and it encourages investment by the owner by depriving him of title if he allows land to lie waste for a long period.

The law's forced transfer – i.e., its dispensing with bargaining – increases investment efficiency in a subtle way. To be sure, AP cannot bargain with an absent O, but the cases arise when O returns. The adverse possessor would be seriously disadvantaged if the law, for example, then required the two agents to "bargain in goodf faith" over title. This not only is because values – e.g., how much O cares – probably would not be observable. It also is because AP's investments would be sunk at bargaining time, and so would not figure in the bargaining game. Put more directly, bargaining may give AP a share of the future surplus the land could yield but (a) would not compensate AP for sunk costs and (b) would induce him to underinvest in improvements that would yield returns after the bargain between AP and O were concluded because AP could only recover a share of those returns. It is only a forced transfer of title to AP, rather than relying on the agents to bargain, that gives AP efficient incentives to invest in the land and gives O efficient incentives to protect his rights (because he loses all of them, he will invest in his property or invest in monitoring its occupancy in order to maximize all of them). In contrast to the good faith purchase case, then, weakening the original owner's property right is more likely in the adverse possession context to produce investment efficiency than not weakening it.

6.4 Hostile Takeovers

The question whether the corporate governance rules regulating takeovers yield exchange efficiency in the public company market for corporate control turns on who should have the right to accept or reject bids for the target: the potential target's board or the target's shareholders.

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[63]For this proposal and an analysis of the problem, See Alan Schwartz and Robert E. Scott,"Precontractual Liability and Preliminary Agreements," 120 Harv. L. Rev. 661 (2007).

[64] Jeffrey E. Stake, "The Uneasy Case for Adverse Possession", 89 Geo. L. J. 2419, 2423 (2001). See also Restatement Third of Property §7.

Delaware law allocates the decision right – effectively, the right to exclude -- to the board. This is because the law permits strong defensive tactics, such as the poison pill and the staggered board, and these withdraw decision authority from the shareholders.

The current case for strong defensive tactics is that a board can bargain with the bidder over sale of the company as would a single owner of the target; the atomized shareholders of public companies cannot coordinate to bargain. Hence, a board with the same strong property right in the target as a single owner could negotiate a higher price than the shareholders could realize if the shareholders collectively had the power to decide.[65] This case for strong defensive tactics is questionable because replicating the single owner's strong property right is exchange inefficient relative to a weaker right that vests the power to decide in the shareholders.There are two reasons for this. First, defensive tactics are prices and the prices are set in advance of receiving bids.[66] The privately optimal target price – the defensive tactics level – is higher than the level that would encourage potential acquirers to search for targets and to bid. Second, and more relevant here, each target is unique to some extent so bargaining between a board with the property right and a potential bidder is one to one. However, the target's board may not know the value the bidder places on the target, and the bidder may not know the reservation price of a particular board. Hence, targets may strategically reject bids that should succeed. The resultant exchange inefficiency these two factors cause apparently is large.[67]

Now let target shareholders collectively have the right to exclude: that is, to reject bids. When shareholders are numerous, as in many public companies, a prospective acquirer cannot bargain with each of them. Rather, the acquirer would make a take it or leave offer for each each share. Rationality implies that such a bid will be below the value the acquirer expects to create with the acquisition. Because an individual shareholder's decision to accept or not cannot affect the bid's success, each shareholder will say yes if the bid nontrivially exceeds her share of the target's cost (i.e., the current price per share). As a consequence, an *accepted bid* is exchange efficient: it is below the buyer's value and above the seller's cost. To be sure, shareholders will tender to bids that their boards would reject, but the issue is not how the surplus from a deal is allocated; it is whether allocating the property right to the shareholders or to the board is more likely to ensure that target assets move to higher valuing acquirers. The current Delaware legal regime allocates the property right to the board, through its approval of defensive tactic. Thus,

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[65] The best argument for this view is Lucian A. Bebchuk, "The Sole Owner Standard for Takeover Policy", 17 J. Legal Studies 197 (1988). For a critical response, see Alan Schwartz, "The Fairness of Tender Offer Prices in Utilitarian theory", 17 J. Legal Studies 165 (1988).

[66] To see how defensive tactics determine bid prices, define the bidder's value as a_v, the target seller's cost – i.e., its value for the target -- as s_v, the seller's share of the expected surplus from the deal, as a function of the defensive tactics level it chose, as $0 < \lambda_{dt} \leq 1$, and the bid price as p. The surplus from a made deal would be $S = a_v - s_v$.The buyer's gain is his valuation less the bid price, which equals his share of the deal surplus: $a_v - p = (1 - \lambda_{dt})S$. Rearranging terms yields the price: $p = a_v - (1 - \lambda_{dt})S$. The bid price, p, is increasing in λ_{dt}, the target seller's share: the greater is that share, the more the acquirer must bid to prevail. For example, if the seller chose a defensive tactics level that would permit it to realize 2/3 of the gain from an acquisition, the price will be higher than if the defensive tactics level permited the seller to realize ½ the gain. Intuitively, the price is the mechanism that permits the seller to appropriate deal surplus.

[67] Analysts using simulations to solve a search model of the market for corporate control estimated the exchange inefficiency as over $200 billion per year in lost deal value from unmade acquisitions. See Ronald J. Gilson and Alan Schwartz, "Defensive Tactics and Optimal Search: A Simulation Approach", Manuscript 2018.

this regime relies on asymmetric bargaining to yield exchange efficiency in the market for corporate control. This is a mistake because, as shown, allocating a weak property right to the shareholders rather than allocating a strong property right to the target's board will yield exchange efficiency in more cases.

6.5 *Summary*

The C&M framework tells the decision maker first to allocate the property right and then to ask how the property right should be protected. There is a tendency, when proceeding in this way, always to create strong property rights. The state does proceed in this way in the common belief that strong property rights always yield exchange efficiency: parties will trade a right when a trade would be efficient and not trade when trade would be inefficient. This belief is correct when agents are informed about each other's costs and valuations but, the four examples here show, is too strong when agents are asymmetrically informed. Then made trades usually are efficient but unmade trades may not be.

Another way to put this point is that when agents are perfectly informed the state's allocation of the property right does not matter[68] but when agents are imperfectly informed the allocation can be outcome determinative. For the state, then, to allocate property rights as if the allocation never matters – that is, to ignore possible bargaining inefficiencies – is a mistake. Our examples here show that the state sometimes makes this mistake but at other times does not. In the good faith purchase context, focusing first on the property right shows that the American allocation of a strong property right to the original owner is justifiable because it avoids bargains, but only if a plausible but empirically unverified assumption about relative valuations turns out to be correct. And in the adverse possession context, the state intelligently dispenses with bargains altogether in favor of maximizing investment efficiency. But in the takeover and preliminary agreement fields, the law creates strong property rights, which may not be efficiently undone by private bargains, when the rights actually should be weak. These results, tentative though they are, reinforce the claim that decision makers should focus on the first order question regarding the properties that entitlements should have – here, whether they should be strong or weak -- rather than focusing on the second order question how entitlements are best protected.

7. Classifying Rights and Clarifying the C&M Descriptive Claim

C&M's approach makes two principal contributions to private law: it develops a classification scheme for remedies (property rules or liability rules); and it identifies considerations (independent of rights) that should guide decision makers in deciding which remedy to use. The second contribution is unnecessary and confusing because it engages the issues at the wrong place. When entitlements entail their protective forms, there is no policy analysis for the decision maker to make. We return in this Part to the classification prong of the C&M scheme.

We said, in Part 1 above, that the C&M distinction usefully classifies remedies but the distinction itself cannot match actual remedies to actual entitlements: for that, more analysis is needed. To clarify, an analyst may claim that an entitlement E* is protected by a liability rule but

[68] This is the Coase Theorem.

a close institutional imquiry may show that E* actually is property rule protected. In particular, C&M claimed that most property is protected by property rules. This is a mistake: much valuable property today is held in the form of contract rights to monetary payments or to the appreciation in the value of the underlying contract rights. The contracts are shares of stock, bonds, and pension rights. Using the terminology developed in Part 5, these are "A Contracts": that is, value contracts. And because value contracts are liability rule protected (e.g., the expectation interest for contracts), it follows that most current property is liability rule protected as well. Our goal here, however, is not only to correct classification errors. We also have a normative point: any proposed reform of entitlements, or the forms of their protection, will be misguided if the reformer begins by mistaking the match between the entitlement of interest and the remedy that currently protects it..

7.1 Corporate Property and Investor Property

A corporation embeds the ownership of ordinary property within a contractual structure. Because it enjoys legal personality, the corporation itself holds – as a free-standing property owner – the assets it possesses. These assets are, one might say, the corporation's private property. The typical corporation does not consume its assets in the ordinary manner of natural persons, but instead deploys them to make a profit. Profit-generation, and hence production, is the corporation's preferred or even exclusive consumption good, in the technical sense that we give the term.[69] It is therefore unsurprising that corporations typically own their assets subject to the regime that we have earlier described in connection with private property. Ownership, that is, gives corporations ETs in their assets because the corporation cannot pursue its program unless its entitlements are good *in rem*. Hence, the state must define the substance and scope of the corporate entitlement.

Turning now to investors, bondholders lend money to the corporation and have a direct claim on the corporation's income stream up to the face value of the debt; they do not have an ownership stake in the firm itself. Shareholders also have no legal authority directly to administer the firm.[70] Their authority is limited to electing directors and, at least de jure, to voting on such end game issues as whether the firm should be sold or not. Common shareholders, however, are the firm's residual claimants: they have a right to the firm's profits, which they receive directly in the form of dividends or stock buybacks or upon liquidation, and receive indirectly when they sell the shares of firms that are or are expected to be profitable.

Both bondholder and shareholder rights are *contract rights*, with the corporation as promisor. The bondholders' and the shareholders' contractual claims do take tangible forms: the bond and the stock certificate. But a person who buys a bond or a share of stock does not purchase one of these forms: they are just pieces of paper. Rather, the person buys the value of the contract right: to the lower part of the the corporation's income stream for a bondholder or to the upper part – the residual claim – for a shareholder. If the corporation breaches by, say, not

[69] There is no necessity in this, and a corporation may be constructed to "consume" assets in the ordinary sense, for example by acquiring and destroying them. Few shareholders would have an interest in owning shares of such a firm, but this is because of the typical substantive interests of the natural persons who in the end own shares in corporations rather than because of the inner logic of the corporate form.

[70] See Delaware Corporate Code §141: A corporation is managed by its board of directors.

paying a debt, the promisee bondholder sues for money. And if the corporation breaches by permitting the manager to appropriate an opportunity that is the company's, the promisee shareholder sues to recover for her company, and hence partly for herself, *the value* of that opportunity.

Applying our framework to these arrangements casts the question what ownership means in a new light. With respect to productive rather than personal property—property held to promote ongoing joint projects undertaken with others rather than by individual owners for individual use—the overwhelming preponderance of property entitlements are constructed, by their beneficial owners, as entitlements to value – EVs – rather than entitlements to tangible things – ETs. EVs imply liability rule protection: the entitlement holder wants the value of the entitlement, not the physical form the entitlement may take. Therefore, using C&M's phraseology but contrary to their suggestion, because the EV is protected with a liability rule, the beneficial owners of productive property in a modern economy receive liability rule protection.

Another way to put this result is that the modern corporation is a legal device for embedding property in contract and so for constructing a shareholder or bondholder's ownership entitlement in the corporation's property as an EV rather than an ET. The managers and directors are charged to manage the corporation's assets –to maximize the V. This arrangement may also be described in more conventional terms, and the description is revealing. Shareholders own the property the corporation holds subject to liability rule protection only, with directors and managers enjoying a right (and the duty) to expropriate the property at a wealth-maximizing price (subject to loose supervision by courts applying highly deferential review under the business judgment rule). That is what it means for the managers to manage the corporation's property to maximize profits.

Moreover, most individual investors in fact arrange their (beneficial) ownership of productive property through layers of contractual arrangements. The investors commonly do not own shares of individual corporations directly, or own bonds directly, but rather own shares in investment funds that themselves own shares of stock, or own funds that own corporate bonds. Often, in fact, funds own shares of funds that own shares of stock, and so on. Fund managers stand, with respect to fund investors, in a relationship structurally analogous to the relationship in which a corporation's directors and managers stand with respect to shareholders:that is, they are charged with maximizin the value of the fund. The fund managers thus in effect insert another layer of liability-rule structure between natural persons and the productive property – now held by a corporation whose shares are held by a fund – that they beneficially own. To return to our contract typology, individuals make contracts with funds to manage the individuals' financial assets. An individual would not write Contract B with a fund – the goods contract – because individuals lack the time, and often the expertise, to monitor fund manager performance. Hence, individuals write contract A – the value contract: a manager who is careless or disloyal is liable for the value decline attributable to his behavior.

It is illuminating to contrast a shareholder's remedy against her corporation with the buyer's remedy against an agent who breaches a contract to sell shares. The holder of a share of stock in a company owns two things: the right that the company administer its property to maximize profits and the right to vote on important decisions, such as who should be directors.

Hence, a buyer of that share purchases both rights. If there is a liquid market in the stock, and the seller fails to tender, the buyer is adequately compensated by giving him the difference between the market price of the share and the contract price; for then, a buyer could purchase company shares elsewhere and acquire the shareholder rights. But if the market is illiquid or the buyer bought a controlling block, money damages would compensate him only for the lost value. He could not purchase other shares and so have the right to participate in the affairs of the company. In these latter cases, the buyer purchased an EV *and also* an ET: the right to vote. Because a damages remedy would be inadequate in these cases, parties make Contract B: the goods contract.[71]

The terms that we employ in distinguishing between personal property and productive property thus permit us to correct the C&M error that much property ownership is property-rule-protected. To the contrary, in the United States today, property that is deployed for productive purposes, rather than held for consumption or as non-invested savings, is owned subject to contractual arrangements of the sort just described, which give its beneficial owners EVs rather than ETs. Nearly 85 percent of all non-residential private fixed assets in the US are held on terms that leave them under non-owner management.[72] The assets thus are owned, by their beneficial owners, as EVs rather than ETs. Moreover, perhaps two-thirds of all equities are held in portfolios that are professionally managed by others than their beneficial owners,[73] and are thus again owned by these beneficial owners as EVs rather than ETs. Contrariwise, in the United States today, property whose beneficial owners hold ETs rather than EVs is predominantly not deployed in investment or production but rather held for consumption or, purely passively, for savings. Owner-occupied housing, for example, accounts for nearly a third of household net worth in the United States and for a much greater share of the net worth of households in the bottom 90 percent of the income distribution.[74]

Property in the United States may thus be roughly but revealingly separated into two bundles. One – by far the smaller – consists of personal property, devoted principally to consumption (but also, secondarily, to passive savings). This type of property is held in the form imagined by conventional entitlement theory: as what we call an ET, with ownership protected by a property rule – the right to exclude. (We note again that for reasons elaborated earlier, this protection may be too broad.) The other – and much larger – sphere consists of what we call productive property, which is held in a very different form, by beneficial owners who have by

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[71] Note that in shareholder to shareholder contracts a court need not monitor a complex performance over time. Rather, the buyer needs only a court order requiring the seller to tender.

[72] See Tables 4.1, 5.1, Fixed Assets, Bureau of Economic Analysis, https://www.bea.gov/iTable/index_FA.cfm

[73] "The proportion of U.S. public equities managed by institutions has risen steadily over the past six decades, from about 7 or 8% of market capitalization in 1950, to about 67 % in 2010. The shift has come as more American families participate in the capital markets through pooled-investment vehicles, such as mutual funds and exchange traded funds (ETFs). Institutional investor ownership is an even more significant factor in the largest corporations: In 2009, institutional investors owned in the aggregate 73%of the outstanding equity in the 1,000 largest U.S. corporations." Speech by Luis Aguilar, Commissioner Luis A. Aguilar U.S. Securities and Exchange Commission, "Institutional Investors: Power and Responsibility" (https://www.sec.gov/news/speech/2013-spch041913laahtm#P21_2800) (Data in the speech is quoted from "The 2010 Institutional Investment Report" by Conference Board).

[74] See Matteo Iacoviello, Housing Wealth and Consumption, Board of Governors of the Federal Reserve System International Finance Discussion Papers, Number 1027, April 2011, available at https://www.federalreserve.gov/pubs/ifdp/2011/1027/ifdp1027.htm.

various contractual arrangements appointed third party managers to expropriate them at appropriate prices. Productive property, that is, is held by owners who have EVs, and is thus subject to what is commonly called liability rule protection. The true state of affairs concerning who owns what, *and* how the what is protected, thus departs dramatically from the assumption that C&M made in inventing their distinction and that virtually all subsequent commentators accept. Rather, focusing on an entitlement's content rather than the mode of its protection reveals that *property* is predominantly protected with *liability* rules.

7.2 Fiat Money

A final example extends our earlier discussion of fiat money to illustrate in a pure, though abstract, way our general point that understanding the nature of property requires a focus on the the particular entitlement's nature rather than the legal remedy that may protect it. Common sense treats money as a thing – an item that is held as property. A familiar way to describe a rich person is to say that she "has a lot of money." If money is property, however, it is an odd sort of property: an owner of a sum of money – $1,000, to return to the earlier example – necessarily possesses an EV rather than an ET. The entitlement may take a tangible form – perhaps as ten $100 bills – but money *just is* an entitlement to the value of those bills rather than to the bills themselves. For anyone to care about the thing that marks the entitlement – about any particular set of bills – is to mistake the entitlement's character. An agent may value physical paper currency itself, but then she is no longer would be an owner of *money* in the conventional sense; rather, she would be a currency collector.

The better to understand this conclusion, pursue the following thought experiment.[75] Imagine a society that, instead of using fiat money, regulated access to goods and services through a series of tickets. In order to own a sweater, a person would have to possess (and in the getting of the sweater, relinquish) a ticket that said "One Sweater." In order to travel by train from New Haven to New York, the traveler would have to possess (and in taking the journey relinquish) a ticket that said "One Train Ride from New Haven to New York;" and so on for all goods and all services. No one could use a good or service without the required ticket, a prohibition that government agents would enforce. In this world, it would be a mischaracterization to say that ticket holders possessed ETs in the tickets, or even that they possessed any *things* at all. Rather, the tickets help people (and the state) to keep track of the administrative system that governs control over them – over what they may use and do. Money is a highly abstracted and elaborated version of the ticket system. To hold a $10 bill is to hold a permission slip to consume a disjunction of conjunctions of goods and services whose cost, at prevailing prices, does not exceed ten dollars. Socialists from Marx forward have used versions of this thought experiment to argue that conventional bourgeois attitudes towards money fall into a more general and pathological version of the currency collector's attitude. That attitude, if held toward today's currency rather than, say, ancient coins, would be commodity fetishism, in the classic sense that it would misinterpret relations of constraint as things.[76]

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[75] The discussion below follows G.A. Cohen, Back to Socialist Basics, New Left Review I/207 pp. 3-16 (September-October 1994).

[76] This was Cohen's point also, and the argument of his that we have followed concludes here. Indeed, Cohen would likely have rejected the claims that we make next.

Our account of entitlement theory opens a new window into this familiar set of ideas. The point of money is not in fact to be a commodity at all but rather to be an index of terms of trade among all other commodities. Money, that is, is a creature of prices; and the value of money is constituted by prices. This point actually is presupposed in modern economic thought, which treats money not as an independent good but as the vector of relative prices of all other goods in an economy. This idea may be expressed in terms of our entitlement theory also: owning an ET in a sum of money is a conceptual impossibility; money just is – constitutively – an EV. Moreover, the value of money is in turn built from the terms of exchange of all the actual commodities in the economy whose trades money accounts for and facilitates. The value of a sum of money is thus constantly adjusted by virtually every economic act in the economy.

Once again, this thought may be expressed in the unhelpful terms of conventional entitlement theory. An owner of a sum of money necessarily receives liability rule protection. Indeed, to claim that money is "property rule protected" would be to mistake the particular sum for its physical manifestation, as if the importance of money lay in the pieces of paper by which it is recorded. Finally, money illustrates the logical end-point of liability rules in another way also: the value of a sum of money, being dependent on prices, is fixed by the sum total of all activities in the economy; and the owner of a sum of money may thus, in effect, be expropriated (on the margin only, of course) by every economic action that affects prices. The market is, in this sense, a court in which, with respect to value, all are judges.

8. The Liberty in Liability Rules

C&M claimed that property rules "involve a collective decision as to who is to be given an initial entitlement but not as to the value of the entitlement," and therefore "give rise to the least amount of state intervention,"[77] whereas liability rules, by contrast, "obviously . . . involve an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves."[78] This view is mistaken. A clear-eyed view of what actual entitlements are indicates that they, much more often than is commonly thought, are EVs. And when we see how these EVs function, we also see that their liberty inheres in the liability rules that protect them. Another way to put this point is that beginning analysis with the entitlement rather than the remedy not only reveals which remedy best protects the entitlement; it also reveals how the appropriate remedy can best protect other values, such as liberty.

The account of fiat money wears this liberty most obviously on its sleeve. To be sure, money marks relations of constraint. To fall into money fetishism and treat money as a thing, rather than a book-keeper for power, reflects an attempt to naturalize the constraint and thereby to dodge the insistent need that power justify its exercise. But power can operate in diffuse as well as concentrated ways, and its exercise may be widely dispersed as well as narrowly centralized. When we explain that money is essentially an EV rather than an ET, and thereby place money in the main stream of legal analysis concerning liability rules, we naturally invite reflection about who shall fix the quantum of value that the holder of a sum of money enjoys – who is the judge of money's worth? This leads to the formulation with which we concluded the

[77] C&M at 1092.
[78] C&M at 1092.

earlier discussion: that in a pure exchange economy, money's value is fixed by the market, understood as a court in which all are judges. Money remains a relation of constraint, to be sure; but it marks a form of constraint in which nobody is under any particular other person's thumb. Money thus shows a libertarian face. Finally, money's close connection to liberty is revealed where the connection is broken. Insofar as actual money departs from the index-good imagined for a pure exchange economy – for example, because actual money is made by central banks who set its price – the power whose exercise money records becomes concentrated in the persons who control the banks. This is why central banks are inevitably political institutions (and why their independence poses a problem for democratic politics).

The libertarian strand in EVs, and in the liability rules those EVs imply, runs through our other examples also. The corporate form, for instance, allows shareholders to own entitlements to the value of an economic activity without becoming identified with, or enmeshed in, the activity itself. A person may thus acquire an economic interest in agriculture without becoming a farmer, or in automobiles without becoming a cartwright. And it is precisely the deracinated character of the liability regime – the separation of the EV from the particularities of the thing it is an entitlement in – that gives owners the liberty to capture value without personal association or commitment.[79] By contrast, where the law restricts taking deracinated EV entitlements, for example by restricting the corporate form, this is experienced as forced association or even identification between owners and the practices that they own. The enduring rules against non-lawyer ownership of law firms have this quality, for example. They preclude taking a deracinated interested in the value of lawyering and thus construct the lawyer – exceptionally in the present social and economic order – as a thick role. Earlier social and economic orders embraced enormously more extensive and intensive versions of regimes that prohibit deracinated entitlements to work, money or land. Work was regimented by trades, professions, and servants' duties of obedience; consumption was regimented by custom and sumptuary codes; and land ownership was regimented by leaseholds and entailments. Few people could make, or use, or own, anything that differed from what they were born to make or use, or own. Most entitlements were therefore, in effect, entitlements to things – EoTs. Whatever else might be said in favor of such regimes, they restricted an important kind of freedom.

Indeed, wage employment itself creates libertywhen the entitlement to work is properly understood. Wage labor reconstructs a worker's interest in her labor as an EV, which her employer may direct at his discretion, to produce a gain that he may expropriate, at the price fixed by her contract. This allows a person to capture the value of her labor without becoming identified with the tasks that she does. Being an *employee* is the deracinated version of having a trade or profession; so that (very roughly) a worker's entitlement to her labor is partly instantiated in the wage contract that sets the value of that entitlement. Perhaps a more familiar way to put this point is that the worker does not own the job. This is why the employer can dismiss her. But then the worker can choose whether to associate herself with the job – be a Google person—or not associate herself with the job – detach herself publically and privately from the values and social roles Google occupies. There is thus a liberty in alienated labor.

[79] Walther Rathenau thought this the most important innovation associated with the corporate form. See Walther Rathenau, Von kommenden Dingen (1917).

The freedom at stake in EVs, this account reveals, is the freedom to benefit from an activity while remaining detached from it – the freedom to separate interest from social identity or even just self-conception. In this sense, an owner's relationship to her EV establishes a near polar contrast to her relationship to an ET. Whereas an O's personhood is wrapped up in her ET,[80] she benefits from her EV at arm's length. She therefore enjoys both practical and moral freedoms that would otherwise be closed to her. This arm's length relation to EV's renders the full panoply of economic life accessible to every person. An owner may, through an EV, benefit from her investments without assuming economic responsibility for managing them or assuming social responsibility for the thick cultural meanings of the assets she invested in. She may, moreover, join economic relations with others based on what one of us has called the thin solidarity of the market rather than the thick solidarity of the guild.[81] Her freedom has limits, of course, both practically and morally. For example, she cannot avoid moral responsibility for certain pernicious consequences of her ownership, such as her EV in a company that uses child or slave labor. But by allowing for ownership of EVs rather than just ETs, modern legal and economic arrangements massively expand practical opportunities for ownership – by eliminating constraints other than an agent's wealth – and substantially reduce the moral responsibilities of ownership by displacing the thick responsibility of constitutive social relations with the thin responsibility of means and ends.

When modern legal and economic arrangements make EVs rather than ETs the normal form of property, they also make deracinated entitlements the rule rather than the exception. This feature of modern property, moreover, arises organically and by decentralized choice rather than by central design or command. Owners, when allowed a choice, construct their entitlements as EVs rather than ETs – and in this sense also the rise of EVs in fact marks a flowering of choice in the construction of entitlements. Finally, this form of liberty is as real, and as morally consequential, as the forms of liberty that liberals more openly champion. The transformation in how ownership entitlements are protected has freed people quite generally to benefit from economic arrangements that older property regimes – which emphasized ET's, personhood, and the connection between property and caste – had closed off to them. Whatever one thinks of its distributive failings, one should not neglect that there is a liberalism in neo-liberalism. A focus on what the ownership of an entitlement entails brings this point out.

9. Conclusion

C&M developed a novel and important conceptual scheme. The scheme illuminatingly classifies a remedy as either a property rule, which protects an entitlement with injunctive relief, or a liability rule, which protects an entitlement with damages equal to the entitlement's value. C&M did not make first order inquiries into the properties of particular entitlements. Rather, they took entitlements as given, to ask when an entitlement is best protected with one or the other of the remedies they identified. The choice, for them and later commentators, should turn on which remedy generates fewer transaction costs. C&M also assumed that property rule protection was the norm, and was the remedy most consistent with a commitment to liberty. We accept the C&M classification scheme but otherwise develop a very different view of the relation between

[80] See, e.g., Margaret Jane Radin, Property and Personhood, supra note 15.
[81] See Daniel Markovits, "Market Solidarity", Inaugural Lecture as Guido Calabresi Professor of Law, Yale Law School (9 April 2012).

entitlements and the remedies that protect them. Our view can be sumarized with three novel points.

First, the properties of an entitlement imply the form of its protection. In the C&M scheme, there is a conceptual space between inquiring into which remedy best protects a private law entitlement and the properties the entitlement has or should have. Decision makers should fill the space by making a policy analysis. As we show, however, such a space seldom exists: the appropriate remedy commonly can be read off the properties of the entitlement at issue. This insight cabins a court's task to making a first order interpretative inquiry – what remedy does the entitlement at issue most accurately entail? – rather than making a second order implementation inquiry – what remedy best protects the assumed entitlement?

Second, because the interpretive issue is first order, the court should begin with analysis of the right rather than assume the right and begin with remedies. The failure to adhere to this order can cause normative mistakes. For example, the question *how* to protect an entitlement is unhelpful when the appropriate question is *whether* the entitlement should be protected at all, or if so how strongly. We illustrate this insight by showing that in some contexts refusals to trade, which strong property rights make possible, may create greater welfare losses than weak property rights to exclude. Assigning the right to bargain over an acquisition to a target's board rather than to its shareholders is a prominent example. The right is strong when the board holds it; weak when uncoordinated shareholders hold it. Weak is exchange efficient because shareholders are more likely to tender to ex ante efficient deals than boards are.

Third, the institutional issue regarding entitlements disaggregates into *three* questions rather than one: (a) What properties should an entitlement have? (b) Which institution should have the power to create or assign the entitlement? (c) What should the remedy be? When the state permits private agents to answer the first question, as in contract law, the state has no further role to play because the private agents resolution of question (a) determines the answers to questions (b) and (c).

The conventional view, in contrast to ours, holds that because remedies doctrine – being law – is for the courts, it is for the courts to decide what the remedy for a contract breach should be. Conventional contract law thus disfavors party efforts to contract into specific performance or contract for penalty clauses. Our third methodological point shows that such judicial control is a mistake. Because parties are free to construct their contract entitlements, they thus necessarily are free (*unless wrongly constrained*) to frame their entitlements in ways that determine the choice of what conventional C&M analysis mistakenly call "remedies." The question whether specific performance is the appropriate remedy for a breach of contract thus should turn, for example, on whether the parties made a contract to trade a particular item rather than to trade the value of that item. And conventional property law neglects the value that parties may realize by permitting involuntary expropriation and overlooks that beneficial owners, in order to realize this value, actually construct the preponderance of their entitlements to productive property as EVs.

At the same time, our argument's conditional structure leaves room for conventional approaches to remedies and to private entitlements. Therefore, we agree that the state may choose – for reasons of principle or even just policy – not to protect legal entitlements that it

establishes, including by limiting remedies that an entitlement otherwise would imply. Hence, our conclusions are most easily appreciated when agents are free to fix the content and scope of their entitlements, as by making a contract. In some cases, however, neither the parties nor any other legal actor connected to an entitlement possess the capacity to establish the entitlement's content or character *ex ante*. We have argued that the state here should construct entitlements that facilitate or realize efficiency. On the other hand, when the state's role is foregrounded, it becomes clear that the state can (and often does) also create entitlements for noneconomic reasons. In such cases, arguments about remedies provide a necessary and perhaps even exclusive venue for establishing rights. Something like this analytic method often operates in public law, as when disputes about the proper remedies for discrimination in fact fix the contents of the right to equal protection.

The method of beginning with remedies might also be apt in some nominally private law fields, including notably torts. Tort law is often understood, as Calabresi has elsewhere suggested,[82] as a device for balancing the benefits and burdens of productive but risky activity by allocating the cost of accidents. This view invites reframing debates about tort remedies as public law style debates about the limits of the liberty to engage in risky production and of the right to enjoy one's person or property free from accidental interference. The Calabresian view thereby rationalizes an inquiry into torts that begins with remedies, including with the distinction between property rules and liability rules. Our arguments against the conventional approach to remedies, and against C&M taken as an instance of this approach, therefore become less forceful as the analytic context becomes more public.

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[82] See Guido Calabresi, The Cost of Accidents: A Legal and Economic Analysis (1970).