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Recommended Citation

Omri Ben-Shahar, "Contract versus Property Damages," 12 Academia Sinica Law Journal 1 (2013).

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Contract versus Property Remedies

Omri Ben-Shahar†

This Article investigates the distinction between the remedies for breach of contract and for violation of property rights. It identifies a class of situation in which both types of remedies may be available to an aggrieved party. Using economic analysis, it argues that in these situations the unclear boundaries between contract and property remedies can create distortions in measuring recovery and in the incentive of wrongdoers. This distortion is aggravated by an additional option to measure damages based on ex-post realization versus ex ante expected value.

INTRODUCTION

This Article examines the interface between two types of damage remedies: for breach of contract and for violation of a property right. For example, an employee may cause harm to the employer's property, and this may constitute a breach of the employment contract but also a violation of the employer's physical property rights. Or, a licensee may make an unlicensed use of intellectual property rights, and this may constituted a breach the license contract and also an infringement upon the property rights of the licensor. Or, a seller may use the goods he already sold, but did not yet deliver, to the buyer, and this may be a breach of contract and also a violation of the buyer's acquired property rights.

In each one of these setting, the property owner has a contractual relation with the offender, and thus a fundamental question arises – which remedy applies? Is the aggrieved property owner entitled to the remedies that protect property rights? Or is he entitled to the remedies that protect the contractual relations he happens to have with the offender? Or, perhaps yet, is he entitled to both, or to a choice between the two arsenals of remedial claims?

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This article builds on and extends two previous articles, Ben-Shahar & Mikos (2005) and Ben-Shahar (2011).

This distinction between breach of contract and violation of property has important implications for measuring damages. Damages for breach of contract are based on a principle that is unique to contract law – the protection of the expectation interest of the aggrieved party. He is entitled to money damages that will provide him the benefit he expected to get from the contract, but not necessarily the value of the damaged property. In contrast, damages for violation of property rights are based on two different principles that are fundamental to property but not to contract law – harm and restitution. The offender has to pay for the harm to the damaged property, irrespective of the contractual expectations. And if the offender benefitted from the violation, this benefit can be disgorged and "returned" to the property owner.

Consider the following example: A copyright owner licenses the right to publish his novel in a specific medium, say, in paperback, to a licensee. The licensee commits one of three wrongful acts: (1) he launches the distribution belatedly, thereby reducing the owner's profits; (2) he distributes the work in additional media that were not covered by the license, and reaps much profits; (3) he makes changes to the text of the work, cutting chapters and revising the story's ending, to make the book more "marketable." In each of these cases, did he commit a breach of contract? Or did he infringe upon the owner's copyright? Are damages limited to the owner's lost profits, which might often be low or hard to prove, or could the damages instead be measured by the violator's profits, which are higher and easier to prove?

In the first part of this Article, I demonstrate that despite the clear conceptual abstract distinction between contract and property damages, the law has hard time determining which remedy is available when. The problem arises because the same behavior—the same offense—can be classified both as breach of contract and a violation of property. I survey some of the rules that American law uses to divide the work between contact and property law, and note a patterns of arbitrary and confused distinctions.

In the second part of the Article, I demonstrate another dichotomy that compounds the problem of damage assessment: the timing of measurement. Each damage measure—contract or property—can be measure either ex post or ex ante. An ex post measure focus on the *expected* value of the compensated interest as known at the time of the violation, whereas the ex post measure provides added accuracy by

setting the damages equal to the actual value as known at the time of trial.

The third part of the Article uses economic analysis to evaluate the effects of these fuzzy boundaries between contract and property damages, and between ex post and ex ante damages. One of the most surprising effects is the ability of a litigant to choose which remedy (contract versus property and which measurement methodology (ex post versus ex ante) apply. If it is the plaintiff (the aggrieved party) who chooses, he is effectively entitled to the greater of the two remedies. When the two measure of recovery differ, these options to choose the greater-of or the lesser-of can be quite valuable. I will also show that these options also create distorted incentives in property and contractual relations.

Let me briefly illustrate the insights of this paper through the simple example of a violation of a copyright license. Imagine that the licensee violated the license terms and distributed the materials owned by the licensor through a medium that was not licensed. The violation had the potential of both harming the owner and benefiting the violator, but the magnitude of either effect was unknown at the time of violation. Assume that the harm to the owner, measured by the lost profits, was $1000. Assume, also, that at the time the violation, the benefit to the violator from the unlicensed use, measured by the extra profits he made, was uncertain, either $2000 or $0, each with equal probabilities. (This uncertainty, too, would be resolved by the time the suit would reach court, and evidence can be assembled regarding the actual profit garnered by the violation). The expected benefit was, accordingly, $1000. Notice that in this example, the expected profit equaled the expected harm—the violation was neither efficient nor inefficient, ex ante.

How would the law remedy this violation? If the remedy were measured by the contractual rule of expectation damages, it would equal $1000. If instead, the remedy were measure by the property rule of restitution, it would equal the actual benefit that the violator/licensee reaped. If this value turns out to be high—in our example, $2000—the property owner would choose it over the contractual measure of $1000 and recover the full $2000. If, instead, the benefit turns out to be low—$0—the property owner would choose the contractual measure instead, and recover$1000. In all, the property owner would recover either $2000 or $1000, each with equal likelihood, for an

expected recovery of $1500. This expected recovery *exceeds* either the expected loss to the owner or the expected gain to the violator, because it is equal to the greater of the two. In effect, the entitlement is worth more the owner when violated!

How could this be? I will show in the paper that the crucial element in making this distorted measure of recovery happen is the *choice* that a party has among competing measures of damages. This choice embeds an *option* into the recovery rule, and bolsters it by the value of the option.

The question remains, though, how and why the law accords a party the choice between two different measures of damages. I will show how such regimes of multi-measures evolve, how they might be justified, and why these justifications ultimately fail.

Finally, I will end by listing some principles that can help shape a rational policy of the election of remedies. In which situations should a pure property measure apply, and in which should a pure contract measure apply? How should we classify an offense—a property violation or a contract breach? Economic analysis suggests that the choice between property violation and contract breach—as well as the associate remedies—cannot be conducted along conceptual or mechanical tests. The choice has to respond to the basic question: when are contract damages insufficient to protect entitlements, and should be enhanced by the greater property protection.

I. PROPERTY AND CONTRACT REMEDIES

A. Conversion of Property by Seller

The first example of the tense line between breach of contract and violation of property involves the protection of the rights of buyers in the period between the date of the purchase and the final conveyance of the property to the buyer. In this interim stage, the buyer does not yet have a perfected property right, although some seeds of property entitlement, beyond the contractual right, already emerge. It is often said that the seller continues to hold the legal title to the property "sub-

ject to an equitable obligation to convey" it to the purchaser.[1] In various cases of real property purchase, for example, it was held that "the rights of the purchaser are contract rights rather than rights of ownership of real property."[2]

There are many ways in which the seller can breach the sale contract, for example by failing to deliver in time or by damaging the purchased goods. These breaches rarely implicate any property-remedy, and are addressed by damages for breach of contract, such as the difference between the actual value and the promised value of the goods. But one type of violation raises the remedial dichotomy and the contract/property interface: The seller's deliberate expropriation of value from the asset prior to its delivery, in a way that both benefits the seller and harms the buyer.

Consider, for example, the case of Laurin v. DeCarolis Construction.[3] A buyer entered a contract to purchase a wooded parcel of real estate. Under the terms of the contract, the deed was to be delivered six months after the execution of the contract. During these six months, while he still held the property, the seller removed the majority of the trees from the lot and 360 truckloads of gravel, and sold those for a nice profit in the open market. These actions were ruled to be a breach of contract, but the question the court had to address was the measurement of damages. Is the buyer entitled to the contract damages, here equal to the diminution of the property value? Or is the buyer entitled to the substantially higher property remedy of disgorgement damages, here equal to the benefit to the seller from the expropriation?

This generic question is difficult for courts to resolve. In the *Laurin* case, the lower court ruled that the buyer was the "equitable owner" of the property and thus the conduct was a violation of property—the tort of conversion—and awarded the buyer the higher measure of damages equal to the value of the benefit to the seller. The court of appeals took a different view: "as the plaintiffs were not in or entitled to possession of the premises during the period when the gravel was removed there-

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[1] Barrell v. Britton, 244 Mass. 273, 278-279, 138 N.E. 579, 582 (1923); Kares v. Covell, 180 Mass. 206, 209, 62 N.E. 244 (1902).

[2] Laurin v. DeCarolis Construction, 72 Mass. 688, 363 N.E. 2d 675 (1977).

[3] 72 Mass. 688, 363 N.E. 2d 675 (1977).

from by the defendant, they are not entitled to the value of the gravel removed on the theory of conversion which was employed by the master in determining damages. . . . The plaintiffs are entitled . . . to the diminution in the value of the land which was caused by the defendant's stripping and appropriation . . ."[4] The case then reached the Massachusetts Supreme Court , which took yet another view: the buyer was *not* an equitable owner, therefore the conduct was merely a breach of contract, but nevertheless, due to the willful nature of the breach, the buyer was entitled to disgorgement measure of damages—the value appropriated from the land.[5]

Pragmatically, my reading of American common law suggests that in cases like this—situations of deliberate breach of contract that rises to the level of property violation—plaintiffs can choose the greater of the two remedies, diminution-in-value of purchased asset versus the value to the violator of the appropriated goods. The New York Court of Appeals made this option explicit.[6] The court recognized that there are two possible scenarios. In the first scenario, the value of the material removed from the land is low in comparison to the loss of value to the land. In this scenario, the aggrieved buyer can recover the contract remedy of diminution-in-value.[7] As another court explained, "there was substantial testimony that the lands the [plaintiffs] purchased were worth $5000.00 less because of the [timber removed] by the [defendants]. Just because the [defendants] sold the timber for a small amount of money does not necessarily determine the measure of damages."[8] In the second scenario, the value of the materials removed from the land is high in comparison to the loss of value to the land, and in this case the aggrieved buyer can recover the disgorgement remedy.[9] As ex-

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[4] *Id.* at 677.

[5] Id., at 678-79.

[6] See *Worrall v Munn*, 53 NY 185, 189–190 (NY 1873)

[7] See id at 190 ("If the soil, having no value separated from the land, was stripped from [land], so as to render it unproductive and unfit for the use to which it was applied, the diminished value of the land would be the only adequate measure of compensation. So, also, where trees designed for shade or ornament have been cut down, whereby the value of the land has been greatly lessened.")

[8] Walker v Dibble, 241 Ark 692, 696 (Ark 1966).

[9] See id. ("Cutting a few trees on a timber tract, or taking a few hundred tons of coal from a mine, might not diminish the market value of the tract, or of the mine, and yet the value of the wood or coal, severed from the soil, might be considerable. The wrong-doer would, in the cases instanced, be held to pay the value of the wood and coal, and he could

plained by the Massachusetts court, the disgorgement of profit remedy is available because the violation "merely deprives the defendant of a profit wrongfully made, a profit which the plaintiff was entitled to make."[10]

Courts across the United States disagree whether such violations constitute property infringement, contract breach, or both. But, interestingly, when it comes to the remedy assessed for the violation, courts do not pursue the conceptual implications of their classifications. Instead, and regardless of the contract versus property classification of the offense, court are relatively consistent in pursuing a pattern under which the plaintiff can recover the greater of the two remedies, contract versus property damages.

A. Breach of License v. Infringement of Intellectual Property

The second example of the tense line between breach of contract and violation of property involves unlicensed use of intellectual property. Judge Benjamin Cardozo explained that

> [t]he author who suffers infringement of his copyright at the hands of a licensee may . . . seek redress under the statute by action in the federal courts. But that is not in all circumstances the only remedy available. If the same act is not merely an invasion of the statutory right of property, but is also the breach of a contract . . . he may count upon the breach or the abuse, and have relief accordingly.[11]

The unauthorized use by the licensee could be both a breach of the license contract and the resulting contract remedies, or an infringement of the licensor's intellectual property and the resulting property law remedies. In copyright law, for example, the Copyright Act awards the owner the disgorgement remedy,[12] which could be substantially higher than the normal contract damages that measure the rightholder's lost profits. In patent law, the shift from contract to infringement

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not shield himself by showing that the property from which it was taken was, as a whole, worth as much as it was before.")

[10] Laurin v. DeCarolis, 363 N.E. 2d 675.

11 *Underhill v Schenck*, 143 NE 773, 775 (NY 1924).

12 See 17 USC § 504(b) ("The copyright owner is entitled to recover . . . any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages.").

remedies could also increase the magnitude of damages. Further, unlike contract recovery, infringement of intellectual property opens the door to recovery of treble damages and attorneys' fees in certain cases,[13] as well as a longer statute of limitations (Merges 2005, at 1509).

American courts have struggled to draw a clear line between the two measures of recovery and determine which is available in any given case. The rules determining when the aggrieved party is entitled to the property remedy and when he is restricted to the contract remedy are technical and almost arbitrary. For example, a key doctrinal distinction is whether the license is exclusive or not. An exclusive license is regarded as a transfer of the "ownership" of the copyright rights, and the exclusive licensee—as the person who now "owns" some copyright rights—is "incapable of infringing a copyright interest that is owned by him."[14] He is only "capable of breaching the contractual obligations imposed on him by the license."[15] If, instead, the license were not exclusive, the breaching licensee could be deemed a violator of someone else's property and liable for copyright infringement damages.[16]

There are other ways courts determine whether the licensor is entitled to contract versus property damages. If the licensee breaches a promissory obligation under the license agreement, then it is breach of contract and he is liable only for contract damages. If, on the other hand, the licensee fails to satisfy a condition precedent, then the license is deemed not to exist, and, in the absence of a license, the violator is liable for infringement remedies.[17] Or, if the licensor is entitled to cancel the contract in response to the breach, he may do so and with the license no longer in place, the only remaining ground for recovery is IP infringement (that is, property damages). In fact, the same violation can give rise to damages both for breach (prior to the license termination)

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13 See 35 USC §§ 283–85 (patent); 15 USC § 1117 (trademark); 17 USC §§ 502–05 (copyright).

14 Id at 695, quoting *Cortner v Israel*, 732 F2d 267, 271 (2d Cir 1984).

15 *Charter Communications*, 936 F2d at 695.

16 See *Sun Microsystems v Microsoft Corp*, 188 F3d 1115, 1121 (9th Cir 1999) (noting that generally a "'copyright owner who grants a nonexclusive license to use his copyrighted material waives his right to sue the licensee for copyright infringement' and can sue only for breach of contract").

17 See, for example, *Graham v James*, 144 F3d 229, 236–37 (2d Cir 1998); Richards (2002, at 51-52).

and for infringement (for the period following termination).[18] This access to property damages becomes all the more secure if the license itself contains a reversion clause that automatically terminates the licensee's rights (Richards, 2002).

Finally, jurisdiction rules can affect the remedy. Federal courts have exclusive jurisdiction over copyright infringement actions, whereas state courts adjudicate contract disputes. When a complaint asserts breach of license and infringement of copyright—does it arise under copyright law or under contract law? Does it go to Federal or state court?[19] Many courts hold that the complaint arises under the Copyright Act if it is for a remedy granted by the Act—a "well-pleaded complaint rule" that gives the plaintiff the outright choice.[20] This choice is constrained by a variety of tests: whether the dispute is "informed by the substantive law of copyright,"[21] or whether it is within the "subject matter of copyright."[22]

As we see, this classification is difficult to resolve. The law entitles the right holder to two types of remedies but does not draw a clear and reasoned boundary between the causes of action. This means that in many cases the owner would be effectively able to choose which remedy to claim and could wait to plead the count that provides the higher recovery.[23]

C. Breach of Fiduciary Contract

A third example of the tense line between breach of contract and violation of property involves the remedies for violations of fiduciary

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18 See, for example, *Wisconsin Alumni Research Foundation v General Electric Co*, 880 F Supp 1266, 1274–76 (ED Wis 1995).

19 McCarthy (1993).

20 See *T.B. Harms Co v Eliscu*, 339 F2d 823, 828 (2d Cir 1964). See also *Bassett v Mashantucket Pequot Tribe*, 204 F3d 343, 355 (2d Cir 2000).

21 *SAPC, Inc v Lotus Development Corp*, 699 F Supp 1009, 1012 (D Mass 1988).

22 *La Resolana Architects, PA v Clay Realtors Angel Fire*, 416 F3d 1195, 1199 n 2 (10th Cir 2005).

23 Courts even permit plaintiffs to amend their complaints and shift the basis of recovery. See, for example, *Matarese v Moore-McCormack Lines, Inc*, 158 F2d 631, 633 (2d Cir 1946); *Frontier Management Co v Balboa Insurance Co*, 658 F Supp 987, 994 (D Mass 1986).

obligations by an agent. An agent who violates his duties to the principal (for example, by expropriating an amount of money entrusted to him in the first place) is committing a breach of contract and can be charged with damages equal to the value of the funds, had they remained in principal's account. This is the standard measure of expectation damages. But if the agent receives a benefit through the violation of the duty of loyalty (say, if the agent expropriates funds and invests them in his own account successfully), the principal is entitled to recover the entire benefit obtained as result of the violation.[24]

For example, in *Kelley v Allin*, the Massachusetts Supreme Court held that a plaintiff had the right to choose between the value of property entrusted to the fiduciary or the profit made by his wrongful act: "It was for the plaintiff to elect whether to bring suit to compel a conveyance of the property which the defendant acquired as the result of his dealings . . . or to hold him accountable for the gain which he made [from the wrongful transaction]."[25]

In this area of the law, there is no conceptual confusion regarding the availability of the property-based remedy of disgorgement. As explained by a New York court, "all profits and every advantage beyond lawful compensation made by an agent in the business, or by dealing or speculating with the effects of his principal, though in violation of his duty of agent, and though the loss, if one had occurred, would have fallen on the agent, are for the benefit of the principal."[26] The normative case in favor of the stiffer property damages is also clear: "It is only by a rigid adherence to this simple rule that all temptation can be removed from one acting in a fiduciary capacity to abuse his trust, or seek his own advantage in the position which it affords him."[27]

Nevertheless, the contract/property dichotomy reappears if the disgorgement damages are low (or negative). Imagine a fiduciary who expropriates funds from the client's account and invests them under his own account (or gambles with the money in a casino). If the fiduciary earns a profit from this violation, it is duly disgorged. But if the fiduciary loses the investment, the client can turn instead to contract damag-

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[24] Restatement (Second) of Agency §407
[25] 212 Mass 327, 333 (Mass 1912).
[26] *Dutton v Willner*, 52 NY 312, 319 (NT 1873).
[27] Id.

es and recover the value that the funds, had the fiduciary performed his obligations under the contract. The "principal [can] elect to get back the thing improperly dealt with or to recover from the agent its value or the amount of benefit which the agent has improperly received."[28]

Some state statutes have endorsed similar positions. For example, a Colorado state statute involving trade secrets mandates that "Damages [for misappropriation of trade secrets] may include both the actual loss caused by misappropriation and the unjust enrichment caused by misappropriation that is not taken into account in computing actual loss.[29]

III. EX POST VERSUS EX ANTE MEASURES OF DAMAGES

The previous section identified a particular dichotomy in the law of remedies – the interface between property and contract damages. In this part, I discuss a second, unrelated, dichotomy – the interface between ex post and ex ante damages. Once this second dichotomy is drawn out, the remainder of the article will discuss the combined effect of the two.

An ex post measures of damages is a rule that sets the magnitude of recovery according to the actual realization of the protected interest. If, say, the remedy is expectation damages, the ex post measure means the actual lost profit suffered by the right holder, as assessed by court based on all the information available after the fact (hence the term "ex post"). Or, if the remedy is the disgorgement of benefit, the ex post measure means the actual benefit reaped by the wrongdoer.

Ex post measures serve the objective of "accuracy." If the purpose of a particular liability rule is to make a party "whole" based on some conception of redress, then the ex post measure applies this redress in a way that corresponds to the actual realization. A party who was injured more recovers more.

The law of remedies is replete with ex post measures of damages. Tort law, usually, seeks to compensate the victim for the actual harm suffered, as proven in court based on all the available evidence. Con-

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[28] *Tarnowski v Resop*, 236 Minn 33, 38 (Minn 1954).

[29] Col Rev Stat § 7-74-104(1).

tract law, often, seeks to award the aggrieved promise the actual lost profit, or the consequential loss. Parties with different magnitudes of loss receive different damages. Patent law, likewise, grants the patentee whose patent was infringed a lost profit measure of damages that, at times, can be highly idiosyncratic.

An ex ante measure of damages, in contrast, is a rule that sets the magnitude of the recovery according the information known *prior* to the violation, before the actual realization of the loss or the benefit. It is an expected value—a hypothetical quantum—equal to the average of the possible ex post realizations. If, for example, the remedy is expectation damages, the ex ante measure is the average anticipated lost profit. In a breach of license case, it could be equal to hypothetical royalties that the owner would have negotiated in a hypothetical license, had the infringer approached him and sought to secure a license.[30] This hypothetical royalty measure is merely an educated guess—a mid-range point. It reflects the *expected value* of the right to the parties and their relative bargaining power, based on information that was available pre-infringement.[31]

The law is replete with ex ante measures of damages. In some areas of tort law, plaintiffs cannot recover their actual loss but instead are compensated according to tables and charts that are uniform across all victims. For example, workers compensation in the United States, or Social Security disability insurance, follow charts that apply fixed damages, irrespective of actual harm. Even in contract law, an aggrieved buyer can recover damages equal to the difference between the contract price and the market price at the time of breach, which is an average way to measure the actual loss.

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30 35 USC § 284 (allowing the award of "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty"). See, for example, *Panduit Corp v Stahlin Bros Fibre Works*, 575 F2d 1152, 1157 (6th Cir 1978) ("When actual damages, e.g., lost profits, cannot be proved, the patent owner is entitled to a reasonable royalty."); *Georgia-Pacific Corp v United States Plywood Corp*, 318 F Supp 1116, 1120 (SDNY 1970) (listing the factors relevant to the calculation of a reasonable royalty).

31 See *Lucent Technology v Gateway*, 580 F3d 1301, 1325, 1332 (Fed Cir 2009) ("The hypothetical negotiation tries, as best as possible, to recreate the *ex ante* licensing negotiation scenario and to describe the resulting agreement . . . to elucidate how the parties would have valued the patented feature.").

In some areas of the law, plaintiffs can choose among the ex post and ex ante measures. In patent law, for example, the patentee can choose between lost profit (ex post measure) and hypothetical royalty (ex ante measure). In copyright law, the copyright holder can choose between disgorgement of benefit (ex post measure) and statutory damages (ex ante measure). In contract law, the aggrieved buyer can choose between actual lost profits (ex post measure) and contract/market differential damages (ex ante damages). Or, if a service provider is suing the client for breach of contract after partial performance was already done, he is entitled to restitution damages measured by the actual benefit conferred to the breaching party (ex post damages) or by the hypothetical fee that would be charged for such partial performance (ex ante measure). In property law, a co-tenant or co-owner who invests in updating the common property can recover the value of the improvement (ex post measure) or the cost he incurred (ex ante measure). The former is available under the "improvement" doctrine while the latter is available under the "repairs" doctrine, but since many types of updates could be classified as either improvement or repair, the law effectively grants the investing party a choice.

IV. THE DISTORTIVE EFFECT OF THE REMEDIAL OPTIONS

What's wrong with a fuzzy boundary between contract and property damages? What's wrong with an option to choose the greater of the ex post and ex ante measures of damages? The analysis above shows the difficulty of drawing a clear boundary between various remedies and thus the ways different causes of action, and different ways to measure them, *overlap.* This gives rise to a complex and sometimes messy body of doctrine, which tries (sometimes arbitrarily) to distinguish the grounds for various remedies. But my critique here will focus on a different problematic aspect of the fuzzy boundary. When causes of actions overlap, parties have the option to choose the remedy that is more favorable. It is this option, I will argue, that can create distortions in compensation and in the incentives of the parties.

Return, now, to the example discussed in the introduction. It considered a violation that could both harm the owner and benefit the violator. It further assumed that the magnitude of either effect is unknown at the time of violation, but becomes known by the time of trial.

Case I: No benefit. Assume, first, that the violation creates no benefit to the violator, but creates an expected harm (lost profit) of $1000. After the fact, harm could be either high or low – either $1500 or $500 with equal probabilities, and so on average it is equal $1000. Under a pure ex post rule of expectation damages, the aggrieved party can recover either $1500 or $500, depending on the actual loss. Under a pure ex ante rule of expectation damages, the aggrieved party can recover exactly $1000, regardless of whether the true harm is either $1500 or $500. But what if the plaintiff can choose between the ex-post and ex-ante measures of damages? What if, say, an aggrieved patent holder can recover either the hypothetical royalty (the ex ante measure) of $1000, or his actual lost profit, and can choose the greater of the two? In such case, the plaintiff would choose the ex ante measure of $1000 when the actual lost profit is lower (equal to $500), but would choose to recover the ex post measure of actual lost profit when it is higher (equal to $1500). The expected recovery is the average of $1000 and $1500, which equals $1250. It is greater than the expected loss.

Case II: No Harm. Assume, now, that the violation creates no harm to the owner, but creates an expected benefit to the violator, of $1000. After the fact, the benefit could be either high or low – either $2000 or $0 with equal probabilities, and so on average it equals $1000. Under a pure ex post rule of disgorgement damages, the aggrieved party can recover either $2000 or $0, depending on the actual benefit. Under a pure ex ante rule, the aggrieved party can recover exactly $1000, regardless of whether the actual benefit is $2000 or $0. But what if the plaintiff can choose between the ex post and ex ante measures of disgorgement damages? What if, say, a copyright owner can disgorge the infringer's actual profit, or—if this measure turns out to be too low (if the infringer made no profit)—he can recover instead the statutory damages under § 504(c) of the Copyright Act?[32] If the benefit turns out to be high, the aggrieved plaintiff would choose the ex post measure and recover $2000. And if the benefit turns out to be low, the aggrieved plaintiff would forgo the ex post measure and recover instead the ex ante measure, equal to the average benefit of $1000. The expected recovery is the average of $1000 and $2000, which equals $1500. It is greater than the expected benefit.

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32 17 USC § 504(c)(1) ("[T]he copyright owner may elect . . . to recover, instead of actual damages and profits, an award of statutory damages . . . in a sum of not less than $750 or more than $30,000 as the court considers just.").

Case III: Fixed Benefit and Harm. Assume, next, that the violation creates both a benefit and harm. As before, the harm will be either $1500 or $500, and the benefit either $2000 or $0, all with equal chances. It is also assumed that the high/low realization of harm is independent of the high/low realization of the benefit.

Notice that the expected values of the harm and of the benefit are $1000, which means that, from an ex ante perspective, the violation is welfare-neutral. It is neither efficient nor inefficient. This is a special case, but it is useful to consider it because it can help us see the presence of a distortion in the measurement of damages that is independent of any additional normative concern related to the effect of the violation on total welfare.

What will the plaintiff choose, if he had the option between contract and property damages, and in addition had the option between ex post and ex ante damages? There is a 50% chance that the ex post benefit is $2000, in which case the aggrieved plaintiff will choose the ex-post disgorgement measure of $2000, regardless of how high the lost profit is (which cannot exceed $1500). But there is also a 50% chance that the ex post benefit is low, $0, in which case the plaintiff would have the option to turn to the lost profit measure. If that measure turns out, ex post, to be high ($1500), the plaintiff will choose to recover the ex post expectation damage measure. But if the lost profit also turned out to be low, $500, the plaintiff will abandon any ex post recovery measure and seek instead the ex ante measure (of either benefit or lost profits, which are here assumed to be equal), of $1000.

The following table summarizes the plaintiff's choice:

Case	Benefit	Lost profit	Combined probability	Plaintiff's choice
HH	$2000	$1500	25%	$2000
HL	$2000	$500	25%	$2000
LH	$0	$1500	25%	$1500
LL	$0	$500	25%	$1000

(Case "HL" means High benefit and Low lost profit; and so on.)

Notice that there is a 75% chance that the plaintiff will choose the ex post measure (50% chance of ex-post disgorgement measure and 25% ex post lost profit measure.) There is only a 25% chance that the

plaintiff will choose an ex ante measure, because the ex ante measure is preferable only when both the benefit and the lost profit are low (case LL).

The table also helps us calculate the expected recovery for the aggrieved plaintiff, which equals $1625.[33] It is higher than the expected damages under either case I ($1250) or case II ($1500).

In cases I and II, the excess recovery beyond the expected loss or benefit was due to the option to choose the greater of the ex post or the ex ante measures of the particular remedy. In case III, the excess recovery is due to two confounding options: the option to choose the greater of the contract or property damages, and the option to choose the greater of their respective ex post and ex ante values.

The effect of a "greater of" regime is distortive because the portfolio of damages it creates ends up depending on arbitrary, irrelevant factors. That is, violations that create the same expected harm or the same expected benefits at the time they are committed end up with different expected recoveries. To see why, look again at case I – where the violation causes a stochastic lost profit, but no benefit. In the original example, the lost profit was either $1500 or $500. Let's call this case I.A, and compare it to case I.B, which has the same feature of no-benefit, and the same expected lost profit of $1000, but a different distribution: instead of {$1500, $500}, assume that the lost profits are {$1100, $900}. Namely, the High loss is not as high (only $1100, instead of $1500), but the Low loss is also not as low ($900, instead of $500). The plaintiff will continue to choose the ex post measure of damages when the lost profits are high, and the ex ante measure of damage when the lost profits are low, but now the expected value of this recovery portfolios is only $1050, lower than it was in case I.A ($1250).

What's going on? What is the pattern that explains these results? The choice of remedy regime entitles the owner to recover the actual realized value bundled with a *put option* to sell this right to the violator for the ex ante value of $1,000. The excess recovery under this regime equals the value of the put option. The more volatile the ex post value of the asset—case I.A is more volatile than case I.B because the variance of {$1500, $500} is greater than the variance of {$1100, $900}—

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[33] ¼×2000 + ¼×2000 + ¼×1500 + ¼×1000 = 1625.

the more valuable the put option and the larger the excess recovery enjoyed by the plaintiff. The expected recovery depends not only on the expected value of the measure, but also its volatility.

Thus, in case II, the recovery exceeded that of Case I (either I.A or I.B) because the volatility of the benefit was greater than the volatility of the lost profit. And in case III the recovery was the highest because the expected value of $1000 was bolstered by *two*, rather then one, options—the option to choose benefit based versus lost-profit based recovery, and the option to choose ex post versus ex ante measures of each remedy.

These embedded options to choose the more favorable damage measure—contract versus property, and ex-post versus ex-ante—increase the recovery beyond the amount that is needed to protect the violated interest. It is possible that this increased recovery is useful to overcome what might otherwise be sub-optimal damages. For example, if for some reason the aggrieved party does not enforce his rights in every case of violation, a "multiplier" is necessary to offset the lower enforcement effort and maintain optimal deterrence. But this "imperfect enforcement" rationale does not seem to explain the patterns of the law. The option to choose contract versus property damages arises when there is a contract. In a non-contractual setting, when one's property is violated, the only damages are the property measure. Is there any reason to expect that the presence of a contract would serve to *reduce* the probability of enforcement and thus justify a damages multiplier relative to the non-contractual case? If at all, it would seem that the presence of contract makes the identity of the violator known and the likelihood of enforcement higher, reducing the need for any multiplier. And so the option to choose creates a multiplier where it is least needed.

Moreover, an option to choose the greater of two remedies is a poor way to set a damages multiplier. If the reason to multiply damages is the low probability of detection, this—and not the value of the option—should be the multiplying criterion. Why should violations that create a higher variance of effects (where, we saw, the option value is higher) be punished more severely? If anything, the more profitable the violation is to the violator, the more likely it is to lead to enforcement. When the owner sees that the violator profited well from the violation, the owner is more likely to sue and seek a disgorgement remedy. Thus, violations that create high variance of benefits (small chance of very

high profits) may be more likely to end up with a disgorgement suit. And with the higher likelihood of suit, there is less need for a damage multiplier. The choice of remedy scheme is worth more in cases of *high* detection probability—contrary to the deterrence rationale. And so, again, the option to choose creates a larger multiplier where a smaller one is needed, and vice versa.

V. IMPAIRED LIABILITY RULES

There is perhaps a good explanation for the pattern of remedy options that private law accords the aggrieved owner. As we saw, these options create a regime of super-compensatory damages. But there is a way that the violator can avoid the burden of such overcompensation: he can negotiate the right to commit the unauthorized use. To avoid the harsh "greater-of" sanction, a potential violator would contract for the right—would negotiate and secure a paid-for license. When the costs of negotiating a license are lower than the cost of dispute resolution, such incentive is desirable.

For example, the seller who wants to strip the land from trees and gravel after selling it to the buyer may negotiate for this right rather than unilaterally haul away the goods. Or, a copyright licensee who wants to engage in additional, non-authorized uses would renegotiate the original license to expand the permitted uses. Or, a client who wishes to terminate a service contract prematurely can negotiate compensation for the disappointed service provider, rather than unilaterally breach pay restitution damages. In these settings, and in numerous others, the law correctly channels parties to engage in transactions, rather than act unilaterally. Call options on other people's property are fairly rare.

Of course, there are situations in which diverting parties to a consensual negotiation would be undesirable, because such negotiations are too costly and difficult to conduct. This question—when is a voluntary transaction superior to a unilateral compensated violation—is an ages-old fundamental inquiry. It is the familiar "property rules versus liability rules" dichotomy. This is a normative dilemma that may be settled by reference to transactions costs, or to defensive costs, or to notions of liberty and autonomy, or according to a framework distributive justice. Nothing in the analysis of this paper implicates such normative inquiry or contributes to the body of thinking about the proper division of labor among property rules and liability rules.

What the analysis did demonstrate, however, is the inadvertent impairment of liability rules. Imagine that, for any given set of reasons, it is determined that the optimal way to protect an entitlement is by a liability rule. Perhaps because transactions costs or coordination costs are too high; or because some owners are too wealthy and stubborn and are unwilling to sell usage rights at reasonable prices; or because some people have dire and urgent needs that would be undermined if channeled to market transactions. A liability rule is thus set in place and a "price" for the violation is tagged, so that one-sided violations may occur in the desired set of circumstances. Unfortunately, the effect of the options described in this article is to distort the "price." The violator would have to pay, not the price the law intended to set, but a higher price that reflects the option that the owner has to choose among the various legal ways to measure this "price." The law perhaps intended to grant the owner a compensation based on one of several ways to measure his loss. But the law did not mean to bolster the compensation in an arbitrary way that reflects something different than the loss (or gain), but rather reflects only the option value—that is, the variance of the distribution of harms.

The inadvertent increase in expected compensation could be benign, if the violator would continue to behave in the same way even under in the presence of costlier remedies. There would be a redistributive effect, but not necessarily a chilling incentive effect. This is the same redistributive effect that property rules accomplish – they let owners extract more of the surplus from violators. But the inadvertent increase in expected compensation could also increase deterrence. Some violations would not occur and some violators would have to go through the more expensive routes of negotiated transfers. If a liability rule were deemed desirable, the unintended effect of the remedial dichotomies is to transform it into a property rule.

Conclusion

This Article identified two options that owners have in seeking remedies. The first is the choice between contract and property damages. This dichotomy arises in situation in which the owner and the violator have a contractual relationship, and the violator overstepped his rights in a way that is more severe than mere contract breach. The second option is the choice between accurate ex post damages based on the realization of the infringed value and average ex ante damages based on some measure that is independent of the actual realization. Both options arise

from the unclear boundaries between remedial rules. The contract/property fuzzy boundary is due to the difficulty of distinguishing breach and infringement. The ex post versus ex ante fuzzy boundary is due to the portfolio of remedies that are available to aggrieved parties.

These options arise without courts ever noticing them. For the same violation, a party may bring a claim for property remedy, or for ex post measure of damages, only because some realization of harm or benefit turned out, by chance, to be high. A court adjudicating this claim is not positioned to recognize the ex ante distribution of harms or benefits, and to recognize that an implicit exercise of remedial option occurred. As far as I know, courts have never noticed the over-compensation effect that is due to the embedded options.

As long as the law is wedded to an approach of a menu of remedies, such results are probably inevitable. The way to overcome this distortion is to thin down the menu of remedial choices. For example, if remedies were always based on ex ante measures, then the option to choose the greater of the ex post and ex ante damages would be eliminated. But for this solution to arise, the law has to abandon the strong held notions of the importance of "accuracy" in the assessment of damages.

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