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Mutual And Unilateral Mistake in Contract Law

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I. INTRODUCTION

Much of private law is devoted to the prevention of mistakes on the one hand and the amelioration of their consequences on the other. In contract law, however, the term "mistake" is applied specifically to situations where the parties' beliefs about the world are incorrect at the time of contracting. If writing contracts were costless, the parties would specify which of their beliefs were crucial to the agreement and condition performance on those beliefs, just as they would avoid all ambiguity in defining performance by including all details that might be relevant. Since reading and writing contracts is costly, courts sometimes fill gaps in incomplete contracts by supplying the omitted terms, asking what the parties would have specified ex ante had contract-writing been costless. When beliefs are mistaken, the court might follow a similar rule, not by adding omitted terms (since the contract is unambiguous), but by modifying the contract to express the true intentions of the parties. Or, the court could reform the contractual obligations by voiding the contract, leaving the recontracting to the parties involved. Reforming or voiding contracts, however, goes beyond the gap-filling function in which courts customarily engage; it is an almost paternalistic change in the contract's express terms. Hence, contract law must be very careful how it treats "mistake."

The law makes a distinction between incorrect beliefs at the time of contracting— "mistake"— and incorrect beliefs about events occurring after the agreement but before performance— which are performance excuses.[1] Excuse for incorrect beliefs about later events are classified as performance excuses rather than formation excuses, and while they raise similar issues, we will not treat of performance excuses here.[2] Mistake itself covers a broad set of situations, and courts often distinguish between *unilateral mistake* and *mutual mistake*, a distinction that will be the focus of this article. A unilateral mistake is an incorrect belief of one party that is not shared by the other party. A mutual mistake is an incorrect belief shared by both parties. The conventional wisdom is that the contract is more likely to be voidable if the mistake is mutual, a distinction emphasized by courts for over a century.[3]

Although judicial excuse for either unilateral or mutual mistake is relatively rare, courts continue to cite mutual mistake as grounds for avoidance. Law digests continue to list mutual mistake as a separate doctrine with regular new holdings, and the term appears frequently in contract cases.[4] Informal excuse is also common. Many stores allow customers to return merchandise even when no promise to do had earlier been made, and in transactions between businesses, purchasers are often allowed to cancel orders even though this may formally be a breach of contract.[5] The distinction between mutual and unilateral mistake has been incorporated into the *Restatement (Second) of Contracts*. The *Restatement* provisions include the following three sections, excerpted here in part:

> **§152. When Mistake of Both Parties Make a Contract Voidable**
>
> **(1) Where a mistake of both parties at the time a contract was made as to a basic assumption on which the contract was made has a material effect on the agreed exchange of performances, the contract is voidable by the adversely affected party unless he bears the risk of the mistake under the rule stated in §154."**

It is more difficult to obtain excuse for unilateral mistake, which requires the same conditions as mutual mistake plus either condition §153 (a) or §153 (b).

> **§153. When Mistake of One Party Makes a Contract Voidable**
>
> **Where a mistake of one party at the time a contract was made as to a basic assumption on which he made the contract has a material effect on the agreed exchange of performances that is adverse to him, the contract is voidable by him if he does not bear the risk of the mistake under the rule stated in §154, and**

> **(a) the effect of the mistake is such that enforcement of the contract would be unconscionable, or**
>
> **(b) the other party had reason to know of the mistake or his fault caused the mistake.**

Both of these rules depend on the definitions of "basic assumption," which the *Second Restatement* leaves unclear, and on "bears the risk," the subject of §154:[6]

> **§154, When a Party Bears the Risk of a Mistake**
>
> **A party bears the risk of mistake when**
>
> **(a) the risk is allocated to him by agreement of the parties, or**
>
> **(b) he is aware, at the time the contract is made, that he has only limited knowledge with respect to the facts to which the mistake relates but treats his limited knowledge as sufficient, or**
>
> **(c) the risk is allocated to him by the court on the ground that it is reasonable in the circumstances to do so.**

Unsurprisingly, courts are left puzzled about when to void for mistake. One casebook says "The case law in this area is confused beyond reconciliation. Courts cannot agree on what is "mutual" and what is "unilateral" and in many jurisdictions cases can be found in which relief is granted in both situations, however they are defined."[7] In his classic treatise, Corbin says:

> Statements are exceedingly common, both in texts and court opinions, that relief will not be given on the ground of mistake unless the mistake is "mutual." Such a broad generalization is misleading and untrue. Seldom is it accompanied by either definition or analysis.... The statement will seldom be found in cases

> in which relief is granted; in the cases refusing relief and making the statement as a reason for so doing, the court has always considered and weighed the additional factors that accompanied the mistake.[8]

Cooter and Ulen suggest that the courts use the terms for *ex post* rationalizations of their holdings: "In such disputes, the terms 'mutual mistake' and 'unilateral mistake' often become emptied of their original meanings... Thus, the term 'mutual mistake' will be used to announce a decision not to enforce the promise, and 'unilateral mistake' will be used to announce a decision to enforce the promise."[9]

Are there good reasons for distinguishing between mutual and unilateral mistake? A number of authors in law and economics have examined mistake, but the emphasis has been on unilateral mistake and disclosure rather than on whether the mistake is mutual.[10]

A normative assessment of the law of mistake needs not only to examine the different judicial treatment of unilateral and mutual mistakes, but also the de facto standard of many courts to reject most claims of excuse based on mistake. This article analyzes the economic effects of three stylized excuse standards:

(1) *Excuse for Unilateral Mistake.* A party can rescind if he was mistaken, (regardless of whether the other party was mistaken or not).

(2) *Excuse for Mutual Mistake.* A party can rescind only if buyer and seller were both mistaken.

(3) *No Excuse.* No party can rescind, regardless of mistakes.

With some latitude in interpretation, courts following the *Second Restatement* could end up with any of these rules. The unilateral mistake rule of excuse results if courts under *Restatement* §153(b) that defendants should have known that the plaintiff was mistaken. Excuse for mutual mistake is broadly mandated by §152 on its face. However, the no excuse rule may result if a court concludes under §154 that plaintiffs generally assume the risk

of mistake because they know that mistakes occur with some probability .

The classic case of mistake is *Sherwood v. Walker*.[11] Seller Walker owned breeding cows, worth between $750.00 and $1,000.00, and barren cows, worth about $80.00. Buyer Sherwood inspected an apparently barren cow, Rose 2nd of Aberlone, and decided to buy her. A price was agreed upon—5.5 cents per pound—but before the exchange of money and cow, Walker found Rose was pregnant and refused to part with her. The court said that if both parties thought the cow was barren (a question for the jury), the contract was voidable on grounds of mutual mistake.

The three models of mistake below will highlight different ways that excuse rules affect efficiency. In Model I, the excuse rule affects the parties' ability to avoid transactions that have negative gains from trade. Model II shows how excuse rules influence parties' incentives to collect information. Finally, Model III analyzes how different excuse rules distribute risk.

We will conclude that excuse for mistake is sometimes appropriate, but not just because the mistake is mutual. The common law's tendency to grant excuse for mutual but not unilateral mistake does not maximize the social surplus from contracting. Excuse for unilateral mistake can in a limited set of circumstances be justified as a way to (a) reduce the number of value decreasing transactions, (b) reduce the costs of collecting information, and (c) reduce the artificial risk of fluctuations in payoffs. Mutual mistake rules are broadly dominated by the no excuse and unilateral mistake standards.

II. MODEL I: THE GAINS FROM TRADE WHEN INFORMATION IS CASUALLY ACQUIRED

Even if one party to a contract does not want to trade at the price agreed upon, the transaction might still create gains from trade, because the other party's benefit might still exceed the cost of the first party. Efficiency-minded policymakers wish to encourage excuse for mistake if it increases the gains from trade, and discourage it otherwise. This section explores how excuse

standards concerning mistake can channel parties towards value-enhancing trade.

In accordance with the story in *Sherwood v. Walker*, let a risk-neutral buyer and seller begin with an expectation that the product being sold has a relatively low value but might be worth much more. The product's true value to the seller is V, which takes the the normal low value v_0 with probability $1-\alpha$ and the surprising high value v_1 with probability α. The value to the buyer is v_0+b_0 or v_1+b_1, depending on the value of V, where b_0 is positive, but b_1 might be negative. We will define $p_0 \equiv v_0+b_0$ and $p_1 \equiv v_1+b_1$. b_1 and b_0 represent the gains from trade when the product value is high and low respectively. If b_1 is positive, mistaken trade still results in efficient allocation; if b_1 is negative, mistaken trade is inefficient. In *Sherwood v. Walker*, this is the difference between a buyer willing, if necessary, to pay the full-information price of a fertile cow and a buyer who was unwilling. Assume that even if b_1 is negative, $v_1+b_1 > v_0+b_0$, so the product is worth more to the buyer when it takes a high value. Otherwise, the buyer would voluntarily rescind mistaken sales.[12]

The concept of "mistake" is tricky to define. If Sherwood thinks the probability the cow is fertile is one percent, he is, in one sense, always mistaken: the true probability is either zero or one. Let us say that a party is mistaken when he is uncertain of the true value and it turns out to be high.[13] Thus, an uninformed party is mistaken with probability α.

Model I assumes that if the value is high ($V=v_1$), the seller becomes informed of the mistake with probability f_s, and the buyer with probability f_b, before the contract is signed and without any decision on how much care to take. Let $g_s = 1-f_s$ and $g_b = 1-f_b$ be the corresponding probabilities of being uninformed. An informed party has the option to credibly reveal the presence of a mistake to the other party, but an uninformed party cannot credibly show that he is uninformed.[14] After the opportunity for revealing information has passed, the seller makes one take-it-or-leave-it offer to the buyer, at price P, which the buyer accepts or rejects.[15] If the buyer accepts,

the true value is revealed to both parties. Depending on the legal rule, the seller may then be able to spend L and rescind the sale.

Let us make the following three assumptions. (1) The litigation cost L is small enough that the seller would be willing to rescind for the sake of the high value even if he had to give up the price the buyer would pay for the low value: $v_1 - L > p_0$. Otherwise, the legal rule is irrelevant, since the seller would never void the contract. (2) When the buyer is indifferent about whether to buy the good, he will buy (similarly, when indifferent about whether to disclose information, the buyer will disclose. (3) The probability α of a mistake is small enough that an uninformed seller would prefer to propose p_0, which even the uninformed buyer would accept, rather than propose p_1 in the hope that the value is both high and known to the buyer. A sufficient condition for this when $b_1 \leq 0$ is that

$$b_0 > \alpha(v_1 - v_0). \tag{1}$$

The equivalent condition when $b_1 > 0$ is $b_0 > \alpha(p_1 - v_0)$.

The equilibria for this model are summarized in Table 1, which divides the payoff outcomes depending on whether there are gains from mistaken trade or not, and whether one or both parties are mistaken (states I to V).

TABLE 1 GOES HERE.

Let us first suppose that the gains from mistaken trade are positive ($b_1 > 0$).

No Excuse. Under the no excuse rule, the seller will always disclose the high value, in order to charge a higher price, and the buyer will always refuse to disclose, for the converse reason. Trade will take place in all five states of the world listed in Table 1. If the seller is informed, he will disclose the value to the buyer and charge the buyer's reservation value, p_1. If the seller is uninformed, he chooses a price p^* between p_0 and p_1 which is set at the

level that induces an uninformed buyer to buy:

$$p^* = \frac{(1-\alpha)p_0 + \alpha g_s g_b p_1}{(1-\alpha) + \alpha g_s g_b} \tag{2}$$

Even though the take-it-or-leave-it offer gives the seller the bargaining power, the buyer earns a positive rents (of $p_1 - p^*$) on his information in state III, which occurs with probability $\alpha g_s f_b$. Since trade always takes place, and there are no legal costs, the combined surplus is $(1-\alpha)b_0 + \alpha b_1$.

Excuse for Mutual Mistake. The seller will disclose information to obtain a higher price. The buyer will refuse to disclose information of high value, because when the mistake is unilateral he need not fear rescission. The contract price is p_1 if the seller knows (and discloses) that the value is high (in states IV and V), and p_0 in the other states of the world. The buyer again earns positive rents on his private information (in state III) equalling $p_1 - p_0$ with probability $\alpha g_b f_s$. The contract at price p_0 will be rescinded if and only if there is a mutual mistake (state II). The rescission occurs with probability $\alpha g_s g_b$ and causes a rescission cost of L and a loss of b_1 in gains of trade. Subtracting this from the surplus without rescission gives a net surplus of $\alpha b_1 + (1-\alpha)b_0 - \alpha g_s g_b(b_1 + L)$ for the two parties combined.

Excuse for Unilateral Mistake. Both the buyer and seller disclose the high value if they know it: the seller to obtain a higher price; the buyer, because the sale would be rescinded anyway if he failed to disclose. The price is p_1 in states III, IV and V, because the seller knows there is a high value; and p_0 in states I and II, because the buyer will not pay more than the low value when the contract is voidable whenever the value is high. Because the buyer is willing to reveal private information of high value, there will only be rescission when there is mutual mistake (in state II). This result is the same as under the unilateral mistake rule, so the expected surplus is again $\alpha b_1 + (1-\alpha)b_0 - \alpha g_s g_b(b_1 + L)$. The two excuse rules divide these gains differently, however. The unilateral mistake standard does not allow the buyer to capture any returns from private information, because whenever the seller is mistaken the contract can be rescinded— so the buyer has a zero payoff under unilateral mistake. But the buyer has strictly positive expected

payoffs under a mutual mistake standard because the seller cannot rescind contracts in state III.

A. Negative Gains from Mistaken Trade

Now let us consider the equilibria when the gains from mistaken trade are negative (so $b_1 < 0$). Under these conditions, trade will not take place if the seller is informed (either directly or through buyer revelation) that the value is high, because he prefers his own value, v_1, to the most the buyer would pay, p_1. Consequently, the first-best expected social surplus is $(1-\alpha)b_0$. The issue of seller disclosure is moot because a seller informed of high value simply refuses to offer a price below v_1— so whether or not an informed seller reveals, there will be no trade.

No Excuse. The buyer will not disclose to take advantage of private information. No trade occurs when the seller is informed that the value is high. As above (when $b_1 > 0$), an uninformed seller offers a price p^*—which allows the informed buyer to earn a positive payoff in state III of $(p_1 - p^*)$ with probability $\alpha g_s f_b$. The uninformed buyer's expected return (in states I and II) is 0. In states II and III, the uninformed seller loses b_1 more than the buyer gains. The total expected surplus is $(1-\alpha)b_0 + \alpha g_s b_1$.

Excuse for Mutual Mistake. The buyer refuses to disclose, in order to take advantage of his private information. The informed seller refuses to trade. Because the seller can rescind for mutual mistake (in state II), a price of p_0 is the maximum amount that the seller can extract from an uninformed buyer. The seller rescinds at cost L when there is a mutual mistake (in state II). The buyer earns a positive payoff of $(p_1 - p_0)$ in state III but as before the seller loses b_1 more than the buyer gains. Accordingly, the expected social surplus is $(1-\alpha)b_0 + \alpha g_s f_b b_1 - \alpha g_s g_b L$.

Excuse for Unilateral Mistake. The buyer is willing to disclose, because any non-disclosure of high value will end in rescission. The informed seller refuses to trade. The uninformed seller charges p_0 (which because of rescission for mutual mistake is again the maximum amount that an informed buyer

will pay). The seller rescinds at cost L when there is mutual mistake (in state II). The buyer earns zero payoff in all states of the world, because the unilateral mistake rule does not allow the buyer to earn any returns on private information. The seller (and therefore the social) gains from trade equal $(1-\alpha)b_0 - \alpha g_s g_b L$.

The right-hand column of Table 1 summarizes the buyer, seller, and total surplus expected under each rule. Choosing a rule that maximizes the total gains from trade depends on the size of the gains from mistaken trade. If there are gains even from mistaken trade ($b_1 > 0$), then the no excuse standard maximizes the gains of trade, because its payoff is higher by $\alpha g_s g_b (b_1 + L)$ than the other rules. No contracts are voided, because voiding destroys the gains from trade and incurs rescission costs.

If, on the other hand, mistaken trade is inefficient ($b_1 < 0$), then excuse for unilateral mistake maximizes social surplus if rescission costs are low. The no excuse standard results in inefficient trades that cost society $\alpha g_s b_1$, whereas under the unilateral mistake standard some of those trades are prevented by buyer disclosure and the rest are rescinded, at expected cost $\alpha g_s g_b L$. If the trade loss is greater than the litigation cost, that is if

$$|b_1| > g_b L, \tag{3}$$

then excuse for unilateral mistake maximizes the gains from trade; otherwise, a no excuse standard is best. A mutual mistake rule can be preferable to a no excuse standard if there are sufficiently large inefficiencies from mistaken trade $[(b_1 < -g_b L/(1-f_b)]$, but it is definitely inferior to excuse for unilateral mistake, because it has the same expected rescission costs but generates an extra loss of $\alpha g_s f_b b_1$ due to unilaterally mistaken trades in which the buyer makes the purchase solely because of the seller's mistake.

Overall, the mutual mistake standard never maximizes social surplus. When the gains from mistaken trade are positive, it voids too many contracts, which makes it inferior to the no excuse standard. When the gains are negative, it discourages informed buyers from volunteering their information

and results in unrescinded bad trades, which makes it inferior to the unilateral mistake rule.

The law's preference for mutual mistake cannot be explained by the courts' ability to distinguish between situations where the gains from trade will be positive and those where they will be negative. If b_1 can take either a positive or a negative value and courts only know the probability that the gains of trade will be positive, then the single legal rule that maximizes society's gains of trade can be either the no excuse or the unilateral mistake standard, depending on the relative size of the gains of trade and the costs of rescission.[16] The mutual mistake standard can never produce better results than the unilateral mistake standard because both produce the same social surplus when the gains from mistaken trade are positive, and the mutual mistake standard is less efficient when gains from mistaken trade are negative.[17]

The inferiority of the mutual mistake standard is qualitatively robust, but quantitatively it is important to remember that recontracting limits the inefficiencies generated by non-rescinded inefficient or rescinded efficient trade. Typically the loss from a bad default rule in contracts is limited by transaction costs, and here is no exception.[18] If $b_1 > 0$, and the seller rescinds the contract under the unilateral or mutual mistake standards, he can be expected to resell the good to the buyer. If $b_1 < 0$, the ability to recontract reduces the inefficiencies associated with both the no excuse and the unilateral excuse standards. If the seller (under a no excuse standard) is unable to rescind, the buyer can resell the good to the seller.[19] Under a unilateral mistake standard, the seller who finds it profitable to rescind will instead negotiate with the buyer to contractually nullify the original agreement. In each case, extra transaction costs are incurred. The relevant question becomes whether recontracting is more costly than voiding the contract. The possibility of recontracting replaces the inefficiency of mistaken trade (b_1) and the inefficiency of rescission (L) with the smaller inefficiency of the recontracting. An inequality analogous to inequality (3) will still characterize when the unilateral mistake rule maximizes gains from trade, but b_1

and L need to reinterpreted as the smaller transaction costs that the parties will bear when confronted with the prospect of inefficient trade or inefficient rescission.[20]

The rules affect not only the total gains from trade, but how those gains are distributed between the buyer and seller. Although we have assumed that the seller has the power to make a take-it-or-leave-it offer, the buyer can expect a positive return from his private information under either the no excuse or the excuse for mutual mistake rule. (The buyer gains nothing from private information of a high value under a unilateral excuse standard, because the seller can rescind any trades where the buyer alone was informed of a high value.) Regardless of whether there are gains from mistaken trade, the buyer prefers a standard of mutual mistake to a no excuse standard, and prefers the no excuse standard to a standard of unilateral mistake. While both the no excuse and mutual mistake standards give the buyer positive returns, the mutual mistake standard gives buyers a higher payoff because uninformed sellers offer lower prices when there is excuse for mutual mistake.[21] Thus, although mutual mistake does not maximize total social surplus, it does maximize "consumer welfare" if the mistake is that he value is higher than expected. The law's facial preference for the mutual mistake standard might be understood as a preference for a rule that offers a more equitable distribution of the gains from trade—even if it means sacrificing the size of the total pie.

B. Defining "Basic Assumption"

Model I suggests a way for judges to give content to the *Second Restatement*'s troublesome term "basic assumption." The definition of this term is crucial. The difficulty of doing so consistently led legal realist commentators to claim that "Few legal conceptions have given rise to more useless doctrine and abortive principle than has 'mistake' " and "...no test which will invariably distinguish between the intrinsic and the extrinsic has ever been devised, and it is believed that the distinction so attempted is both unsound in theory and impossible in practice."[22]

Using the insight of Model I, let a "basic" assumption be defined as one that determines whether the gains from mistake trade are positive. The judge does not need to worry about fundamental philosophic or linguistic questions of what the parties meant when they referred to the traded good; the question comes down to whether performance increases the welfare of the buyer more than it reduces the welfare of the seller. Or, put differently, would the trade have taken place under suitably modified terms even if the parties not been mistaken? If so, the mistake does not concern a basic assumption.[23.] Such a definition rules out minor mistakes based on fluctuating market conditions, even though fluctuating conditions would alter the contract price.[24] Defining "basic assumption" in terms of whether there are still gains from trade is not the same as defining it based on whether there is a substantial change in the value of performance. If $v_1 = 100$, $v_0 = 10$, and $b_1 = b_0 = 5$, the mistake makes a large difference in value (105 versus 15), but has no effect on the gains from trade, so it does not involve a basic assumption. Trade would take place even under perfect information; only the price would change. To be consistent with Model I, the basic assumption test would be a necessary but not sufficient condition for efficient excuse. If a judge found that there were still gains from the mistaken trade, there would be no finding of basic assumption and therefore no excuse. Even if the judge found that mistaken trade produced negative gains ($b_1 < 0$), there would only be excuse (following inequality (3) above) if the expected costs of rescission were less than the inefficiency of mistaken trade: $(1 - f_s)L < |b_1|$.

Model I suggests interpretations of other terms in the law. First, when "the other party had reason to know of the mistake," §153 (b) of the *Second Restatement* classifies the situation as a known unilateral mistake, and allows excuse even though the mistake is not mutual. An informed buyer may know that seller would not want to enter the contract at the price offered, because either (1) there are negative gains from mistaken trade or (2) the offered price is lower than the amount an informed seller would offer. Consonant with our definition of "basic assumption," known unilateral mistake should only be found in the first case—where it is negative gains from trade and not simply a low contract price that would have deterred an informed seller's offer. This

interpretation would maximize social surplus in Model I. When the gains from mistaken trade are positive, there would be no finding of a mistaken "basic assumption" and the efficient no excuse standard would therefore apply. When the buyer knows that an informed seller would not have wanted to sell even at the buyer's reservation price (that is , $b_1 < 0$), however, courts might be inclined both to find a mistaken basic assumption and to find a "known unilateral mistake," which would effectively allow excuse for merely unilateral mistake.[25]

The same idea may be applied to distinguish between two moral dilemmas described by Cicero, but old even in his time.[26] In the first dilemma, there is a famine at Rhodes, so the price of grain is very high, but, unknown to the citizens, several ships full of grain are on their way from Alexandria. Does the owner of the first ship to arrive have a duty to disclose that grain prices will shortly fall?[27] In the second dilemma, the seller of a house knows that it is unsanitary, and the buyer does not. Does the seller have a duty to disclose the unsanitariness of the house? Cicero would require disclosure in both situations. But a distinction based on Model I is that in the case of the grain at Rhodes, there are positive gains even from mistaken trade— the only impact of the information is on the price. In the case of the unsanitary house, on the other hand, an entirely different class of purchaser may be interested in buying unsanitary houses, even when the price falls, so the information affects not only the price but the ultimate ownership. Legal rules should encourage disclosure when non-disclosure would result in a transfer to someone who places less value on the good in question.[28]

C. Application to Sherwood v. Walker

Let us now return to *Sherwood v. Walker* and see what sense can be made of it. A fertile cow is different enough from a barren cow that a buyer willing to buy a barren cow at a low price might not be willing to buy a fertile cow at a high price. If both parties mistakenly believed the cow to be barren, the gains from trade were likely to be negative when the cow turned out to

be fertile, because the seller was well situated to sell both fertile and barren cows but the buyer would presumably have had higher costs of resale.[29] Thus, voiding for mistake would avoid negative gains from trade.

Wood v. Boynton is often paired with *Sherwood v. Walker* to show at contradictory court treatment.[30] Wood sold a small uncut gemstone of unknown identity to Boynton, a jeweller, for one dollar. Unknown to either of them, the stone was a diamond, worth 1000 dollars. The court ruled that in the absence of fraud, the jeweller could keep the stone, even though the mistake was mutual. Why the difference from *Sherwood v. Walker*? — Because in *Wood v. Boynton*, unlike *Sherwood v. Walker*, there is a much larger likelihood of gains from mistaken trade: a jeweller has more use for an uncut diamond. Thus, in the spirit of Model I, no excuse is needed for mistaken trade if efficiency is our only concern.

Illustration 1 of §152 of the *Second Restatement* illustrates the idea of negative gains from trade even more simply: [31]

> "A contracts to sell and B to buy a tract of land, the value of which has depended mainly on the timber on it. Both A and B believe that the timber is still there, but it has been destroyed by fire. The contract is voidable by B."

B believes he is buying timber, with some land attached, but the timber no longer exists. Given that B's purpose in buying has been eliminated, the gains from trade are likely to be negative. But this would still be true whether or not the mistake were unilateral. Thus, while the illustration is used as an example of excuse for mutual mistake, our Model I suggests that excuse for unilateral mistake would provide a better standard. As argued above, courts might invoke the "known unilateral mistake" exception of *Restatement* §153(b) to void the contract because the nature of the mistake is a clear sign of negative gains from trade.

D. Buyer Mistake

The party adversely affected by the mistake in Model I is the seller. If the mistake adversely affects the buyer, a new argument for excusing unilateral mistakes is introduced, because the quantity of unilateral mistakes becomes endogenous. The mistake is that the product is worth less than expected. If such a product is less costly for sellers to produce, a no excuse rule gives sellers incentives to increase the quantity of unilateral mistakes by the buyer. When the mistake adversely affects the seller, the quantity of unilateral mistakes may also be endogenous increased under a mutual mistake standard, if the the buyers can avoid excuse for mutual mistake by converting a mutual mistake (neither party knows the good's value is high) to a unilateral mistake (only buyer knows). The mistakes which adversely affect the seller, however, are not caused by the buyer, and imposing a no excuse rule would not induce more mistakes.

The real losses under the current mutual mistake rule from sellers' increasing the quantity of unilateral mistaken trades that adversely affect the buyer are potentially large. The problem is serious enough that the law gives the mistaken buyer an implied warranty remedy that is even stronger than the buyer's remedy for unilateral mistake.[32] If the seller is a merchant with respect to the good in question, the *Uniform Commercial Code* establishes an implied warranty that the title is valid and the goods are "merchantable," which requires that they be "of fair average quality" and "are fit for the ordinary purposes for which such goods are used."[33] If the buyer is relying on the seller's skill and the seller has reason to know that the buyer intends the goods for a particular purpose, the U.C.C. also imposes an implied warranty that they will be fit for that purpose.[34.] When the good turns out to be less valuable than expected, the buyer can ask for more than just to be returned to his initial position; he can ask to be put in the position he would have been in had the good been as valuable as claimed.[35] Thus, if Sherwood contracted to sell Walker a pregnant cow that turned out to be barren, Walker would have a cause of action for breach of warranty. Moreover, the U.C.C.'s implied warranty applies to even unilateral mistakes: the seller bears the loss even if the buyer was ignorant that the goods were flawed. Here, too, the distinction between mutual and unilateral mistake is undermined.

III. DELIBERATE ACQUISITION OF INFORMATION: MODEL II

The rule governing excuse for mistake can also influence parties' incentives to acquire information. In analyzing mistake, Anthony Kronman distinguished between casual and deliberate acquisition of information.[36] In Model I, we assumed that information was casually acquired— the buyers and sellers were informed with exogenous probabilities. Now, we relax this assumption and explore a model in which the buyer and seller can acquire information for a price.

Buying information is a form of taking care to avoid mistakes. Model I showed how a unilateral excuse rule could mitigate the possibility of negative gains from a mistaken trade. Here, we explore whether excusing contractual obligation could be justified as a way to coordinate the efficient production of information. Model II uses the same assumptions as Model I with two exceptions: (a) it eliminates the possibility of causually acquired information by assuming that the buyer and the seller have the option of spending c_b and c_s to become informed of the good's value before agreeing to the contract (where c_s is high enough relative to the cost of rescission that the seller would not incur it just to avoid the possible rescission costs, that is , $c_s > \alpha L$) ; and (b) it eliminates the possibility of inefficient trade (by setting $b_1 = 0$) that drove the normative analysis of Model I, to instead focus on the efficiency of information acquisition . The appendix finds the Nash equilibria and the welfare surplus under each excuse standard, using different parameter values for the buyer's and the seller's cost of acquiring information.

At the outset, note that the gains of trade would be maximized if the buyer and seller could commit to ignorance, for while the information is deliberately acquired it is not socially productive; the non-negativity of b_1 implies that trade should take place whether or not the value is high.[37] If the parties committed to being uninformed, a no excuse standard would maximize gains from trade. The parties would trade in all states of the world at the uninformed price, $p^* = \alpha v_1 + (1 - \alpha)(v_0 + b_0)$, and the seller would capture all of these first-best gains from trade, equalling $(1 - \alpha)b_0$.

Yet because the parties *cannot* commit to ignorance, a no excuse standard does not necessarily maximize the joint gains from trade.[38]

No excuse standard. Under the no excuse standard, the type of equilibrium will depend on the size of the information costs.

Equilibrium A. High Information Costs for both Parties. If the information costs c_s and c_b are sufficiently high ($Min\{c_s, c_b\} > \alpha(v_1 - p^*)$), then neither party will try to become informed, and the first best total surplus will be achieved.

Equilibrium B. Low Information Costs for just the Buyer. If the buyer's information cost is low but the seller's is not ($c_b < \alpha(v_1 - p_0) < c_s$), the equilibrium is in mixed strategies. The buyer sometimes acquires information, and the seller sometimes charges p_1, sometimes p^*. There cannot be an equilibrium in which the buyer always acquires information, because the seller would always charge p_0, [39] and the buyer would then have no reason to acquire information (since he would buy in any case).

Equilibrium C. Low Information Costs for the Seller. If the seller's information cost is sufficiently low ($c_s < \alpha(v_1 - p_0)$), he will acquire information. He would like to conceal the information if the good's value is low, but since the buyer knows the seller acquires information in equilibrium, seller silence would betray that the value is low, so the price the seller can charge is v_1 or p_0, depending on the good's value. The buyer will refrain from acquiring information, because he is able to deduce the value from the seller's behavior. The gains from trade equal the first-best surplus minus the costs of the seller's information.

Intermediate Information Costs for the Seller. If the seller's cost of information lies in an intermediate range ($\alpha(v_1 - p*) < c_s < \alpha(v_1 - p_0)$), both the high and low information cost equilibria (A and C) are possible.[40] There are two equilibria because the buyer's expectations determine how he reacts to lack of disclosure. If the buyer expects that the seller will acquire information, but the seller is silent, the seller can only charge p_0, which in turn

gives the seller a strong incentive to acquire information. If the buyer expects the seller not to acquire information, on the other hand, the seller can charge a higher price ($p^* > p_0$) after remaining silent. Thus, the seller has more incentive to collect information if the buyer thinks he will do so, generating multiple equilibria. Even though the high cost equilibrium produces larger gains from trade, buyer expectations for this intermediate range of costs can induce the seller to collect information.

Excuse for Mutual Mistake. Under the mutual mistake rule, the type of equilibrium will depend on whether the seller's costs of acquiring information are more or less than $\alpha(v_1 - p_0)$.

High information costs. If the cost of information is high, then no information is collected by the buyer or the seller. The price is p_0 (since the sale will be rescinded if the value is high), and rescission costs will be incurred. The gains of trade will be equal to the first-best surplus, $(1 - \alpha)b_0$, minus the expected rescission costs, αL.

Low Information Costs for just the Buyer. If the buyer's information cost is low but the seller's is not ($c_b < \alpha(v_1 - p_0) < c_s$), the buyer alone acquires information and the seller charges p_0. The total surplus is $(1 - \alpha)b_0 - c_b$.

Low Information Costs. If the information cost for both the buyer and seller is low (less than $\alpha(v_1 - p_0)$), the equilibrium is in mixed strategies. The seller has no incentive to acquire information unless the buyer does, because the seller can void the contract when the buyer is uninformed. But the buyer only wants to acquire information if the seller does not; this is a discoordination game.[41] In equilibrium, some buyers and sellers acquire information, in proportions that make every party indifferent between acquiring and not acquiring. With some probability, each party is informed, both are informed, or neither is. Mixed strategy equilibria need to satisfy the requirement that in equilibrium each player must be indifferent between playing the equilibrium mixed strategy and either of the pure strategies (of becoming informed or staying uninformed).[42.] Because a buyer earns zero surplus from the pure

strategy of staying uninformed (whether or not the seller is informed),[43] the buyer must expect the same zero payoff from the mixed strategy of sometimes becoming informed. Analogously, the uninformed seller in the mixed strategy equilibrium must earn the same expected payoff of $p^* - c_s$ that he is certain to earn if he becomes informed.[44] This means that the social surplus from the mutual mistake standard when costs are low will equal the social surplus from the no excuse standard when the seller's costs are low.[45]

Excuse for Unilateral Mistake. Under the unilateral mistake rule, neither party becomes informed, regardless of the size of the information cost, since the seller can rescind for either mutual or unilateral mistake. The price equals p_0, because contracts are voided whenever the value of the good is high, and rescission costs L are incurred with probability α. The total gains from trade under the unilateral mistake standard equal the first-best surplus of $(1-\alpha)b_0$ minus the expected costs of rescission, αL.

Choosing the Optimal Rule. In this model, the mistake rules defining the conditions for excuse both affect the amount of information acquisition and whether the trade takes place. Since, unlike in Model I, information acquisition is inefficient, rules that minimize the total of acquisition and rescission costs are most efficient. Table 2 summarizes the results.

INSERT TABLE 2 HERE

When the cost of information is low ($c_s < \alpha(1-\alpha)(v_1 - p_0)$), the unilateral mistake standard maximizes expected surplus. The no excuse and mutual mistake standards both yield surpluses of $(1-\alpha)b_0 - c_s$, but the unilateral mistake standard yields $(1-\alpha)b_0 - \alpha L$, which is bigger by the assumption that $\alpha L < c_s$. The low cost of information gives sellers an incentive under the no excuse standard to expend c_s for information. Excuse for mutual mistake slightly reduces the expected costs of information acquisition (even though in the mixed strategy equilibrium buyers and sellers at times both will expend the cost), but increases the expected costs of rescission an equivalent amount. When information cost are low, only the excuse rule of unilateral mistake deters sellers from acquiring information— because the

seller is protected by the possibility of rescission. Ex post rescission is costly, but less costly than prior care (that is , acquiring information). When information is cheap, none of the rules can avoid the inefficiencies of acquisition and rescission—but the unilateral mistake rule minimizes the sum of these inefficiencies.

When the cost of information for both the buyer and seller is high (greater than $\alpha(v_1 - p_0)$), the no excuse rule maximizes surplus.[46] The no excuse rule yields the first-best surplus of $(1 - \alpha)b_0$, whereas the unilateral mistake and mutual mistake rules yield $(1-\alpha)b_0 - \alpha L$. When information is costly enough, neither party will acquire it regardless of the legal rule—but the unilateral and mutual mistake standards for excuse still induce costly litigation to induce rescission. Thus, the no excuse rule is best. When information is cheap for the buyer, whether or not it is cheap for the seller, the litigation cost becomes bearable because it has the benefit of inducing information acquisition, and the unilateral mistake rule is best, as shown by the boxes in the left two columns of Table 2. The choice of efficient rules complements the analysis of Model I. The mutual mistake standard never maximizes the gains from trade. The no excuse standard or excuse for unilateral mistake produce the largest gains from trade for certain parameter value. In Model I, the unilateral mistake standard maximized the gains from trade when the expected costs of rescission were less than the expected costs of inefficient trade. In Model II, the unilateral mistake standard dominates no excuse when the expected costs from rescission are less the expected costs of information production.[47]

The motives for information acquisition are different under each legal rule. Under the no excuse rule, the seller has the greatest incentive to acquire information and under the unilateral mistake rule the least.[48] There is no pure strategy equilibrium in which only the buyer acquires information. Under the unilateral mistake rule, the buyer can never benefit from private information because an uninformed seller can always rescind mistaken trades. And under the no excuse rule, the seller acquires information whenever it would have been profitable for the buyer to gain private information—thereby preempt-

ing the gains from private information. Under mutual mistake, the buyer has the motive to convert rescindable mutual mistakes into non-rescindable unilateral mistakes, and the seller has the responsive motive to turn unilateral mistakes into mutual knowledge. The inability of buyers to profit from private information also affects the distribution of the gains from trade. For although the prospect of private information allowed buyers to earn positive expected profits under the no excuse and mutual mistake rules in Model I, the buyers earn no such information rents in Model II. The expected buyer's payoff under all rules is zero— the total gains from trade also represent the seller's payoffs. The buyers are indifferent among the different rules; and the sellers simply prefer the most efficient. Thus, unlike in Model I, buyers do not have a private incentive to support the socially inefficient excuse for mutual mistake standard.

A. The Confounding Effects of Productive Information

The welfare comparisons of Table 2 are premised on the fact that the benefit from information acquisition is purely redistributive. Different orderings are possible, however, if information at issue is socially useful. If information is productive and information costs are low, the no excuse standard can become the most efficient rule, because the seller always acquires information; and the unilateral mistake rule can be least efficient because no information is ever acquired.

Information might be productive rather than merely redistributive for several reasons. For example, if information is not acquired before trade, the high value may never be revealed at all. Models I and II assumed that after the agreement was made, the good's value would be exogenously revealed, but it may be that the high value is revealed only by putting the good to a different use, which would not be done unless its value is discovered by other means. Information acquisition is then productive rather than redistributive. The seller has incentive to acquire information under any rule, but if he does not always succeed in acquiring it, a rule which also encourages buyer investigation is desirable. In *Leitch Gold Mines, Ltd. v. Texas Gulf Sulphur Co.*,

the paradigmatic case for Shavell's article on unilateral mistake,[49] the information that a plot of land contained valuable minerals would likely not have been discovered had the buyer not made a costly investigation.[50] Productive information of this kind increases the desirability of the no excuse standard, but again gives no reason to choose the mutual mistake rule.[51]

B. Examples

This analysis of information collection helps explain court intervention for "errors of expression" and "scrivener's mistakes," as opposed to the "errors of fact" we have so far been discussing. Bidders in sealed-bid auctions sometimes make computation errors in calculating their costs, submit too low a bid, and ask courts to rescind. *M. F. Kemper Const. Co. v. City of Los Angeles et al.*[52] is typical. Kemper bid $780, 305 to build a piping system, having omitted a cost item of $301,769 from its internal cost estimate, completed late at night just before the bid deadline. The company discovered its error several hours later and sought discharge of its bid bond, but the city pointed to a clause in the bid that said bidders "will not be released on account of errors." The court granted release nonetheless, saying "There is a difference between mere mechanical or clerical errors made in tabulating or transcribing figures and errors of judgement, as, for example, underestimating the cost of labor or materials."[53]

If bidders are held to mistaken bids, they will take more care in making their bids, but it may be more efficient to allow rescission. This is consonant with the conclusion of Model II that excuse for unilateral mistake rule is efficient when the costs of acquiring information is relatively low. This is especially true if the costs of recontracting are low, as in *Kemper*, where the mistake was found soon enough that the city could turn to the second-lowest bidder. If the mistake had been found later, the city would have had to repeat the bidding process, incurring a variety of costs for which the bid bond might serve as liquidated damages. Errors of judgement are difficult enough to prevent that the mistake rule matters less in inducing care. Moreover, they

are often discovered so late that the recontracting cost is high, it is harder for the court to discover the error, and they are more likely to create real costs instead of just transfers, so extra care might be desirable. Thus, errors of expression, which are relatively trivial in their real consequences and their cost of prevention if not their redistributive consequences, are better grounds for excuse.

Model II might also give insights for analyzing courts' willingness to reform errors of expression. In *Berke Moore Co. v. Phoenix Bridge Co.*, [54] a general contractor building a bridge hired a subcontractor to the concrete work for $12.00 per square yard of "concrete surface included in the bridge deck." After the work was completed, the contractor offered to pay for the square footage of top surface (4,184 square yards), but the subcontractor claimed payment for the bottom and side surfaces as well (approximately 4,000 additional square yards). The court held for the general contractor on the ground that at the time of contracting both parties had thought only the top surface was included, even though the contract might objectively read otherwise. This makes sense from the point of view of preventing unnecessary care, and the reasoning makes sense whether the mistake was mutual or unilateral.

C. Productive Information and Negative Gains from Mistaken Trade

Both Models I and II showed that a unilateral mistake rule at times would be efficient (by reducing the inefficiencies of mistaken trade or non-productive information acquisition), but that a mutual mistake rule never maximizes the gains from trade. It is possible to combine aspects of both models and produce a scenario in which excuse for mutual mistake is efficient. In particular, the conflict between the two goals of efficient trade and efficient information production do provide a reason for the mutual mistake rule in a limited context. The complexity of the assumptions needed to generate this result, however, may ultimately lend more support to the larger thrust of this article — that it is difficult to give an efficiency justification for a

mutual mistake rule. Consider a model with the following four assumptions: (1) As discussed in Model I, assume that the gains from mistaken trade are negative ($b_1 < 0$) so that the object is worth more to the seller than the buyer when the value is high; (2) As in Model II, suppose that the buyer can investigate whether there has been a mistake (that is , whether value is high) at cost C — but that investigation only yields information about the value with some probability less than one; (3) Assume that the seller's cost of investigating the value are prohibitively high—so that the seller as a practical matter will never become directly informed ex ante; and (4) Finally, as discussed above as an example of productive information, suppose that the true value is exogenously revealed ex post with only some probability less than one, so that without any investigation the high value may be lost through ignorance of the good's best use. Under the unilateral mistake rule, the buyer will not acquire information, and sometimes the benefit of the high value is lost. Under a no excuse rule, the buyer will investigate if C is sufficiently low. If the buyer does not investigate, or investigates and fails, then even when a high value is exogenously revealed ex post, the gains from trade are negative. Under the mutual mistake rule, the buyer has incentive to acquire information if C is low, but the trade is rescinded if both parties are mistaken and the value is exogenously revealed. This is the best rule because it encourages information acquisition while rescinding inefficient trade when it occurs accidentally rather than because of superior information. Some inefficient trades are not rescinded, but that is the price paid for encouraging information collection.

Sherwood v. Walker may in fact be an application of this idea. Information acquisition was likely to be allocative rather than just redistributive, since someone who discovered that Rose was fertile would breed her rather than put her to a less valuable use as meat. To encourage information acquisition, the legal rule should allow the buyer to profit from his information, even at the cost of negative gains from the trade itself. This is precisely the setting of the previous paragraph, in which the unilateral/mutual distinction makes sense, and it justifies the court's decision. If Walker could somehow show that Sherwood bought the cow for meat, not for breeding, the contract

should be voided because the trade was inefficient; otherwise it should be enforced, to reward Sherwood's good judgement.

IV. RISK: MODEL III

The legal and economic meanings of "risk" are almost opposite. Consider how the no excuse rule affects a simplified version of Model I in which neither buyer nor seller gains knowledge of the good's value before contracting ($f_s = f_b = 0$). In legal (and everyday) usage, the risk is on the seller under the no excuse rule. He bears the risk of the transaction, because he loses the benefit of the high value if there is a mistake. In economic usage, the risk is on the buyer, because the seller's ex post wealth equals the uninformed price (p^*), which, being certain, is riskless, whereas the buyer's ex post wealth equals the value of the good, which is variable. If the seller is risk averse and the buyer is risk neutral, the no excuse standard efficiently allocates the risk. If the buyer is the risk-averse trader, however, a mutual mistake rule more efficiently distributes the risk. Under mutual mistake the price will equal p_0 and the seller will rescind whenever the value is high. Mutual mistake ensures that the risk averse buyer bears no risk, because he receives a zero payoff with certainty while the seller payoffs absorb all the fluctuations in value.

Model III attempts to highlight two effects of risk on the choice of efficient law: (a) The legal rule can actually reduce the total amount of risk, rather than just shifting it from one party to another; and (b) The efficient rule may need to trade off the costs of inefficient "artificial" risk against the inefficiencies of mistaken trade (as analyzed in Model I). Some risks are natural; when the value of an object is risky, one party or the other must bear that risk regardless of the legal rule. Other risks— that of a scrivener's error, for example—are artificial, in the sense that the legal rule can reduce the variance in payoffs. If the parties might mistakenly leave a zero off the contract price, there would be a substantial change in parties' payoffs under a no excuse standard, but only a slight change in payoffs under excuse for

mutual mistake. The court's use of the mutual mistake standard ex post can drastically reduce the amount of ex ante risk. This risk reduction does create rescission costs, however, and the optimal legal rule needs to account not only for the amount of artificial risk but for the costs of rescission.

For a clearer picture of the difference between "natural" and "artificial" risk, consider the following two hypotheticals from §12 of the *Restatement of Restitution*.

> "*A* enters a second-hand bookstore where, among books offered for sale at one dollar each, he discovers a rare book having, as *A* knows, a market value of not less than $50. He hands this to the proprietor with one dollar. The proprietor, reading the name of the book and the price tag, keeps the dollar and hands the book to *A*. The bookdealer is not entitled to restitution since there was no mistake as to the identity of the book and both parties intended to bargain with reference to the ability of each to value the book."[55]

> "*A*, looking at cheap jewelry in a store which sells both very cheap and expensive jewelry, discovers what he at once recognizes as being a valuable jewel worth not less than $100 which he correctly believes to have been placed there by mistake. He asks the clerk for the jewel and gives 10 cents for it. The clerk puts the 10 cents in the cash drawer and hands the jewel to *A*. The shopkeeper is entitled to restitution because the shopkeeper did not, as *A* knew, intend to bargain except with reference to cheap jewelry."

The first hypothetical is like *Sherwood v. Walker* in the sense that the uncertainty is over whether the object offered for sale is valuable or not. Either the buyer or the seller will reap a windfall from the mistake, and the only question is who gains the windfall.[56] The second hypothetical is

different because the uncertainty is over whether the seller misprices the object. Like a scrivener's error, the risk is due to human error: that an expensive jewel will be mistakenly placed in the wrong bin. It is difficult to precisely compare risks in Models I and II, because the standard economic definition of risk compares riskiness across rules only when the average value remains constant.[57] A pure artificial risk exists: (a) if the uncertainty does not effect the combined wealth of buyer and seller, but (b) if one party makes a mistake, the other party reaps a positive windfall (and the mistaken party loses a corresponding amount). The legal rule can play an important role in reducing this type of risk.

To see the implications, let us suppose that the value of the object being sold is constant at V for the buyer and 0 for the seller, and that the seller makes a take-it-or-leave-it offer. With probability $(1 - \alpha)$, he charges the price of V. With probability α, however, he makes a scrivener's error (for example, omitting a zero) and charges a price of only $p_1 < V$. With probability αf_b the buyer realizes this mistake, so the mistake is unilateral; with probability αg_b the buyer does not realize that the low price is a mistake, so the mistake is mutual. After entering into the contract, any mistakes are revealed, and the seller may be able to rescind the sale at cost L and resell at price V, depending on the legal rule. Let us assume that the buyer reveals the mistake if he cannot benefit from it.

Each triplet in Table 3 represents the payoffs under the no mistake, unilateral mistake, and mutual mistake rules. If there has been no mistake, the legal rule does not matter: the seller's payoff is V and the buyer's is 0. Under a no excuse rule, given either unilateral or mutual mistake the seller obtains a payoff of p_1 and the buyer obtains $V - p_1$. Under the unilateral mistake rule, the buyer will reveal the mistake if he is aware of it, and the payoffs will be V and 0; if he is not aware, the sale will be rescinded at cost L and the transaction repeated at the high price, for payoffs of $V - L$ for the seller and 0 for the buyer. Under the mutual mistake rule, the payoffs are p_1 for the seller and $V - p_1$ for the buyer under unilateral mistake, and $V - L$ for the seller and 0 for the buyer under mutual mistake, since rescission and

resale then occur.

INSERT TABLE 3 HERE

The significance of Table 3 is in showing the riskiness of the payoffs under each rule. The unilateral mistake rule has the least risk in the sense that the payoffs under each possible situation are the most similar—identical for the buyer, and differing only by the cost of rescission for the seller. Under the mutual mistake rule, the parties' have similar payoffs under no mistake and mutual mistake, but very different payoffs when the mistake is unilateral. The risk is greatest under no excuse, where even a mutual mistake creates a big change in payoffs. Thus, if the parties are risk averse, the unilateral mistake rule would seem to be the best for reducing risk. Model III thus suggests another reason for rescission, but not a reason that favors the mutual mistake rule.

Reductions in risk and in information collection will often be complementary goals. *Berke Moore Co. v. Phoenix Bridge Co* and *M. F. Kemper Const. Co. v. City of Los Angeles et al.*, discussed in the previous section, are like the jewelry-store hypothetical in that the risk is artificial rather than natural. In all three cases, the mistake is created by the carelessness of one party, it creates risk, and it provides incentives for excessive care under no excuse. Thus, when the benefit of care is merely redistributive it ought doubly to be discouraged: to reduce risk as well as the cost of care.

V. CONCLUDING REMARKS

The vexing question of when to void contracts on grounds of mistake does not have a general answer. This article has focused on two considerations that can effect the efficiency of various excuse standards: the gains from mistaken trade and the cost of care to avoid mistake. If the gains from trade are negative when one or both parties are mistaken, or if care to avoid mistake is redistributive rather than productive, rescission should be granted, if its litigation cost is low. This is quite different from the rule

in tort law, where the basic principle is that liability should be placed on the least-cost avoider, because in contract, unlike tort, the care may just serve to redistribute wealth and the harm from mistake can be undone by rescission of the contract. When the parties must choose whether to deliberately acquire information about whether a they have mistakenly valued the object in question, the choice of the excuse standard can induce a variety of mixed strategy equilibria. Under a mutual mistake standard (when costs of acquiring information are low), the buyer only wants to acquire information if the seller does not (because if both acquire, the buyer cannot profit from private knowledge). But the seller only wants to acquire information if the buyer does (because if neither acquire, the seller can rescind when value is high). The equilibrium to this discoordination game involves each party choosing to become informed with only some positive probability. The unilateral mistake rule, however, eliminates these strategic incentives to acquire information, because the seller can rescind any contract where it has remained uninformed. The two principles of avoiding negative gains from trade and inducing appropriate care will justify excuse for mistake in some cases and not others, but they generally will not support the traditional rule that rescission is granted only for mutual, not unilateral mistake. Often, however, they will come to the same result, because the presence of negative gains from trade should alert the non-mistaken party to the mistake, which under traditional law permits the contract to be voided. Moreover, if information is productive, it may be desirable to use the unilateral mistake rules to give incentives to become informed while rescinding contracts when the information has not been acquired.

APPENDIX: EQUILIBRIUM OUTCOMES IN MODEL II

This appendix finds the equilibria for Model II under different parameter values. If both parties are known to be uninformed, the price is $p^* = \alpha v_1 + (1-\alpha)(v_0 + b_0)$.

If there is a NO EXCUSE rule then: (i) If

$$Min\{c_s, c_b\} \geq \alpha(v_1 - p^*), \tag{4}$$

there exists an equilibrium in which neither party investigates, the price is p^**, and the total surplus is* $(1-\alpha)b_0$*. (ii) If*

$$c_s \leq \alpha(v_1 - p_0) \tag{5}$$

there exists an equilibrium in which only the seller acquires information, and the price is v_1 *if the value is high and* p_0 *if it is low. The total surplus is* $(1-\alpha)b_0 - c_s$*. (iii) If* $c_b \leq \alpha(v_1 - p^*)$ *and* $c_s > \alpha(v_1 - p^*)$*, there exists a mixed-strategy equilibrium in which the buyer acquires information with positive probability, the price is* p_0 *or* p^**, and the total surplus is* $(1-\alpha)b_0 - \frac{c_b}{\alpha(v_1 - p^*)}(v_1 - p_0)$*.*

Proof: (i) The seller will offer the maximum the buyer would accept, which is the ex ante expected value p^*. The seller's payoff for the no excuse high cost equilibrium is the price he obtains,

$$\pi_s = p^*. \tag{6}$$

If the seller were to deviate and become informed, he could reveal his information and sell at v_1 when the value was high and p^* when it was low. This would yield him a payoff of

$$\pi_s(deviate) = \alpha v_1 + (1-\alpha)p^* - c_s \tag{7}$$

The payoff in (7) is less than the payoff in (6) by amount $\alpha v_1 - \alpha p^* - c_s$, so deviation does not yield positive profits for the seller if (4) is true.

The buyer's payoff is the expected value of the product to him minus the price:

$$\pi_b = [\alpha v_1 + (1-\alpha)(v_0 + b_0)] - p^* = 0. \tag{8}$$

Under a no excuse rule, if the buyer deviates by becoming informed, he will refrain from buying if he does not discover the value is high, and remain silent and pay p^* when he does discover it to be high. His deviation payoff is therefore

$$\pi_b(deviate) = \alpha(v_1 - p^*) + (1-\alpha)(0) - c_b, \tag{9}$$

which is nonpositive if condition (4) is true. Thus, the buyer will not deviate either.

(ii) The seller's payoff under the low cost no excuse equilibrium is

$$\pi_s = \alpha v_1 + (1-\alpha)(v_0 + b_0) - c_s = p^* - c_s. \tag{10}$$

If the seller were to deviate by not acquiring information, his payoff would be:

$$\pi_s(deviate) = p_0, \tag{11}$$

which is smaller by $\alpha v_1 + \alpha p_0 + c_s$ than the payoff in (10). Such deviation is unprofitable if condition (5) is true.

The buyer cannot profitably deviate from this equilibrium because the buyer can deduce the information from what the seller reveals, and hence gains nothing from collecting his own information.

The surplus is the seller's payoff minus his payoff if no trade occurred, which is $p^* - c_s - (\alpha v_1 + (1-\alpha)v_0) = (1-\alpha)b_0 - c_s$.

(iii) There cannot be a pure strategy equilibrium because if the buyer always acquires information, the seller will not try to charge more than p_0—but then the buyer always wants to buy, so there is no point in acquiring information. But there is an equilibrium in which the seller charges p_0 with probability γ and p^* with probability $1-\gamma$; and the buyer acquires information with probability θ. The buyer will be indifferent between his two pure

strategies, with payoffs

$$\pi_b(info) = \alpha\gamma(v_1 - p_0) + \alpha(1-\gamma)(v_1 - p^*) - c_b \tag{12}$$

and

$$\pi_b(no\ info) = \alpha\gamma(v_1 - p_0). \tag{13}$$

If these are equal, then

$$\alpha(1-\gamma)(v_1 - p^*) - c_b = 0, \tag{14}$$

so

$$\gamma = 1 - \frac{c_b}{\alpha(v_1 - p^*)}, \tag{15}$$

which in turn requires that

$$c_b \leq \alpha(v_1 - p^*). \tag{16}$$

To find the surplus, note that the buyer's payoff is $\alpha\gamma(v_1 - p_0)$ and the seller's is p_0, since we can take either of the two pure-strategy payoffs. Adding these and subtracting the payoff from no trade, $\alpha v_1 + (1-\alpha)v_0$, gives

$$[\alpha(1 - \frac{c_b}{\alpha(v_1 - p^*)})(v_1 - p_0) + p_0] - [\alpha v_1 + (1-\alpha)v_0] \tag{17}$$

$$= (1-\alpha)b_0 - \frac{c_b}{\alpha(v_1 - p^*)}(v_1 - p_0). \tag{18}$$

□

If the rule is EXCUSE FOR MUTUAL MISTAKE, then (i) If $c_b \geq \alpha(v_1 - p_0)$, neither player collects information. The price is p_0 and total surplus equals $(1-\alpha)b_0 - \alpha L$. (ii) If $Max\{c_b, c_s\} \leq \alpha(v_1 - p_0)$, the seller becomes informed with probability f_s and the buyer with probability f_b, where f_s and f_b are between zero and one. $P = v_1$ if the value is high and the seller is informed; otherwise, $P = p_0$. The total surplus equals $(1-\alpha)b_0 - c_s$. (iii) If $c_b \leq \alpha(v_1 - p_0)$ and $c_s \geq \alpha(v_1 - p_0)$, only the buyer becomes informed, the seller charges p_0, and the total surplus is $(1-\alpha)b_0 - c_b$.

Proof: (i) The seller cannot gain by collecting information because he obtains rescission anyway if the good's value is high, and by the assumption that $c_s > \alpha L$ it is not worth spending c_s to avoid a probability α of rescission. The buyer is unwilling to become informed even though by doing so he could prevent rescission because his payoff from investigating and buying only when the value is high would be $\alpha(v_1 - p_0) - c_b < 0$. With probability α, the rescission cost L is incurred. The total surplus from trade is thus $(1-\alpha)b_0 - \alpha L$.

(ii) Table 4 summarizes the possible outcomes, as described in the next paragraphs. If the seller is uninformed, he chooses the price p_0, because under assumption (1) he prefers to choose a low price that the buyer would always accept rather than a high price that only a buyer informed of a mistake would accept.

If both parties are informed, there is no sale if $V = v_1$, and $P = p_0$ otherwise. The buyer's payoff is $-c_b$, and the seller's payoff is $\alpha v_1 + (1 - \alpha)p_0 - c_s = p^* - c_s$.

If just the seller is informed, there is no trade if the good's value is high, and $P = p_0$ if the value is low. The payoffs are $\pi_b = 0$ and $\pi_s = \alpha v_1 + (1 - \alpha)p_0 - c_s = p^* - c_s$.

If neither party is informed, the seller voids the contract if $V = v_1$, and incurs cost L. The payoffs are $\pi_b = 0$ and $\pi_s = \alpha(v_1 - L) + (1-\alpha)p_0 = p^* - \alpha L$.

If just the buyer is informed, the seller cannot void the contract. The payoffs are $\pi_b = \alpha v_1 + (1 - \alpha)p_0 - p_0 - c_b = \alpha(v_1 - p_0) - c_b$ and $\pi_s = p_0$.

INSERT TABLE 4 HERE.

Only a mixed-strategy equilibrium exists. As shown by the arrows in Table 4, $\pi_s(U, I) < \pi_s(I, I)$, because $c_s < \alpha(v_1 - p_0)$; $\pi_b(I, I) < \pi_b(I, U)$; $\pi_s(I, U) < \pi_s(U, U)$ because $\alpha L < c_s$; and $\pi_b(U, U) < \pi_b(U, I)$, because $c_b < \alpha(v_1 - p_0)$. In a mixed-strategy equilibrium, the players have equal payoffs from the two pure strategies between which they mix, so the payoffs

are $\pi_b = 0$ and $\pi_s = p^* - c_s$, giving a surplus from trade of $(1-\alpha)b_0 - c_s$.

(iii) In equilibrium the buyer becomes informed and his payoff is

$$\pi_b = \alpha(v_1 - p_0) + (1-\alpha)(0) - c_b, \tag{19}$$

compared with a payoff of zero if he does not become informed. Thus, he prefers to become informed if $c_b < \alpha(v_1 - p_0)$. . The seller's equilibrium payoff is

$$\pi_s = p_0, \tag{20}$$

whereas if he becomes informed his payoff is

$$\pi_s(deviation) = \alpha v_1 + (1-\alpha)p_0 - c_s. \tag{21}$$

The seller will not deviate if $c_s > \alpha(v_1 - p_0)$. The total surplus minus the autarchy payoff is

$$\alpha(v_1 - p_0) + (1-\alpha)(0) - c_b + p_0 - [\alpha v_1 + (1-\alpha)v_0] = (1-\alpha)b_0 - c_b. \tag{22}$$

□

If the rule is EXCUSE FOR UNILATERAL MISTAKE, nobody becomes informed, the price equals p_0, and the total surplus equals $(1-\alpha)b_0 - \alpha L$.

Proof: If $V = v_1$, the seller will rescind the contract, so the initial price can be no higher than p_0. The seller's equilibrium payoff under excuse for unilateral mistake is

$$\pi_s = \alpha(v_1 - L) + (1-\alpha)(p_0) = p^* - \alpha L. \tag{23}$$

If the seller deviates by becoming informed (in which case voiding is unnecessary), his payoff would be

$$\pi_s(deviate) = \alpha v_1 + (1-\alpha)(p_0) - c_s. \tag{24}$$

The assumption that $c_s < \alpha L$ tells us that deviation is unprofitable for the seller. The buyer has no incentive to become informed, because unilateral mistake voids the contract. □

FOOTNOTES

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1. The chief performance excuses are "impossibility" (or "impracticability"), which refers to unexpectedly high costs of performance, and "frustration," which refers to unexpectedly low benefits from performance. Analytically these are very similar to excuse for mistake except that the high costs or low benefits might be due to the negligence of the parties after the time of contracting. Impossibility has its own large literature; see Richard Posner & Andrew Rosenfield, Impossibility and Related Doctrines in Contract Law: An Economic Analysis, 6 J. Legal Stud. 83 (1977); Paul Joskow, Commercial Impossibility: The Uranium Market and the Westinghouse Case, 6 J. Legal Stud. 119 (1977); Victor Goldberg, Impossibility and Related Excuses, 144 J. Int'l & Theoretical Econ. 100 (1988); Richard Craswell, Precontractual Investigation as an Optimal Precaution Problem, 17 J. Legal Stud. 401 (1988); Alan Sykes, The Rule of Commercial Impracticability in a Second-Best World, 19 J. Legal Stud. 43 (1990); Michelle White, Contract Breach and Contract Discharge Due to Impossibility: A Unified Theory, 17 J. Legal Stud. 353 (1988). Frustration has been less studied.

2. Still another contract defect is misunderstanding— the minds of the parties do not meet. In the classic case of misunderstanding, an agreement specified that one party would buy 125 bales of cotton to be delivered by the ship called the Peerless arriving in Liverpool from Bombay. Raffles v. Wichelhaus, 2 Hurl. & C. 906, 159 Eng. Rep. 375 (Ex. 1864). The dispute arose because there were two ships called the Peerless travelling that route, one arriving in October and the other in December. Because the term "Peerless" was ambiguous, the court could not simply "enforce the contract."

Such a contract is void, rather than voidable. In mistake cases, on the other hand, the contract obligations are unambiguous, but they are premised upon mistaken beliefs.

3. E. A. Farnsworth, Farnsworth on Contracts 663 (1990).

4. See, for example, the 1991 Cumulative Annual Pocket Parts from West's Illinois Digest 2d Vol. 10. A Lexis search for the term "mutual mistake" found 111 uses in federal court opinions during 1990, with 32 of these opinions also containing the term "unilateral mistake."

5. As noted in Stewart Macaulay, Non-Contractual Relations in Business: A Preliminary Study, 28 Am. Soc. Rev. 55 (1963).

6. The remaining sections on mistake say that a party may request the court to correct mistakes of expression (§155), that the Statute of Frauds is irrelevant to such reformation (§156), that even a careless mistaken party can seek relief (§157), and that the parties are entitled to restitution and protection of reliance interests (§158).

7. Addison Mueller and Arthur Rosett, Contract Law and its Application, Second Edition, 474 (1977).

8. Arthur Corbin, Corbin on Contracts §608 (1960).

9. Robert Cooter and Thomas Ulen, Law and Economics 258 (1988). Similarly, it has been argued that courts resort to the simple rule of letting losses lie where they fall, granting or denying rescission based on whether performance has yet occurred. Andrew Kull, Mistake, Frustration, and the Windfall Principle of Contract Remedies, 43 Hastings L. J. 1 (1991). Kull does not address whether "a rule of discharge for mistake . . . is efficient as compared with a rule of strict [contractual] liability". *Id.* at 5. Kull's assumptions, however, leave little room for mistake rules to affect social efficiency: "Disparities between anticipation and realization in contractual exchange, the risk of which has not been allocated by the parties, are in the nature of 'windfalls.' . . . As a matter of social utility, excluding

for the moment considerations of fairness, it will ordinarily be a matter of indifference whether the windfall cost or benefit once realized, falls to A or to B." *Id.* at 6. Our models below will show that the efficient choice of excuse standards can affect social utility by reducing the a variety of social costs, including the costs of value-decreasing trade (Model I), information acquisition costs (Model II) and risk-bearing (Model III).

10. Posner suggests that the risk of mistake be put on whichever party can avoid the mistake at least cost, which in Sherwood v. Walker (see *infra* note 11) would be the seller. Richard Posner, Economic Analysis of the Law 90 (3rd ed., 1986). Kronman notes that in unilateral mistake the mistaken party is the least-cost avoider. He also distinguishes between "deliberate" and "casual" acquisition of information: a party who acquires information deliberately should be allowed to take advantage of it. Anthony Kronman, Mistake, Disclosure, and the Law of Contracts, 7 J. Legal Stud. 1 (1978). Cooter and Ulen distinguish between productive and redistributive information. If private information would lead to more productive use of the item being traded, the informed party should be allowed to take advantage of his information; if the information merely redistributes wealth, he should not. Cooter and Ulen, *supra* note 9 . Shavell explores the implications of this in situations where either the buyer or the seller, but not both, may acquire information. He shows that the difference between being a buyer and being a seller is crucial, since the seller can capture the gains from revealing information via a higher price. In his model, sellers should be forced to disclose their information, but whether buyers should be required to disclose depends on the information's productivity. Steven Shavell, Acquisition and Disclosure of Information Prior to Economic Exchange, working paper, Harvard Law School (1991). Smith and Smith examine much the same considerations, but where both parties may acquire information, showing that where information is redistributive, a mistake rule discourages inefficient information collection. Janet Smith and Richard Smith Contract Law, Mutual Mistake, and Incentives to Produce and Disclose Information, 19 J. Legal Stud. 467 (1990). For a recent critique that favors a more traditional approach to doctrine, see Andrew Kull, Unilateral Mistake: The Baseball Card Case, 70 Washington

U. L. Quart. 57 (1992).

11. Sherwood v. Walker, 66 Mich. 568, 33 N.W. 919 (1887). For a historical and linguistic discussion, see Robert Birmingham, A Rose by Any Other Word: Mutual Mistake in *Sherwood v. Walker*, 21 University of California Davis Law Review 197 (1987).

12. In any case, recontracting may ultimately result in the efficient allocation, but it introduces extra costs. The point remains valid that non-rescinded inefficient trade or rescinded efficient trade is costly, but the reason is extra transaction costs rather than inefficient allocation.

13. This definition of mistake might conflict with §154(b) of the *Restatement*, which suggests that a party cannot claim mistake when "he is aware, at the time the contract is made, that he has only limited knowledge with respect to the facts with which the mistake relates but treats his limited knowledge as sufficient."

14. In a setting such as *Sherwood*, it may be possible for the buyer or seller to demonstrate that the cow in question is pregnant (and therefore fecund) but impossible to credibly demonstrate that she is barren. As a result, an informed party can credibly inform the other party only of a mistake—not of its absence. If a party can credibly show that he is uninformed, then the problem vanishes, because he either shows this—in which case the other party feels safe in dealing with him— or refuses to show this— in which case the other party knows he must be informed.

15. The simplifying assumption that the seller makes one take-it-or-leave-it offer effectively gives the seller the bargaining power and is common in this literature. See, for example, Ian Ayres and Robert Gertner, Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules, 101 Yale L. J. 729 (1992).

16. If M equals the probability that the gains of trade will be positive and $(1-M)$ the probability that the mistaken trade will have negative value,

then the expected gains from trade from the three rules will be: No Excuse $(1-\alpha)b_0+\alpha[Mb_1(1-g_sg_b)-g_sg_bb_1]$, Excuse for Mutual Mistake $(1-\alpha)b_0+\alpha[Mb_1(1-g_sg_b)-g_sg_bL]-(1-M)b_1g_sf_b$, Excuse for Unilateral Mistake $(1-\alpha)b_0+\alpha[Mb_1(1-g_sg_b)-g_sg_bL]$. The no excuse standard maximizes the gains from trade whenever $b_1 < L$.

17. The mutual mistake rule also does not serve to distinguish transactions which have negative gains from mistaken trade. At first, one might think that inefficient trade is more likely to occur when the mistake is mutual rather than unilateral. After all, if only one party is mistaken, at least the informed party benefits from the trade, and the only question is whether he gains more than the uninformed party loses. The flaw in this reasoning is that it ignores the selection of cases which come to court. Trades that hurt both parties can be undone by the parties themselves. Thus, regardless of the rule, we are likely only to see cases where at least one party has an interest in having the contract enforced.

18. But see Ayres & Gertner, *supra* footnote 15, at 762.

19. Alternatively, if the buyer has not yet received the goods, the seller might breach and force the buyer to incur some costs of bringing or threatening suit.

20. This is especially true when conjoined with the possibility of buyer reliance, since such reliance means that by the time of the rescission the buyer might have more use for the product than the seller, and, in any case, the courts would have to go to the trouble of determining restitutionary damages for the buyer. Indeed, it is the importance of these relative costs that perhaps leads to the "hands-off" court attitude claimed by Kull, *supra* note 9 .

21. The price must be higher under a mutual mistake standard to induce uninformed buyers to buy— because the buyer loses $p_1 - p^*$ in state II.

22. Myres McDougal, Collateral Mistake and the Duty to Disclose 1, 8 (unpublished manuscript, Yale Law School, June 1931; on file at the Yale

Law Library).

23. What has been called the "Corbin Rule" for unilateral mistake seems to be groping towards this definition: "If you find that the hardship to the unilaterally mistaken party is greater than the 'justifiable expectation interest' of the innocent party, the contract should be rescinded even though the unilateral mistake is not known to the other party." John O'Connell, Remedies in a Nutshell 92 (1977).

24. Cf. *Second Restatement*, comments to §152: "For example, market conditions and the financial situation of the parties are ordinarily not such assumptions, and, generally, just as shifts in market conditions or financial ability do not effect discharge under the rules governing impracticability, mistakes as to market conditions or financial stability do not justify avoidance under the rules governing mistake."

25. Yet, as before, even a finding of known unilateral mistake should only give rise to excuse if the rescission costs in inequality (3) were smaller than the costs of mistaken trade. The *Restatement*'s treatment of impracticability and frustration can be given a similar interpretation. §266 of the *Second Restatement* allows a contract to be voided when a party's performance or purpose is impracticable or frustrated even at the time of contract "because of a fact of which he has no reason to know and the non-existence of which is a basic assumption on which the contract is made." Almost by definition, impracticability and frustration apply to mistakes where the gains from trade are substantially negative, and excuse is then allowed independently of whether the mistake is mutual or unilateral. Thus, consonant with Model I, this section of the *Restatement* also could be read to allow excuse for unilateral mistake when there are negative gains from trade.

26. Cicero, *Selected Works*, 178 in "On Duties", (Harmondsworth, England: Penguin, 1984).

27. The facts are similar in the celebrated U.S. case of Laidlaw v. Organ, 15 U.S. (2 Wheat.) 178 (1817), in which a trader with advance news

of the end of the War of 1812 did not disclose this when buying tobacco.

28. This is analogous to the distinction that Cooter and Ulen make between productive and redistributive information. See Cooter and Ulen *supra* note 9.

29. Posner also notes that "There was no basis for presuming the cow more valuable in the buyer's possession than in the seller's—its true worth being an order of magnitude different from what the parties had thought..." He rejects this approach, however, in favor of asking which party could avoid the mistake at least cost. See Posner, *supra* note 10, at 90.

30. Wood v. Boynton, 64 Wis. 265, 25 N.W. 42 (1885).

31. An actual case with similar facts is Thwing v. Hall & Ducey Lbr. Co., 41 N.W. 815, 40 Minn. 184 (1889), in which the buyer's agent looked at the wrong tract of land, and the timber on the correct tract had already been cut.

32. Smith & Smith, *supra* note 10, at 480, first realized that excuse for unilateral mistake could be interpreted as a implied warranty for buyers.

33. U. C. C., § 2-312 (Warranty of Title and Against Infringement; Buyer's Obligation Against Infringement), § 2-314 (Implied Warranty: Merchantability; Usage of Trade).

34. U.C.C. § 2-315 (Implied Warranty: Fitness for Particular Purpose).

35. The buyer is not protected by implied warranty if the seller is not a "merchant," but he is still protected by mistake doctrine. In Smith v. Zimbalist, 2 Cal. app. 2d 324, 38 P.2d 170 (1934), Smith sold Zimbalist two violins that they mistakenly thought were made by Stradivarius and Guarnerius. The trial court found no warranty because Smith was not a merchant, but voided on grounds of mutual mistake (the appeals court did find an implied warranty).

36. Kronman, *supra* note 10.

37. This is the point made by Cooter and Ulen, *supra* note 9 .

38. For example, by inspecting the left hand column of Table 2, it is easy to see that the unilateral mistake standard produces larger gains of trade under our assumption that $c_s > \alpha L$.

39. If the seller charged more than p_0, only buyers with high valuations would buy – and by assumption it is less profitable for seller to sell solely to the high valuing buyers.

40. There also exists a mixed-strategy equilibrium in which buyer and seller each investigate with positive probability. The total surplus and expected surplus for buyer and seller for this mixed strategy equilibrium replicates the low information cost equilibrium (C) and is not considered here separately.

41. On coordination and discoordination games, see Eric Rasmusen, Games and Information 35, 40 (1989).

42. See Rasmusen, *supra* note 41, at 72. It can be shown that these two conditions imply that under the excuse for mutual mistake the seller will become informed with probability: $f_s = 1 - [c_b/(\alpha(v_1 - p_0))]$, and the buyer will become informed with probability: $f_b = (c_s - \alpha L)/(\alpha(v_1 - p_0) - \alpha L)$. The probability of redundant acquisition is then $f_s f_b$. In this equilibrium, the buyer and seller together average less than one acquisition of information. If the parties cost of collecting information is identical ($c_s = c_b = c$), the expected amount spent by both parties on acquiring information is $c - \alpha g_s g_b L$. When both parties avoid the inefficiency of acquiring information (with probability $\alpha g_s g_b$), however, the seller instead is driven to rescind when there is mutual mistake (at a cost of L). As a result, the total costs of information acquisition and rescission equal c.

43. If both buyer and seller are uninformed, the buyer's expected surplus is zero because the price is p^*. If the seller is informed, the high and low prices (P equalling v_1 or p_0) extract all the consumer surplus.

44. An informed seller earns $p^* - c_s$ (regardless of whether the buyer becomes informed) because the seller can charge the first best price but must pay the costs of information acquisition.

45. As discussed above, the no excuse standard will, however, support more efficient equilibria for intermediate costs of acquiring information.

46. The efficient rule for intermediate values of c_s depends on whether the equilibrium under the no excuse rule corresponds to the high cost (seller uninformed) equilibrium or the low-cost (seller informed) equilibrium.

47. The point that information production can be wasteful is similar to that in Roy Kenney and Benjamin Klein, The Economics of Block Booking, 26 J. Law & Econ. 497 (1983).

48. Under the unilateral mistake rule, the only motive is the seller's desire to avoid rescission costs, which is ruled out here by the assumption that $\alpha L < c_s$.

49. *Supra* note 1.

50. Leitch Gold Mines, Ltd. v. Texas Gulf Sulphur Co., 1 O.R. 469 (1969). The case settled.

51. Different types of productive information, however, might give rise to different efficiency analysis. For example, if the gains from mistaken trade are negative ($b_1 < 0$), one might think that acquiring information before transacting will prevent those losses. This is true, but rescission offers an even better solution, since the harm can be more cheaply undone by voiding the contract ($\alpha L < c_s$). Thus, if the gains from mistaken trade are negative, the unilateral mistake rule is still best, but for the reason of Model I rather than the reason of Model II. Second, going through the contracting process and rescinding at a late stage may incur real costs because of the cost of writing contracts and reliance expenditures, so information has the real benefit of saving on these costs. This is different from negative gains from mistaken trade because voiding eliminates those negative gains but not the contract-

writing or reliance costs. If c_s were small enough, the seller would take care to avoid mistake under any rule so as to avoid his own contract-writing cost, and there is no need to adapt the rule to encourage care, because the seller, who collects all the gains from trade, fully internalizes the benefit of discovering mistakes in time to avoid the contracting cost. A problem does arise, however, if the parties split the contract-writing and reliance costs. Then each party only has a loss of part of the costs if the contract is rescinded, so it may be that neither takes the efficient amount of care, just as when a tort causes damages to both parties and can be prevented by either. The no excuse standard may be efficient to encourage the seller to take care (that is acquire information), but this again does not give any reason for preferring a mutual mistake over a unilateral mistake rule.

52. M. F. Kemper Const. Co. v. City of Los Angeles et al., 235 P.2d 7 (1951)

53. *Id.*, at 11.

54. Berke Moore Co. v. Phoenix Bridge Co., 98 N.H. 261, 98 A.2d 150 (1953).

55. This is similar to the situation in the well-known "baseball card case," Irmen v. Wrzesinski, No. 90 SC 5362 (Ill. Cir. Ct. DuPage Co.) [Small Claims Div.] filed June 29, 1990. See the Chicago Tribune, 10 Nov. 1990, 6 March 1991, 5 April 1991; Bessone, What a Card, Sports Illustrated, 18 March 1991 at 9l Kull, *supra* note 10. *Irmen* settled before an opinion could be issued.

56. Or, perhaps, the value will not come to light unless the buyer gains the windfall, so that the buyer's information is productive, not redistributive. Regardless of this, a court cannot eliminate the risk.

57. The standard economic definition of risk is based on the idea of the "mean-preserving spread." See Michael Rothschild and Joseph Stiglitz, Increasing risk I: A Definition, 2 J. Econ. Theory 225 (1970).

		STATE OF THE WORLD					EXPECTED OUTCOME
		I	II	III	IV	V	
Probability:		$1-\alpha$	$\alpha g_s g_b$	$\alpha g_s f_b$	$\alpha f_s g_b$	$\alpha f_s f_b$	
Information casually acquired by:		nobody	nobody	buyer	seller	both	
		(no mistake)	(mistake)	(mistake)	(mistake)	(mistake)	
$b_1 > 0$ (positive gains from mistaken trade)							
No Excuse	Price	p^*	p^*	p^*	p_1	p_1	
	buyer payoff	$p_0 - p^*$	$p_1 - p^*$	$p_1 - p^*$	0	0	$\alpha g_s f_b (p_1 - p^*)$
(Seller discloses,	seller payoff	$p^* - v_0$	$p^* - v_1$	$p^* - v_1$	b_1	b_1	$(1-\alpha)b_0 + \alpha b_1 - \alpha g_s f_b (p_1 - p_0)$
Buyer silent)	total	b_0	b_1	b_1	b_1	b_1	$\boxed{(1-\alpha)b_0 + \alpha b_1}$
Mutual mistake	Price	p_0	p_0	p_0	p_1	p_1	
	buyer payoff	0	0	$p_1 - p_0$	0	0	$\alpha g_s f_b (p_1 - p_0)$
(Seller discloses,	seller payoff	b_0	$-L$	$p_0 - v_1$	b_1	b_1	$(1-\alpha)b_0 - \alpha g_s f_b (p_1 - p_0) +$
Buyer silent)							$\alpha b_1 - \alpha g_s g_b (b_1 + L)$
	total	b_0	$-L$	b_1	b_1	b_1	$\boxed{(1-\alpha)b_0 + \alpha b_1 - \alpha g_s g_b (b_1 + L)}$
Unilateral mistake	Price	p_0	p_0	p_1	p_1	p_1	
	buyer payoff	0	0	0	0	0	0
(Seller discloses,	seller payoff	b_0	$-L$	b_1	b_1	b_1	$(1-\alpha)b_0 + \alpha b_1 - \alpha g_s g_b (b_1 + L)$
Buyer discloses)	total	b_0	$-L$	b_1	b_1	b_1	$\boxed{(1-\alpha)b_0 + \alpha b_1 - \alpha g_s g_b (b_1 + L)}$
$b_1 < 0$ (negative gains from mistaken trade)							
No Excuse	Price	p^*	p^*	p^*	v_1	v_1	
	buyer payoff	$p_0 - p^*$	$p_1 - p^*$	$p_1 - p^*$	0	0	$\alpha g_s f_b (p_1 - p^*)$
(Seller discloses,	seller payoff	$p^* - v_0$	$p^* - v_1$	$p^* - v_1$	0	0	$(1-\alpha)b_0 + \alpha g_s b_1 - \alpha g_s f_b (p_1 - p^*)$
Buyer silent)	total	b_0	b_1	b_1	0	0	$\boxed{(1-\alpha)b_0 + \alpha g_s b_1}$
Mutual mistake	Price	p_0	p_0	p_0	v_1	v_1	
	buyer payoff	0	0	$p_1 - p_0$	0	0	$\alpha g_s f_b (v_0 - p_0)$
(Seller discloses,	seller payoff	b_0	$-L$	$p_0 - v_1$	0	0	$(1-\alpha)b_0 + \alpha g_s f_b (p_0 - v_1) - \alpha g_s g_b L$
Buyer silent)	total	b_0	$-L$	b_1	0	0	$\boxed{(1-\alpha)b_0 + \alpha g_s f_b b_1 - \alpha g_s g_b L}$
Unilateral mistake	Price	p_0	p_0	p_0	v_1	v_1	
	buyer payoff	0	0	0	0	0	0
(Seller discloses,	seller payoff	b_0	$-L$	0	0	0	$(1-\alpha)b_0 - \alpha g_s g_b L$
Buyer discloses)	total	b_0	$-L$	0	0	0	$\boxed{(1-\alpha)b_0 - \alpha g_s g_b L}$

TABLE 1: GAINS FROM TRADE IN MODEL I

Rule	Low c_s	(Low c_b, High c_s)	(High c_b, High c_s)
No Excuse	$(1-\alpha)b_0 - c_s$	$(1-\alpha)b_0 - \left(\frac{v_1-p_0}{v_1-p^*}\right)c_b$	$\boxed{(1-\alpha)b_0}$
Unilateral Mistake	$\boxed{(1-\alpha)b_0 - \alpha L}$	$\boxed{(1-\alpha)b_0 - \alpha L}$	$(1-\alpha)b_0 - \alpha L$
Mutual Mistake	$(1-\alpha)b_0 - c_s$	$(1-\alpha)b_0 - c_b$	$(1-\alpha)b_0 - \alpha L$

TABLE 2: SURPLUS IN MODEL II
(the largest column entries given $Min\{c_b, c_s\} > \alpha L$ are boxed)

Rule	Seller	Buyer
No excuse	(V, p_1, p_1)	$(0, V - p_1, V - p_1)$
Unilateral mistake	$(V, V,\ V - L)$	$(0, 0,\quad 0\quad)$
Mutual mistake	$(V, p_1, V - L)$	$(0, V - p_1, 0)$

TABLE 3: GAMBLES IN MODEL III
(Payoffs under no mistake, unilateral, or mutual)

		Buyer		
		Informed		Uninformed
	Informed	$p^* - c_s, -c_b$	$\rightarrow$	$p^* - c_s, 0$
Seller		$\uparrow$		$\downarrow$
	Uninformed	$p_0, \alpha(v_1 - p_0) - c_b$	$\leftarrow$	$p^* - \alpha L, 0$

TABLE 4: PAYOFFS UNDER THE MUTUAL MISTAKE RULE
Payoffs to: Seller, Buyer.

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WE INCLUDE THESE BECAUSE WE ALREADY HAVE THEM PUT TOGETHER, AND THEY MIGHT BE HELPFUL IN EDITING. ALSO, IF YOU HAVE EXTRA SPACE IN THE ISSUE, YOU MIGHT WANT TO INCLUDE BIBLIOGRAPHIES WITH THE ARTICLES.

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