This article examines the law pertaining to secrecy in contractual bargaining and argues that courts decide cases more consistently with contractarian principles than with economic ones. The economic theory of law claims that courts ought to require people to disclose secret information when that information was acquired as a by-product of other productive activity and to allow people to keep information secret when it was the product of significant investment. The contractarian theory argues that courts ought to (a) protect people from catastrophic losses, (b) require disclosure of secrets whose existence is not known to others, and (c) allow bargainers to keep visible secrets provided that their bargaining partners face roughly equal costs of acquiring the same information. A model is developed that specifies the effects of various information asymmetries in bargaining and shows how the courts focus on correcting the sorts of asymmetries that a contractarian would worry about rather than on correcting those asymmetries that an economic analyst would find most important.

Fairness and Secrecy

A CONTRACTARIAN APPROACH

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Contrary to the wisdom of popular aphorisms, ignorance is often *not* bliss. What we do not know *can* hurt us. An important ethical (and legal) question flows from this observation: When should actors who have kept secrets be held responsible for the harm their secrets have caused?

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The common law has grappled with just this question for centuries. Should there be a requirement that individuals with special knowledge disclose what they know to the ignorant actors with whom they deal in commercial transactions? Or should individuals be allowed to benefit from their secrets, placing the burden of discovery or the consequent harm of ignorance on the one who does not know? The answers to these questions can be found in the law of fraud and nondisclosure, at the boundary of tort and contract. This area of the law has been long thought to be incapable of principled explanation, being called a "wilderness of single instances" (Bower 1915, v) by one influential commentator.

In this article, we ask whether these cases might have a deeper structure and what that deeper structure might be. We compare two alternative theories, one proposed by the Chicago school writers on the economic analysis of law and the other adapted from Rawlsian contractarianism. In the economic theory, secrecy is allowed in cases where it improves the efficiency of transactions (Posner 1986). The Rawlsian contractarian model, in contrast, argues that legal rules about secrecy should be constructed in such a way as to make dealings fair by ensuring equal access to relevant information (Scheppele 1988).

We conclude that the actual case law better supports the contractarian theory of legitimate secrets because judges focus primarily on (a) the existence of deep secrets (those secrets that cannot be uncovered by diligent inquiry because the seeker does not know that the secret exists in the first place) and (b) the relative search costs for information of the two parties to the deal. Neither of these factors ought to be relevant on the economic account. Although the two theories overlap in part (particularly on predictions of what courts will do where the information made no difference in the deal), there are some crucial cases where courts favor equality over efficiency and so reveal the superiority of contractarian over economic explanations.

EXAMPLES OF STRATEGIC SECRETS

Legal rules about secrets pertain only to strategic secrets. Strategic secrets are those kept for the purpose of influencing the actions or feelings of others. We can get a better feel for the range of strategic secrets and the sorts of moral dilemmas they pose with a couple of examples.

Very early on the morning of 19 February 1815, Hector Organ visited Francis Girault, an agent of Peter Laidlaw and Company in New Orleans.[1] During their brief conversation over the sale of tobacco, Girault asked Organ

whether he had heard any news. Fighting in the War of 1812 had flared up again and people were anxious to learn whatever they could. Organ responded rather vaguely and then bought over 60 tons of tobacco from Girault. Later that day, Girault seized the tobacco that had already been delivered to Organ, claiming he had been defrauded. The dispute between Organ and the Peter Laidlaw Company raised the issue of legal secrets for the first time in the U.S. Supreme Court.

Before Organ bought the tobacco, he had heard of the signing of the treaty of Ghent, ending the war and, more important for the tobacco trade, ending the naval blockage of New Orleans. As long as the port had been blocked, tobacco and cotton sales had been depressed and merchants were selling these goods at very low prices. News of the treaty caused prices to rise by 30% to 50% in one day, and Organ, keeping his exclusive information secret, was able to make a substantial profit on the tobacco that he had purchased from the ignorant Girault.

Organ had heard the news from three American merchants who happened to be sailing with the British fleet at the time that the fleet heard the news of the treaty. The treaty apparently surprised everyone, as fighting had been particularly heavy at that time and no one expected such a rapid settlement. By 8 a.m. on the morning of 19 February, word of the treaty was circulated in handbills prepared by one of the merchants who had sailed with the British fleet, but Organ's deal had already been wrapped up. Girault, for his part, claimed that Organ should have revealed his secret at the time of sale, and claiming further that Organ's reticence amounted to fraud.

The Supreme Court, asked to decide whether this secret was fraudulent, indicated that withholding the information was acceptable:

> The question in this case is, whether the intelligence of extrinsic circumstances, which might influence the price of the commodity, and which was exclusively within the knowledge of the vendee, ought to have been communicated by him to the vendor? The court is of the opinion that he was not bound to communicate it. It would be difficult to circumscribe the contrary doctrine within proper limits, where the means of intelligence are equally open to both parties. But at the same time, each party must take care not to say or do anything tending to impose upon the other. (15 U.S. [2 Wheat.] 178, 195 [1817])

Since the exact words which Organ said at the time of the sale were unclear, the Court remanded the case with instructions for the lower court to inquire into Organ's truthfulness. Had Organ lied, he would not have prevailed. But if Organ had merely kept secret what he knew, the Laidlaw Company would

lose the profit that the war's end brought. Organ was allowed to keep his secret with no ill legal consequences for him.

The Powell Station Water Company in Powell Station, Tennessee, had the odd practice in 1940s of turning off the water to the residences it served at 7 p.m. each evening and turning it on again at 7 a.m. each morning. Between those hours, no water could be had. The Evans family owned one of the affected residences and they decided to sell their house. The Simmons family bought the house for $6,000 and were quite surprised when they moved in to find they had been soaked financially for parched property. The scarcity of water made the property worth at least $2,000 less than they had paid.

The Simmonses immediately took up the problem with the Evanses who responded by saying, "We did not tell you because we knew that you would not buy the property if we told you about the water being off half the time."[2] Having got this admission, the Simmonses sued to rescind the contract of sale on the house, claiming that they had been defrauded.

The court agreed that this was fraud and that the Evanses should have told the Simmonses about the water because ordinary inspection would not have revealed the problem. Moreover:

> Complainants in the exercise of ordinary care would not be required to make a night inspection in order to ascertain whether the water situation with reference to this residence was different from what it was during the day. A person of ordinary prudence would not have the remotest idea that there would be any difference, for such difference is so extraordinarily unusual as not to be anticipated. Nor were complainants called upon in the exercise of ordinary care to go to the people in the community or to the utility which furnished this water and inquire whether the water situation with reference to this residence was different from what it appeared. The fact that there was a difference at night from that which appeared to be the fact during the day was so entirely contrary to ordinary experience as to make such inquiry more or less ridiculous. (185 Tenn. 282, 286-287)

The bizarre nature of the secret led the court to believe that it had to be disclosed.

In *Laidlaw*, the court did not require disclosure, while in *Simmons*, it did. The principle that courts use to distinguish cases where secrecy is allowed from those where secrecy is disallowed is not clearly enunciated in these and the hundreds of other opinions written about circumstances like these.[3] We therefore ask the question: Do the legal results in cases like these fit the economic theory, the contractarian theory, or neither?

THE ECONOMIC THEORY OF SECRECY

The economic analysis of law, at least the Chicago school variety, has taken as its point of departure the idea that the law acts to maximize efficiency. Following from Coase (1960), economic analysts of law have argued that legal rules should be designed in such a way that they guarantee that scarce goods wind up in the hands of those willing to pay the most for them. Anything that stymies this process of the move of goods toward increasingly higher valued uses undermines the efficiency of markets. Since high transaction costs can prevent otherwise Pareto-optimal trades from occurring, judges should decide cases with an eye toward working out who would be willing to pay the most for the scarce resource and then, regardless of whether the highest bidder actually pays or not, the judge should assign rights in the scarce resource to that person. In many cases, Richard Posner, the chief representative of the Chicago school's law and economics movement, has claimed that courts not only *should* do this but that they, in fact, *do* act to maximize efficiency in this way.[4]

Kronman (1978) forwarded an economic theory specifically about nondisclosure and fraud that argued that the law should (and largely does) grant property rights in information (i.e., allow secrets) in cases where the information would only be produced if there were such incentives. In cases where the information is acquired as a by-product of other activity and where its production is not affected by the incentives created by property rights, Kronman argued that disclosure should be required if the law embodies an economic logic.

Taken together, Posner's and Kronman's theories indicate that courts should allow secrets when (a) the trade that has occurred with the secret being hidden would still have occurred if the secret were known, regardless of the price differential between the two trades, and (b) the person claiming the secret has invested substantial resources in acquiring the information.

THE CONTRACTARIAN THEORY OF SECRECY

The contractarian theory begins by asking what rational individuals, deciding in advance, would choose if they could design a regime of rules about secrecy under which they would be willing to live. Our account of contractarianism borrows heavily from the Rawlsian version of the theory (Rawls 1971). But the situation Rawls envisioned differs considerably from the one posed here, particularly because Rawls assumed that the contractors

deciding behind the veil of ignorance are deciding on the basic institutions of the society and are not dealing with anything as specific as a particular legal rule. We think that using contractarianism to evaluate particular legal rules is justified not only by the deep appeal in American culture and in American law of consent to the framework of governance but by the essential symmetry of the secrecy problem. People can imagine that sometimes they would want to keep secrets and that other times they would want to have others' secrets revealed. Any general rule is going to impose symmetries so that people cannot have it both ways. And asking people to imagine before a particular dispute over secrecy arises what rules they would be willing to agree to captures in spirit, if not in the details, the sort of consent that a contractarian theory requires.

How can we set up this contractarian thought experiment? The individual decision makers we imagine to be choosing the rules must first have some sense of who they would be and what they would want to get the thought experiment going. To minimize the overt play of narrow self-interest, a motivation unlikely to lead to the choice of fair rules,[5] we need to restrict the ability of these individuals to foresee their own particular fortunes. As a first matter, they cannot know whether they are going to be secret keepers or targets of secrets in any individual case or even in the aggregate. To prevent their producing completely self-serving rules, they cannot know how they personally would fare under any particular legal regime. They must make some attempt to produce rules that incorporate more impartial standards.

How can these impartial standards be determined? First, we will assume that the individuals deciding in advance on a system of rules will be rational.[6] The fact that these individuals cannot know what will benefit them personally (because they do not know what position they will be in when the time comes) will lead them to set out to construct a set of ground rules for improving their *collective* lot in a particular way. But each individual knows that one's individual life will not be led as life on average or in some statistical aggregate. Each lives life as a particular person. A set of ground rules would be agreed on unanimously in advance only if each individual would be guaranteed a life worth living. Since each individual does not know who he or she will be when the regime of rules is implemented, that person will not agree to be bound by a set of rules that would make anyone's situation intolerable. Each individual has the incentive to worry about what happens to those who stand to lose, since each might find himself or herself in that position, so minimizing serious losses will take priority over other considerations.

To push our analysis farther, we might think about the eventual uses of this contractarian analysis as we are building the model at the start. If the

point of a contractarian theory of law is to convince those who actually end up in court that the decisions made by courts are fair and if contractarianism does this by enlisting the disputants' own senses of what they would have said were they asked before they knew their particular position in the specific case, we might want the results of this thought experiment to approximate as closely as possible what individuals like those in court would say. Experimental evidence about how real people faced with similar problems decide such things would then be quite relevant because those to whom the case must be made will be more likely to recognize their thinking in the solutions.

Experiments conducted by Frolich, Oppenheimer and Eavey (1987a, 1987b) showed, that real individuals, confronted with a choice of regimes under circumstances that deny them knowledge of how they themselves might fare under the rules, choose neither the maximin strategy of raising the floor as high as possible nor the expected value strategy of maximizing the average. Instead, groups of individuals overwhelmingly agree to maximize the average with a floor constraint, a strategy somewhere between the pure utilitarian and pure contractarian views. Real individuals, it seems, are willing to trade off some of their average benefits for a guarantee that they will not fall below a certain level. But they are not so risk averse that they would sacrifice any possibility of gain to be guaranteed the maximum possible floor.

Our hypothetical decision makers, faced with a choice of rules when they do not know how they themselves would fare under them, should be similarly motivated in the absence of strong reasons to assume otherwise. The experimental results indicate that real people demonstrate moderate conservatism and want to be protected against falling too far when things go wrong. But they also want to be able to have the chance to win or lose in a fair gamble, within the limits associated with having a reasonable floor. If the individual turns out to be lucky or clever, that person would like to take advantage of this fact; if not so lucky or clever, the individual would like to be protected against catastrophic failure. Legal rules about secret keeping, then, should protect individuals from disasters. Most secrecy cases, however, will not have such dire effects but will fall instead in that vast middle range of harm where individuals may want to take the chances associated with fair gambles. What will contractors decide about these cases?

For simplicity, we will talk about the two-person case, but in a situation where there are unlikely to be emergent properties in the game from coalition formation or from the individuals having very different interests, we should be able to determine the structure of rules. Two individuals, A and B, can choose one of the following four rules: (1) A and B must both disclose their secrets, (2) A must disclose while B does not have to, (3) B must disclose

while A does not have to, or (4) A and B may both keep their secrets. Only Options 1 and 4 are going to be viable because general rules pose constraints of symmetry.

In the choice between Options 1 and 4, the rational individual just described will be led to distinguish between deep and shallow secrets. Deep secrets are secrets whose very existence is hidden. The target of the secret does not even know that a secret exists. And one cannot rationally choose to search for information that one does not know exists.[7] Shallow secrets, on the other hand, are secrets whose existence is known but whose contents are not. One knows enough of their existence to be able to decide whether a search will be worth the effort.[8] Shallow secrets will be responsive to effort, in the sense that rational individuals can make decisions to search or not search for information.

If A and B anticipate that the secret will be deep, and hence will be unresponsive to their efforts, then they would both prefer Option 1 to Option 4. That is, wherever the secret is unlikely to be one that they can rationally calculate to seek on their own, they would both want to be protected. By definition, deep secrets present circumstances where individuals would not be able to defend themselves against strategic behavior on the part of others, and so, short of a stroke of luck, there is no possibility of their *ever* winning in such a case when they are on the wrong side of a secret. Consequently, rational individuals would prefer that others disclose, even if it means that they have to disclose similar information in turn. Forbidding deep secrets prevents one party from taking advantage of another who cannot defend himself or herself.

Why would the criterion of rationality in the absence of knowledge about narrow self-interest produce such a concern with deep secrets? There are two reasons: First, an individual imagining himself of herself in a bargaining situation where he or she does not know enough even to estimate a prior probability of some particular potential disaster cannot be rational in making decisions. Without knowing the range of things that *might* happen, it is impossible to make an expected value calculation of the option he or she should select. A concern with rationality and preserving the capacity for rationality might motivate a contractor to choose a legal rule that requires that each person to know *at a minimum* about the *sorts* of things that might happen. Second, individuals deciding in the dark about some important matter can be easily manipulated by others without knowing it. Deep secrets may hide the efforts of others to control a particular decision maker and this would compromise the autonomy of the decider. A concern for the autonomy of individuals may motivate a contractor to be particularly wary of deep

secrets because they have the potential for abuse without check. The simultaneous concerns with rationality and autonomy are what gives deceit, whether by secrecy or by outright lie, its moral force.

With shallow secrets, however, rational individuals of the sort described earlier would want to take their chances on winning, as long as they were buffered from failing too badly if losses in trying got too big. Rational deciders would prefer Option 4 to Option 1 with shallow secrets because they would know enough in these situations to be able to make expected value calculations to determine whether their interests would be served by searching for the information. With the possibility of winning open to effort, they might be able to gain. If they had to disclose all their information, they would not ever be able to gain from having special information. With a system of rules providing incentives for searching in those cases where the ignorant parties are capable of it, we might expect that more information would be discovered than would be the case under a regime where all information had to be immediately disclosed. Allowing shallow secrets enables the presence of enough incentives to encourage rational searches and to promote the discovery of information. Contractors may be expected to allow shallow secrets because the worries about rationality and autonomy that we found in deep secrets can be calmed while there are still incentives to discover information.

Not all shallow secrets ought to be acceptable, however. If A and B begin their search for information at radically different starting points, then the person beginning with the disadvantage would be taking a much bigger risk of losing and rational individuals choosing rules would wish to insure some rough equality of starting position. They would want a rule permitting shallow secrets only under those circumstances where neither A nor B started with a large advantage, undermining the sense of a fair bargain.[9] Shallow secrets allow information to be open to effort, thus permitting individuals to make gains at least some of the time, but individuals who start off hobbled at a disadvantageous starting point would want to be able to recover when they fail. Having a floor constraint here means that such individuals should be allowed to recover in law.

But one question remains: Just how bad does the inequality in the shallow secrets case have to be before the law should step in? Ideal moral considerations and practical legal rules may diverge in places, particularly where there are institutional difficulties in achieving ideals. Requiring that buyer and seller be identically situated and their bargaining power exactly equal is too strict a standard for several reasons:

1. Not all asymmetries call for legal intervention. Although a full consideration of all the sorts of asymmetries that might be remediable on a contractarian analysis is beyond the scope of this article, we can say that asymmetries arising from different tastes, for example, should generally not be redressed in law. Only asymmetries arising from unequal access to information will be examined here.
2. Bargaining power is difficult to measure and we must therefore be satisfied with finding only the large inequalities that show up in most schemes of measurement. Laidlaw's agent and Hector Organ obviously had different amounts of information at the time of the tobacco sale, but the court emphasized that the "means of intelligence were equally open to both parties" (15 U.S. [2 Wheat.] 178, 195 [1817]). Both being in the tobacco trade, Organ and Laidlaw's agent were equally likely (at least roughly) to hear news of the newly signed treaty. Neither brought some great advantage to the situation which would make it very likely that he would hear first. *Approximate* equality seems all that the law can estimate.
3. Rough symmetry rather than strict equality may be the proper goal anyway, given limited resources allocated to courts. Probably every exchange has some element of inequality that might, if strict equality were the test, be grounds for getting out of a deal that has gone sour. No contract would then be settled; no squabble would be too small to warrant a full-scale judicial intervention. In a world of practical politics, this seems a very large burden for courts to bear. With limited resources for judicial remedy, it would make sense to have the courts hear the most serious matters where the inequality is more pressing. The dividing line between serious and nonserious inequalities may be difficult to draw, but that does not mean there is no way to distinguish cases at either end of the seriousness continuum from each other.

All of these considerations push toward the idea that the law ought only to remedy large inequalities in access to information.

If the law reflected the contractarian view outlined here, then one would expect the law to always require disclosure of deep secrets. The law should *not* require disclosure of shallow secrets, unless the two parties in the transaction started under such different circumstances that the information was not equally open to their efforts and so gave one an unfair advantage.

THE BASIC MODEL

How are we to conceive of the big inequalities that give rise to judicial remedy? Here, we develop a model of a trade in which a buyer who purchases an object that subsequently turns out to be defective seeks legal relief.[10] The principal ingredients of the model are the preferences of the parties concern-

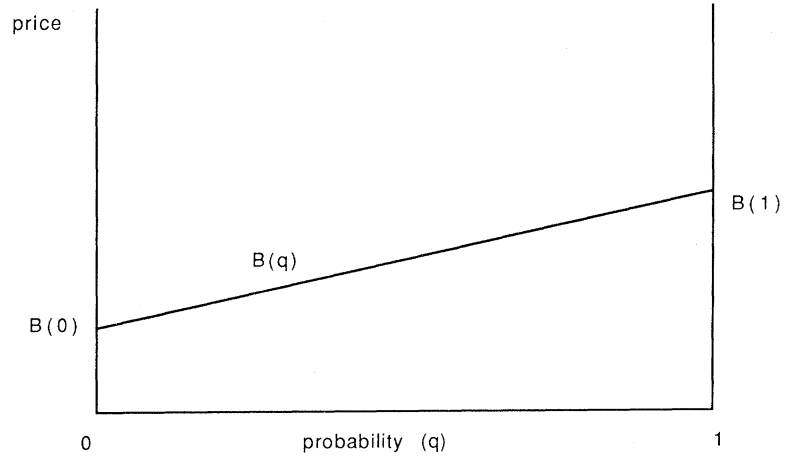

Figure 1: An offer curve.

ing the good and the information they have concerning its likelihood of being defective.

We assume that the object in question is either "good" or "bad" and that the buyer and seller who enter into the exchange have probability assessments of the object being good. Figure 1 shows one way of modeling the preferences of one of the parties to the trade (in this case, the buyer). The vertical axis measures the price, and the horizontal axis measures the probability the individual assigns to the object being good. B(0) indicates the value of the object to the buyer if it is defective, and B(1) is the value if the object is good.[11] The line connecting these points shows the value which the buyer attaches to the object when quality is uncertain. This line is the "offer curve" of the buyer, which we will denote by B(q). For a given value of q, the probability that the quality of the object is good, the buyer will be willing to pay up to B(q) for the object. The slope of the offer curve represents the sensitivity of the price to the probability that the object is good. A similar offer curve, S(q), exists for the seller, who, for a given value of q, will be willing to accept any price greater than S(q) for the object. The slopes and intercepts of these lines will depend on the respective tastes and wealth of the parties to the trade.[12]

These two curves are combined in Figure 2. Let q_B and q_S denote the prior probabilities that the buyer (B) and seller (S), respectively, assign to the

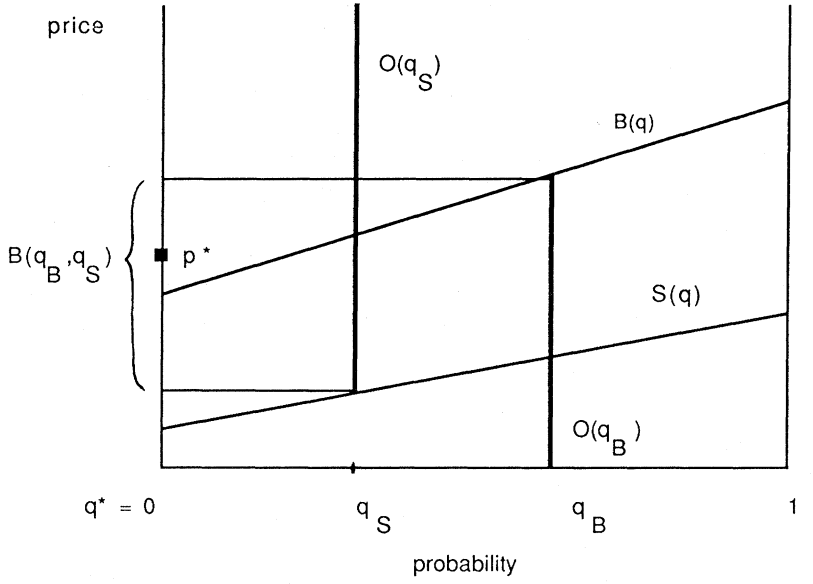

Figure 2. The basic model.

object being "good." The actual state of the object is denoted by $q^* = 0$ to show that it is defective. B(q) and S(q) reflect the preferences of the parties to the transaction. $O(q_B)$ and $O(q_S)$ show the sets of offers that the buyer and seller would consider acceptable given their respective preferences and beliefs about the quality of the object. The set $B(q_B, q_S)$ is the intersection of these two sets, and contains the range of prices—at least $S(q_S)$ and not more than $B(q_B)$—at which buyer and seller could have concluded the sale. This is the "bargaining set" for the trade, and the actual selling price, denoted by P*, is always an element of this set.

THE PREFERENCES OF THE PARTIES

Figure 3 shows the different possible configurations of the offer curves. Figure 3a is similar to Figure 2. In this case, the buyer places greater value on the object than the seller when information is symmetric (when $q_B = q_S$).

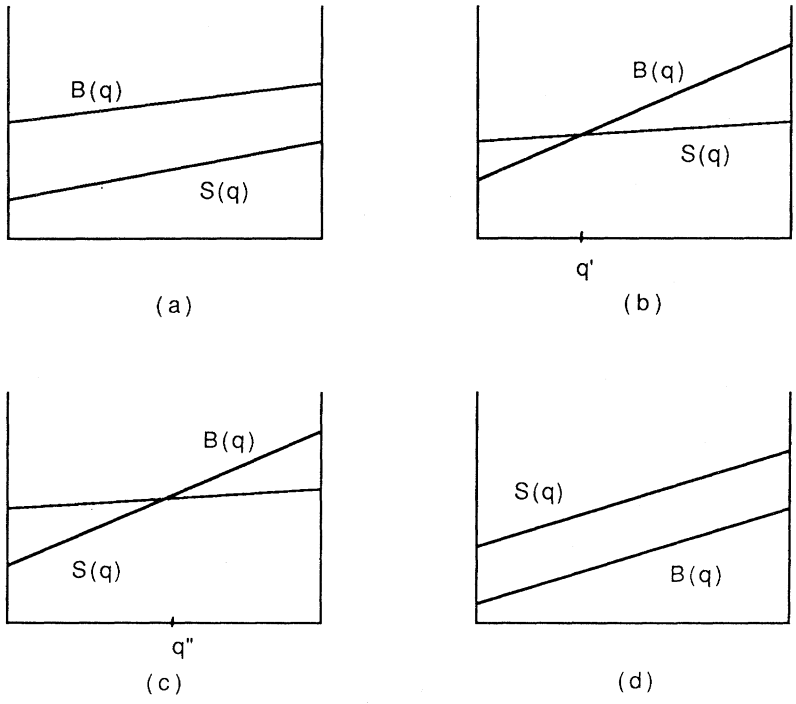

Figure 3: Possible offer curves.

A trade is always possible under symmetric information, since B(q) > S(q) for any value of q, and some trades are feasible under asymmetric information (when $q_B \neq q_S$), depending on the information structure and the locations of the offer curves.[13]

In Figure 3b, B(q) intersects S(q) from below. In this case, the buyer places less value on the object than the seller if the object is defective, but more value if it is good. Trades under symmetric information are possible for any value of q greater than q′. In Figure 3c, the preferences are the reverse of those in 3b. With symmetric information, a trade is feasible for any value of q less than q″. In both of these cases, trades are feasible under a variety of conditions of asymmetric information.

In Figure 3d, B(q) is less than or equal to S(q), indicating that the seller values the object at least as much as the buyer at all levels of probability. If

the buyer and seller had symmetric information, they would never negotiate a sale. A trade will occur under these circumstances only if asymmetries in the information make the trade seem like a better deal to one (or both) of the parties than it actually is.

To return to the cases cited earlier, if the Simmonses, under symmetric information (knowing about the water problem), would never have bought the house from the Evanses at a price the Evanses would been willing to accept, then their respective offer curves must have looked like those in either Figure 3b or 3d. A possible instance of case 3d in which the offer curves coincide for all values of q is a trade between middlemen (each of whom is a price-taker in the resale market). In *Laidlaw*, for instance, where both parties to the deal were middlemen in the sale of tobacco who would have had roughly the same preferences for the object (since each cared only about the resale value of the tobacco), the offer curves might be identical, and the trade would depend on the parties having different estimates of risk.

As these four configurations of offer curves indicate, the terms on which trades are concluded can be strongly affected by differences in preferences. As we argued earlier, however, we will typically not be concerned about these effects when the *fairness* of a particular trade is under scrutiny. It is asymmetries in information rather than preferences that concern us most in such cases, because the former are linked to ideas about fraud and the ways in which voluntary agreements can be undermined by deceit.

The model also helps us to understand the ways in which trades are vulnerable to asymmetries in information. But not all asymmetries in information are alike, as we saw in the discussion of the contractarian theory of law. There, we observed that it is reasonable for people to want one set of rules to govern deep secrets and another set of rules to govern shallow secrets. We need to inquire further to see what asymmetries matter in law.

SECRECY AND ASYMMETRY

We can distinguish among three levels of knowledge about an object at the time of the exchange:

1. Let k represent certain *knowledge* of a secret and its content. In other words, the person knows the quality of the object for certain. Since we assume the object is defective, its quality is captured in the model by setting q equal to 0.
2. Let s represent a *shallow secret*, where the person knows that a secret exists but does not know the content of the secret (the true quality of the object).

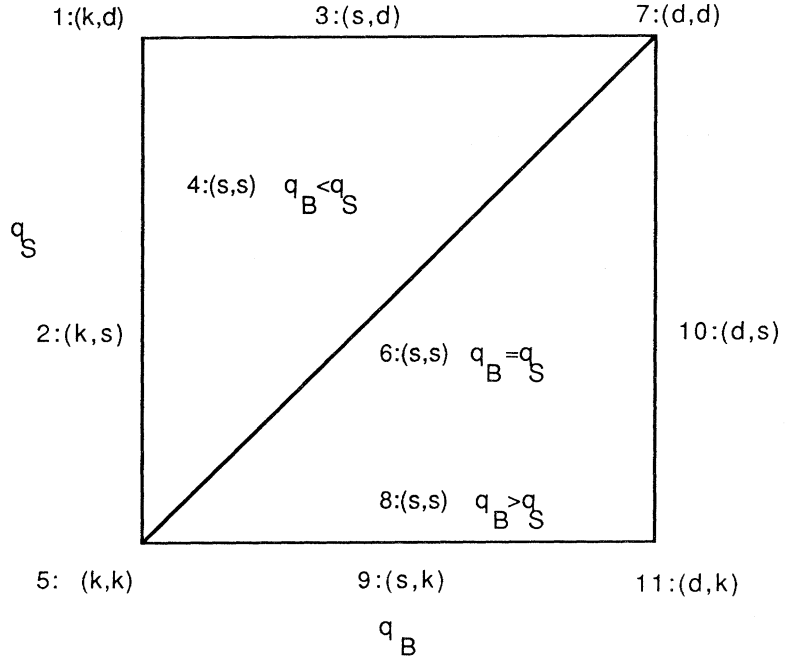

Figure 4: Information structures.

Values of q between 0 and 1 indicate that there is some uncertainty concerning the true quality of the object and that the party in question is aware of the uncertainty concerning quality.

3. Let d represent a *deep secret*, where the person not only does not know the content of the secret but does not even know that the secret exists. This state is captured by setting q equal to 1 (even though the object, by assumption, is defective and the *actual* q equals 0) because the person does not know to suspect that something is wrong with the object.

With three states of knowledge and two parties to the trade, there are nine possible knowledge structures, where each knowledge structure specifies a state of knowledge (k, s, or d) for each party (B or S). There are three substructures of the case of a mutually shallow secret, however, bringing the total number of knowledge structures to 11. These are shown in Figure 4 for the case of a defective object (so that k means q = 0 and d means q = 1). The

horizontal and vertical axes measure q_B and q_S, respectively, and a point (q_B, q_S) represents the information structure of a particular trade. In the upper left corner, the buyer has perfect knowledge that the object is defective and the issue of quality is a deep secret to the seller. Conditions are reversed in the lower right corner. Thus as the knowledge structure shifts from the upper left to the lower right, the information advantage shifts from the buyer to the seller. Points along the diagonal indicate symmetric information, which ranges from equal knowledge at the origin, through equal uncertainty, to equal ignorance at the upper right. We now turn to the effect of the structure of information on the outcomes of cases involving secrets.

MATERIALITY OF INFORMATION

In order to maintain a cause of action for fraud (improper use of information), the information first must be material to the trade. For information to be material, it has to be possible for the information to have affected the transaction. Courts generally define materiality narrowly to include only information directly related to items specified in the contract.[14] To see the relevance of asymmetric information that might be material in contracts, we should examine what would have happened if there were no informational asymmetries in the situation. To do this, we ask what would have happened if q_B had been equal to q_S?[15] There are three possibilities:

1. A trade at the actual selling price, P*, would still have been possible, that is, P* is in $B(q_S, q_S)$, the "new" bargaining set.
2. $B(q_S, q_S)$ is nonempty, but P* is not in $B(q_S, q_S)$.
3. $B(q_S, q_S)$ is empty.

In a case of Type 1, the information is clearly immaterial, since the original outcome could have occurred under the symmetric information structure. In cases of Type 2, the information is material, but only in the weak sense that the particular selling price, P*, could not have occurred under symmetric information. In cases of Type 3, the information is material in the strong sense that no trade at all could have occurred were it not for the asymmetric information. Table 1 shows which of these outcomes is possible under the various configurations of preferences and information. The first three columns indicate the knowledge structure as shown in Figure 4; the fourth column indicates which party has the informational advantage. The last four columns correspond to the four possible structures of preferences detailed in

TABLE 1: Materiality Under Various Conditions

Information Structure	*B*	*S*	*Information Advantage*	*Preference Structure*			
				a	*b*	*c*	*d*
1	k	d	B	1	*	1	*
2	k	s	B	1	*	1	*
3	s	d	B	1	1	*	*
4	s	s	B	1	1	1	*
	$q_B < q_S$						
5	k	k	Even	1	*	1	*
6	s	s	Even	1	1	1	*
	$q_B = q_S$						
7	d	d	Even	1	1	*	*
8	s	s	S	1, 2	1, 2	1, 2	3
	$q_B > q_S$				if $q_S > q'$ 3		
					if $q_S < q'$		
9	s	k	S	1, 2	3	1, 2	3
10	d	s	S	1, 2	1, 2	1, 2	3
					if $q_S > q'$ 3		
					if $q_S < q'$		
11	d	k	S	1, 2	3	1, 2	3

NOTE: 1 = P* in new bargaining set; 2 = new bargaining set nonempty, but P* not in it; 3 = new bargaining set empty; and * = original trade not possible under these circumstances.

Figure 3. The entries in the table show the possible outcomes for each hypothetical situation. That is, the entries show what would have happened if the buyer had known what the seller knew. An asterisk in the table indicates that the *original* trade could not have occurred under the given information/preference conditions.

AN ECONOMIC ANALYSIS

From an economic standpoint, cases of Types 1 and 2 involve no inefficiency, and no relief should be granted if efficiency is the criterion on which judgments are based. In cases of Types 1 and 2, the goods are being transferred to their more highly valued uses, and so judges should not interfere with the transaction. This would hold whether efficiency is reckoned

ex ante (in which case, both buyer and seller thought they would be better off) or ex post (in which case, the buyer could at least be compensated by the seller on terms that would leave both better off than before the trade).

In cases of Type 3, both parties are happy ex ante, but ex post the buyer is worse off and no compensation scheme exists that would make both better off than their pretrade positions. An ex post standard of efficiency would find some cases of this third type of situation deserving of relief where there was no point at which the seller could have compensated the buyer. The economic theory would argue that courts should void the contracts negotiated in Type 3 situations where there was no possible optimizing trade. And, as we will see, courts do generally find for the target of the secret in Type 3 cases.

If the economic theory were right, then, Type 3 situations would be the only ones that called for relief. And in separating out those Type 3 situations that called for relief from those that did not, the court would adopt the following rule: If the preferences are of Type a or c, then find for the defendant. If preferences are of Type d, then find for the plaintiff. If preferences are of Type b, look more deeply at the knowledge structure to determine what to do. This does not, however, seem to describe what courts do in such situations. There are two features of actual court decisions for which this model cannot account.

For one thing, courts do not just find for the plaintiff in Type 3 cases. They also grant relief in some situations of Type 2, even though the economic model would find such relief unwarranted. For example, in *Barry v. Orahood* (191 Okla. 618, 132 P.2d 645 [1942]), Orahood sold Barry, an agent of the Pure Oil Company, some land which turned out to contain valuable oil reserves. Barry did not disclose the potential for oil to Orahood, who was hospitalized in dire condition, having been pumped full of painkillers and not expected to last the night. The court granted relief to Orahood (who lived to sue), even though he probably would have sold the property to Barry or the representative of another oil company anyway. The only difference which his knowledge would have made was that he would have sold the property at a higher price, but the court here found the contract to be voidable by the target of the secret. But if the economic theory is right, then this was inefficient because the good was, in fact, transferred to someone who was *willing to* (though who did not *in fact*) pay more for the land than it was worth to the current holder even under symmetric information. Because courts do not become actively involved in renegotiating trades, they do not inquire into whether the buyer and seller would have been able to make a deal but at a different price. Instead, as in *Barry*, they declare the contract voidable. The

economist might reply that throwing out a contract in a Type 2 case like this does not prevent the parties from getting together to renegotiate the deal, if such a deal is still possible, and the efficient trade would still be able to take place. But the costs of litigating the case, together with the transaction costs of negotiating again, are likely to outweigh any gains from trade which might accrue to one of the parties from striking the deal again with a different range of possible prices. Throwing out the contract will probably end the matter there. And if one believes the proposition central to the economic analysis of law that the function of the law is to assign rights to those who would buy them were it not for the high transaction costs, then courts have allowed inefficiencies to reign in just the area where they should be attempting to overcome high transaction costs with efficiency-based rulings. Granting relief to the target of a secret in a Type 2 case generates inefficiencies. But courts do this anyway.

Given that cases of Type 2 would never justify relief on an economic analysis and cases of Type 3 often would, one would expect that the courts would distinguish cases of Type 2 from cases of Type 3 if an economic logic were being used. But courts clearly do not do such distinguishing. Courts *do* distinguish between cases where the information *cannot* matter and cases where the information *might* matter. Legal relief is limited to those cases that present material information, information that would make a difference in the actual bargain struck.

The second thing that courts do wrong from an economic standpoint is that they do not focus at all on the preference structure of the parties but instead focus on the knowledge structure in a particular case. Knowledge structures matter more than preferences for two reasons. First, the knowledge structure raises much more directly the issue of deceit that is at the heart of a charge of fraud. Second, courts would have particular difficulty in following this economics-based rule because it is extremely difficult to tell what preference pattern obtained in a particular case. The behavior of the parties to the contract does not provide much information about their preferences, and the parties have the ability and the incentive to mispresent their true preferences before the court. Buyers in preference patterns a, b, and c would have strong incentives to act as if their preference pattern were really d, and their behavior during the actual bargaining would not usually provide sufficient information to contradict their claims. As it turns out, courts do not ask about preferences, but they do inquire into the knowledge structures described earlier. We turn now to a discussion of how courts do, in fact, analyze these situations, showing that the contractarian model is a better description of court judgments on questions of secrecy.

A CONTRACTARIAN ANALYSIS

As we have seen, the economic analysis does not reflect the logic of the case law on this point. But can the contractarian do any better? Like the economist, the contractarian will want the law to limit the intervention of courts to cases where the information is material. But then, the contractarian will want to consider two further factors that would not appear in the economic account: deep secrets and the relative search costs for information. Because the analysis that follows is a bit tricky, a road map is provided in Figure 5.

WHERE KNOWLEDGE DOES NOT MATTER

Information can be material (in either the weak [Type 2] or strong [Type 3] sense) only if the seller has the informational advantage. If the issue of advantage can be resolved, more than half of the problem can be solved at this stage. In Table 1, the information structures where information can *never* be material to the trade are numbers 1 through 7. In each of these, the buyer's offer set is not made smaller when the buyer's knowledge is set equal to the seller's, and this means that the original selling price, P*, is still within the bargaining set.

In numbers 1 and 2, the buyer who gets the defective object knows exactly what she is buying. If the buyer has reason to complain, it cannot be because of a lack of information. Similarly, in number 5, both parties know exactly what they are doing; whatever their discontent may be later, information cannot have been the cause of it.

In number 4, the buyer has superior information, although both parties are uncertain about quality. Substituting q_S for q_B enlarges the bargaining set, a fact that cannot lead a court to rule that the original selling price was unfair unless it is willing to judge the relative fairness of prices within a bargaining set, a judgment which we have argued it does not make.

Information is fully symmetric in number 6, and the substitution of the seller's probability for the buyer's probability has no effect whatsoever; thus the original selling price cannot be faulted.

Knowledge Structure 3 is strange. The seller is overconfident, being certain that the defective object is really wonderful. The buyer has some sense that the object may not be so great, and turns out to be correct. If we were to require disclosure of deep secrets under these conditions, then we would have uncertain buyers revealing to ignorant or uncertain sellers information which

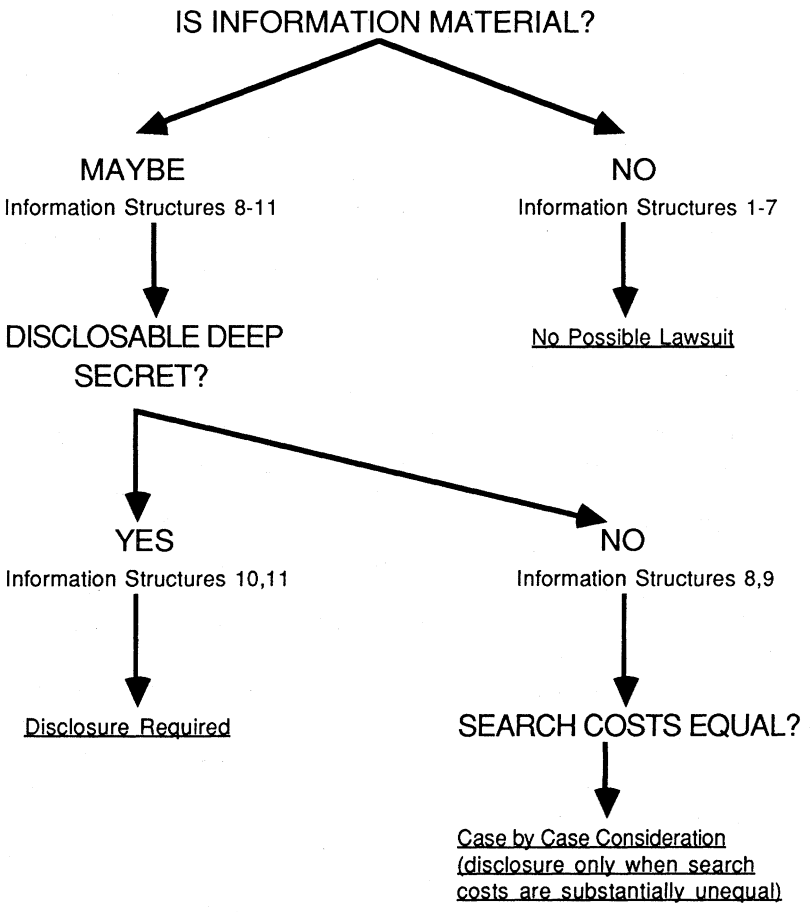

Figure 5: The structure of the argument.

would undermine the bargaining positions of those who are ignorant. The seller who wrongly believes that the object is good will try to command a higher price than the seller who has been told (and believes) that the object may be defective. Requiring disclosure in these cases damages the interests of those who are ignorant by making them settle for a less advantageous (to them) price than they would have accepted otherwise. This knowledge structure provides some truth to the old aphorism that ignorance is bliss.

Knowledge Structure 7 is even stranger. Both parties are ignorant, and no disclosure would have been possible because the relevant information was not in the possession of either party. Properly speaking, then, this is not a case of secret keeping at all. A court's decision simply shifts the loss or gain from one to the other on other grounds. Cases of this sort generally fall under the legal rubric of "mutual mistake," with the general rule being, "Where there was a mistake of both parties at the time a contract was made, . . . the contract is voidable by the adversely affected party unless he bears the risk of mistake" (*Restatement of Contracts 2d*, §152). Translated, this means that the party who is hurt by the transaction can usually get out of it and return things to the way they were before the contract took effect, if that party so chooses.

So far, we have talked only about Type 1 cases, where knowledge does not make a difference in the outcome of the deal and where, as a result, courts do not require its disclosure. We will now turn our attention to cases of Types 2 and 3, where knowledge does affect the transaction. In Type 2 cases, trades may still be possible but not at the price originally set. In Type 3 cases, trades would not occur at all if disclosure were required.

DISCLOSABLE DEEP SECRETS

In the first part of this article, we argued that rational individuals deciding in advance on a regime of rules under which they would be willing to live would want a rule requiring disclosure of deep secrets. The knowledge structures in Table 1 that present disclosable deep secrets are numbers 10 and 11.[16] If the law follows a contractarian logic, then we would expect secrets to be disallowed up front in these cases, and we would expect this result regardless of the preference structure in the situation. As it turns out, these are exactly the sorts of cases where disclosure is always required. Knowledge Structure 11 presents the situation where the seller knows the object is defective and the buyer is completely in the dark. The *Simmons* waterless house case is a clear example of a case of this sort.

Knowledge Structure 10 also finds the buyer in the dark, and the seller suspects (rightly, as it turns out) that something may be amiss. In cases like these, the law also requires disclosure. For example, in *Groening v. Opsata* (323 Mich. 73, 34 N.W.2d 560 [1948]), the sellers of a house built on a bluff knew that there was a good chance that the house would fall into the lake, but they failed to disclose this fact to the buyers, who inspected the property in the dead of winter when the ground (and apparent fissures) were buried under the snow. The court said, after the house came tumbling down, that the buyers could recover for the sellers' material secret.[17]

This leaves us with numbers 8 and 9, which do not include disclosable deep secrets, and we need to look at the next factor to see what to do with them.

RELATIVE SEARCH COSTS

If a secret is shallow, then an individual may choose to search for information that will improve his or her judgment about the quality of the object. For cases that do not involve disclosable deep secrets, we argued earlier that individuals would want these secrets to be open to effort as long as the two parties to the bargain did not begin from radically different starting points. Two individuals can be said to start from radically different places when they face very different search costs in acquiring information. We would expect, if the contractarian theory is correct, that outcomes in cases not involving disclosable deep secrets would depend on the search costs for information that the two parties face.

An individual's decision to search for information that will reduce his or her uncertainty about the quality of an object will be affected by three variables: prior judgment about quality (the prior probability, q, that the object is good), "stake" in the outcome (the difference between the value to the person of a "good" object and a "bad" one), and cost of obtaining information. The first two variables determine the expected value of the information. Information will be sought if its expected value exceeds its cost. The expected value of information will be zero when the person has no uncertainty about quality (q = 0 or 1) and will be greatest when uncertainty is greatest (in the region of q = 0.5). As long as a person is the target of a shallow secret, recognizing that quality is uncertain, that person will be motivated to seek the truth except when information costs are high or his or her prior judgment concerning quality places q very near to 0 or 1.

When the secret is shallow and the information is inexpensive relative to its expected value, the courts require that the buyer personally seek the information. These are typically cases where defects of things being sold are obvious or where the information is located in an obvious place to look. For example, courts have found no duty of sellers to disclose that a railroad track runs alongside the property being sold (*Jones v. Herring*, 16 S.W.2d 325 [Tex. Civ. App. 1929]), that a staircase on the property was rusty (*Riley v. White*, 213 S.W.2d 291 [Mo. App. 1950]), or that a lime mine was nearby (*Holly Hill Lumber Co. v. McCoy*, 201 S.C. 427, 23 S.E.2d 372 [1942]). Courts have also found no duty to disclose information obviously in the public records (*Balogh v. Sacks*, 33 Ohio Ops. 185, 97 Ohio App. 17, 123 N.E.2d 37 [1954]).

Where the information is expensive for the buyer and inexpensive for the seller to acquire, courts require that the seller disclose the information. For example, where a house was built on unstable soil (*Cohen v. Vivian*, 141 Colo. 443, 349 P.2d 366, 80 A.L.R. 1488 [1960]), or had a defective septic tank (*Rich v. Rankl*, 6 Conn. Cir. 185, 269 A.2d 84 [1969]) or a well that was infested with bacteria (*Janinda v. Lanning*, 87 Idaho 91, 390 P.2d 826 [1964]), courts required disclosure. The sellers knew about these defects, but to the buyers, they were invisible without a great deal of research.

In fact, it is the *relative costs* of the information to the buyer and the seller which seems to matter most to courts. Whether the parties have *equal costs of acquiring the information* is emphasized in courts' reasoning. For instance, behavior by the seller that raises the cost to the buyer of acquiring information (for example, lying) is generally seen as unfair because even if the costs of acquiring information were equal before the lie, they are unlikely to be so afterward.[18] Cases of obvious defects clearly present low information costs for *both* parties (and no disclosure is required), and cases like *Cohen*, *Rich*, and *Janinda* present circumstances where the information is radically less expensive for the secret keeper than for the ignorant target of the secret (so disclosure is required).

The importance of relative search costs may appear to be consistent with an economic theory positing that courts should place the costs of transactions gone wrong on the person with the cheapest avoidance costs, who would generally be the person facing the lowest cost of obtaining information.[19] But Kronman's (1978) article indicated that the right economic answer in these cases is that courts should see who has made a substantial investment in producing information and should protect those who have. Under Kronman's theory, the oil company that invests in discovering that there is oil under a naive seller's land or the homeowner who does the research necessary to discover contamination in the water supply would not have to reveal their hard-earned information to those with whom they deal. But courts examine the search costs of *both* parties to see whether one faced substantially lower costs than the other. If one party has acquired information by being an "insider" (the oil company having special access to proprietary, technical information about the quality of the land or the homeowner who has privileged access to the property on which the tests occur), then unequal access to the knowledge will result in requirements of disclosure, regardless of investment. Kronman's theory does not work to explain what courts actually do because courts often require disclosure of information that is the product of substantial investment if the party with whom the secret keeper is dealing would have had to invest even more.

Saying that parties should have approximately equal search costs is not the same as saying that there must be full symmetry of information, however. Information asymmetries at the time of the trade can arise from various combinations of the cost of information and the probability judgments and value-of-information curves of the parties. Not all of these combinations will be seen as deserving of relief by our hypothetical contractors. The least offensive reason for an asymmetry is one that arises from differences in tastes, which would be reflected in differences between the value-of-information curves of the two parties. If the difference between a good object and a bad one matters much more to one of the parties than to the other, with the result that the former searches out the truth and the latter does not, then the asymmetry would not be grounds for legal relief.

Slightly more problematic are asymmetries that arise from differences in the prior probability judgments of the parties. If these differences simply represent different hunches as to the quality of the good on the part of the buyer and the seller, then the situation does not call for judges to intervene. The serious problem arises, however, when the differences reflect prior access to information that provided imperfect but nevertheless useful information about quality. Following a current probability judgment back in time to see how it has been affected by the structure of earlier opportunities to acquire information runs the risk of falling into an infinite regress, but the law must attempt this to some degree if differences in probability judgments are to be fully explored. The asymmetries that deserve closest scrutiny are those where the costs of acquiring information are radically different for the two parties to the trade.

There are two separate aspects to this issue: access to information and access to the expertise necessary to make use of the information. Although it is true that there is great variation in the ability to make effective use of information, this should not be a remediable factor as long as the party with less expertise has access to others with the necessary expertise. The argument that a buyer deserves relief because of having had to hire an expert (at great cost) in order to know as much as the seller (who is already an expert) is not a compelling argument, for it ignores the costs which the seller has already paid to develop those skills. Likewise, the argument that a person with a large opportunity cost to his or her time (say, a surgeon with unlimited opportunities) deserves relief because the other party could more cheaply take advantage of opportunities to become informed (because of being unemployed, say) will not be compelling to the rational individual deciding in advance. In both of these cases, the asymmetries are due to prior investments by one of the parties. As long as those investments were not inaccessible or radically

more costly to make on the part of the party who now complains, the law will not consider these inequalities remediable differences in search costs.

The kinds of asymmetries that rational individuals deciding in advance would wish to protect themselves against, then, are the following: (a) where only one party has access to the information, (b) where one party misleads the other about quality (active fraud cases), and (c) where the parties have very different levels of expertise and the less skilled party is denied access to expertise (either through actions of the other party or through ignorance that such expertise exists or because of temporary incapacitation). Each of these circumstances reflects the concern we saw earlier among rational individuals deciding in advance that they be provided with a floor below which they cannot fall when the odds are against them.

Information Structures 8 and 9, then, ought to be decided on a case-by-case basis, where the court examines the equality of the parties in being able to acquire the information. In number 9, where the seller knows the object is bad and the buyer is merely uncertain, we generally would not want to intervene unless the buyer and the seller faced very different search costs. In number 8, where the trade resembles a horse race being bet on by two bettors uncertain about the outcomes, the courts should only examine the extent to which the parties had equal access to relevant information. As we have seen with the examples in this section, the law generally does just that.

CONCLUSION

The model which we developed and discussed in this article allowed us to contrast an economic rationale for the doctrine of nondisclosure with a contractarian one. On the economic argument, secret keepers should have to disclose information only when the deal that the parties are making could not have been struck at all if the two parties had complete knowledge. Otherwise, the existence of the bargain and the division of gains from trade pose no efficiency worries for the economic model.

We have seen, though, that courts do not consider the factors that would be most relevant to judgments about efficiency of a particular bargain, particularly the configuration of preferences of the two parties to the deal and the amount of investment made by the secret keeper in acquiring the information. Without this information, courts cannot sort out which trades pose efficiency problems and which ones do not. We conclude from this that courts must be concerned about something other than efficiency since they do not have the means for making such judgments.

The contractarian model fares much better as an explanation of courts' decisions in these cases. The contractarian model indicates that courts ought to (a) protect people from catastrophic losses, (b) require disclosure of deep secrets, and (c) allow shallow secrets except where the parties start with very unequal search costs. We found that courts do, in fact, seem to follow these rules, leading us to conclude that the doctrine in this area reveals a contractarian logic more than an economic one.

Moreover, we discovered that the logic of strategic secrets reveals far more pattern and principle than has previously been discovered in this area.[20] This area is not "the wilderness of single instances" that it was previously described as being but is, instead, a field of doctrine in which the principles of contractarianism have found judicial favor.

NOTES

1. *Laidlaw v. Organ*, 15 U.S. (2 Wheat.) 178 (1817). The opinion itself is uncomfortably sketchy on some of the critical facts, and so the account of the circumstances surrounding the case is taken from Verplanck (1825). Verplanck was an observer at the time and was appalled enough at the outcome to devote a book to the issues raised by this case.

2. *Simmons v. Evans*, 185 Tenn. 282, 284; 206 S.W.2d 295 (1947).

3. The cases discussed in this article are part of a larger set of systematically sampled cases reported in Scheppele (1988). Because we cannot present every case in detail in an article, we have tried to select representative cases to illustrate our discussion throughout. Readers who would like to know more about the sampling procedure should consult the methodological appendix in Scheppele's *Legal Secrets*.

4. See Posner (1986), particularly chap. 1.

5. The relation between self-interest and fairness is more complicated than this formulation suggests. Liberal moral theory starts from the view that individual preferences have moral force and that, in the absence of extraordinary circumstances, they should not be second-guessed. But the idea that any one individual can stack the deck so that his or her individual interest is served, while the interests of others are not, violates a liberal sense of what impartiality means. Precisely because individual preferences are thought to have moral force, no one's preferences can dominate others on grounds that one individual's vision of the good life is better than someone else's. Liberal moral theory is largely about how we think of satisfying a whole range of individual preferences without favor to particular ones. Those who design the rules governing disputes should, on a liberal view, not be allowed to rig the rules to benefit themselves to the exclusion of others who were not in a position to do so.

6. We are here following Rawls (1971), who considered rationality to be that "(i)n choosing between principles each tries as best as he can to advance his interests" (p. 142).

7. We can see this problem by thinking about the structure of rational choice as seen in Bayesian decision theory. For people to learn in successive Bayesian trials, they must at least have some prior probability that can be updated with new information. If the prior probability is zero, then learning can never take place because the mathematical operation that performs the

updating is multiplication. Multiplying zero by anything produces zero. A deep secret can be defined as information for which the prior probability of its existence is zero. The target of the secret does not know it exists.

8. In Bayesian language, shallow secrets are those pieces of information for which one can estimate a prior probability. One may, of course, be wrong when deciding in probabilistic contexts (after all, there is still some probability that the least likely conceivable event will be the one that happens)—but at least one knows enough to set up the problem.

9. Moreover, A and B would want to be protected if either one of them turned out to be incompetent and unable to make a rational choice. The preceding discussion pertains only to rational actors.

10. We consider here only the case of a disappointed buyer who purchases a defective object. The mirror-image case, that of a seller who parts with what one believes to be a defective object only to find out that he or she was mistaken, could be handled in a symmetric fashion.

11. We are assuming that the good can only be in one of two states: good or bad (defective). The fact that an object is "bad" need not mean that it is worthless. Thus B(0) can be positive. This assumption permits us to greatly simplify the model presented here since it allows us to consider a single probability assessment of quality (the probability that the object is good) rather than a probability distribution defined over a continuum of quality levels.

12. It is possible that the offer curve for one party depends on that party's estimate of the other party's judgment about quality. We do not, however, take the analysis to the point where the expectations of the two parties about each other's behavior are mutually reinforcing. To do so would require abandoning a graphical presentation of the model in favor of a very abstract game-theoretic argument that would be inappropriate for a broad audience.

13. When information is asymmetric, trades are possible only when the point on the buyer's offer curve corresponding to that person's state of knowledge—point $B(q_B)$—lies above the point of the seller's offer curve corresponding to that party's state of knowledge—point $S(q_S)$.

14. In *Bellwood Discount Corp. v. Empire Steel Building Co.* (175 Cal. App. 2d 432, 346 P.2d 467 [1959]), for example, information that part of the building did not meet building code was held to be not material to the contract because it was not a part of the building covered by the contract, and in *Smith v. Onyx Oil and Chemical Co.* (218 F.2d 104 [3d Cir., 1955]), information about what one party to the contract was going to do with the profits was held not material either.

15. When cases come before the courts, the charge in fraud cases is generally that the person defrauded was not told what the purported defrauder knew. Setting both parties' knowledge equal to the knowledge of the informationally advantaged party captures what for the law is the relevant asymmetry. It is not whether each party knew the truth that matters but whether the party who won knew more than the party who lost—and whether the party who won should bear the loss as a consequence. Setting both q_S and q_B equal to q^* would answer a different question: Would the trade have gone through if they both knew the truth? The law rarely searches for absolute truth of this sort.

16. By a disclosable deep secret, we mean a deep secret that the other party is capable of disclosing. In number 7, a double deep secret case, we find the blind leading the blind. We cannot expect one party to disclose to another in these cases because neither knows that there might be something to disclose.

17. Consider the analog of these cases when the object is good. Then the seller is completely in the dark about the high quality of the object and the buyer either knows for sure that it is good or has a reasonable suspicion that it is. Although it is rarely the case that sellers are really completely in the dark, in those few cases where it happens, the law does require disclosure.

One such example is the *Orahood* case, where the completely ignorant, drugged-up landowner on his death bed sold his property to the representative of the oil company. Another example is *Strong v. Repide* (213 U.S. 419 [1909]). Strong, an inside negotiator, knew that the price which the U.S. government was publicly offering for shares of the Philippine Sugar Estates Development Company was not its reservation price. He bought up shares from other shareholders without telling them this news. When they found out that Repide knew more than he was saying in the deal, they were able to recover because the information was not something that the sellers *could* have known about. Generally, for the courts to find that the seller is completely ignorant of some possible attribute of his or her property, they must either find that the seller is incompetent in some way or that the buyer has some special "insider's knowledge" unavailable to the seller.

18. Misrepresentations clearly count as fraudulent, even if keeping a secret in a particular instance does not.

19. This is what Posner (1986) argued in the third edition of his *Economic Analysis of Law* (chap. 4.6) after he saw the earlier reports of the findings elaborated in *Legal Secrets* (Scheppele, 1988) and in this article. In his earlier editions of the book, however, Posner cited Kronman's views as what an economist of law should argue.

20. See, for example, the *Restatement (Second) of Contracts* (vol. 2, § 431).

REFERENCES

Bower, George Spencer. 1915. *The law relating to actionable nondisclosure and other breaches of duty in relations of confidence and influence.* London: Butterworths.

Coase, Ronald. 1960. The problem of social cost. *Journal of Law and Economics* 3:1-44.

Frolich, Norman, Joe A. Oppenheimer, and Cheryl L. Eavey. 1987a. Choice of principles of distributive justice in experimental groups. *American Journal of Political Science* 31:606.

———. 1987b. Laboratory results on Rawls's distributive justice. *British Journal of Political Science* 17:1.

Kronman, Anthony. 1978. Mistake, disclosure, information and the law of contracts. *Journal of Legal Studies* 7:1.

Posner, Richard A. 1986. *The economic analysis of law.* 3d ed. Boston: Little, Brown.

Rawls, John. 1971. *A theory of justice.* Cambridge, MA: Harvard University Press.

Scheppele, Kim Lane. 1988. *Legal secrets: Efficiency and equality in the common law.* Chicago: University of Chicago Press.

Verplanck, Gulian. 1825. *An essay on the doctrine of contracts: Being an inquiry how contracts are affected in law and morals by concealment, error or inadequate price.* New York: Caruill.