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Rational Ignorance, Rational Closed-Mindedness, and Modern Economic Formalism in Contract Law

Shawn J. Bayern†

Rational ignorance is the familiar notion that it would be foolish for an individual to gather and process all possible information. Some information just isn’t worth having. Speaking more strictly, some information isn’t worth pursuing or processing, because the expected cost of acquiring and assimilating it exceeds its expected value. So as good rational actors, we are better off not knowing some things.¹

Despite a name that may seem counterintuitive to nonspecialists, the notion of rational ignorance is mostly unremarkable.² Even those of us whose

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² Many economists tend to classify and promote things they can present as counterintuitive. Cf. Daniel A. Farber, Commentary, The Case Against Brilliance, 70 MINN. L. REV. 917, 917 (1986) (arguing against “novelty, surprise, and unconventionality” in economics and law). That is, “ignorance” is ordinarily considered a bad thing, yet some of it is rational. Just
careers center on information and ideas don’t want to spend all our time and resources reading law-review articles and treatises, or even newspapers and Wikipedia; there are, occasionally, other things to do. Moreover, the costs of acquiring information are not just financial; we are expected, as sensitive human beings, to honor other people’s privacy and perhaps to avoid fascination with certain kinds of information, as the phrase “morbid curiosity” suggests.

Sometimes, too, acquiring excessive information leads us to make worse decisions, given other limits on our rationality and the rationality of others. For example, full-body tomographic scans might not be a good idea for young, healthy people, even if they were costless and didn’t expose patients to potentially dangerous radiation: discovering harmless anomalies might lead to unwarranted concern or, worse, unnecessary medical procedures.3

Although rational ignorance is often framed in terms of information, it is equally applicable to cognitive processing. For instance, it may well be both rational and appropriate for individuals to assume that certain arguments or ideas are incorrect or unhelpful before even hearing them.4 I call this preemptive intolerance for new arguments “rational closed-mindedness.” For example, it is probably unnecessary to evaluate each new astounding marketing claim we receive in spam e-mails; summarily deleting these e-mails is likely more reasonable than a thoughtful inquiry into precisely how we might costlessly get out of debt or order name-brand drugs from abroad. For many people, the same is generally true for new claims by “alternative medicine”

as some economists seem to delight in observing that there should be nonzero levels of contract breaches, accidents, and crime, there are also optimal nonzero levels of ignorance. See ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 491 (5th ed. 2007) (crime); RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 119–20 (7th ed. 2007) (contract breaches); W. Kip Viscusi, Punitive Damages: The Social Costs of Punitive Damages Against Corporations in Environmental and Safety Torts, 87 GEO. L.J. 285, 329–30 (1998) (accidents); see also W. Kip Viscusi & Richard J. Zeckhauser, Recollection Bias and the Combat of Terrorism, 34 J. LEGAL STUD. 27, 33 (2005) (terrorism).

Although the phenomenon of “rational ignorance” demonstrates that it is rational to ignore some facts, it would be a mistake to jump to the conclusion that we want more ignorance than we have now. Ordinarily, when we say that someone is “ignorant” or that a road is “unsafe,” we already mean “irrationally ignorant” or “unreasonably unsafe.” That the optimal level of a bad thing is nonzero says very little about the validity of intuitions that levels of the bad thing are already too high.

3. See COMM. ON MED. ASPECTS OF RADIATION IN THE ENV’T, TWELFTH REPORT 17 (2007), available at http://www.comare.org.uk/documents/COMARE12thReport.pdf (“[A] number of CT examinations will result in the detection of lesions that may be clinically unimportant or non-life-threatening. These findings may result in further investigations, which may themselves carry additional risks to the individual.”). Of course, doctors might adjust their procedures for diagnosis and treatment (and patients might rationally adjust their tendency toward fear or anxiety) to accommodate the results that cheap and frequent full-body CT scans would tend to produce. The problem is that, given other limits on the rationality of individuals and groups, we might not expect them to do so perfectly—at least, not right away.

4. I take this sort of rationality to lie behind a letter I once received from a publication, explaining that it could not publish my manuscript even though it “looks very interesting” (private correspondence on file with author) (emphasis added).
healers; we can rely on our prior evaluation of the whole discipline’s failures rather than evaluate each new argument thoroughly. Detailed characterizations of this phenomenon are not prominent in academic literature\(^5\) (perhaps because closed-mindedness sounds like it’s a bad thing to optimize), but its contours are similar to those of rational ignorance.

What applies to individuals, however, does not necessarily apply to courts. My aim in this Essay is to demonstrate that modern economic formalism in contract law is little more than an erroneous argument that courts ought to be (rationally) ignorant and (rationally) closed-minded in particular ways. Specifically, economic formalism posits that the law will function better, in view of the costs of adjudication, if courts narrowly limit the field of information or arguments that they permit themselves to consider when hearing cases. Distinct from other brands of textual formalism that suggest that a strict reliance on the text of contracts promotes certainty in adjudication, reduces judicial discretion, or achieves other goals, economic formalism in contract law rests on the same idea as rational ignorance and rational closed-mindedness—namely, that a more thorough consideration of information and arguments is simply not worthwhile, in view of its costs.\(^6\)

This Essay proceeds in two stages. First, I describe rational ignorance and rational closed-mindedness in order to frame the discussion. My goal in this stage is to demonstrate that in contract-interpretation litigation, the justification for rational ignorance and closed-mindedness in individuals fails to generalize to courts. To be fair, formalists do not precisely argue that it does, so it may at

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5. There is some discussion of rational closed-mindedness in the limited context of forecasts by stock analysts, who are said to be “rationally stubborn” because “abler advisers make smaller revisions in their forecasts,” and analysts may accordingly stick with what they’ve said in order to “look good,” like those supposedly abler analysts. Tilman Ehrbeck & Robert Waldmann, Why Are Professional Forecasters Biased? Agency Versus Behavioral Explanations, 111 Q.J. ECON. 21, 22 (1996). In other words, in some industries or professions, having a reputation for open-mindedness might be a bad thing, and thus people may tend to be more closed-minded than they would otherwise be. This sort of reputational signaling is a much more limited phenomenon than the one I describe in the text.

There are sadly other professions, too, where open-mindedness is considered a problem. Several high-level politicians have been criticized as being the “victim[s] of [their] last conversation[s].” Melinda Henneberger, A Gore Daughter Emerges as a Leading Adviser, N.Y. TIMES, Nov. 20, 1999, at A1 (Al Gore); see also Maureen Dowd, Making and Remaking a Political Identity: George Herbert Walker Bush, N.Y. TIMES, Aug. 20, 1992, at A1 (George H.W. Bush); Maureen Dowd, The Education of Dan Quayle, N.Y. TIMES, June 25, 1989, at A1 (Dan Quayle). While great indecision in a leader may be undesirable, I think I would prefer a decision maker who is the victim of his last conversation over one who is the victim of his first.

6. In contract law, economic arguments are currently the most prominent defenses of formalism. Cf. Curtis Bridgeman, Why Contracts Scholars Should Read Legal Philosophy: Positivism, Formalism, and the Specification of Rules in Contract Law, 29 CARDOZO L. REV. 1443, 1446 (2008) (“Aside from a notable push from some law-and-economics scholars, no one has developed a sustained argument for a return to formalism in contract law . . . .”) (footnote omitted). Bridgeman’s article, by contrast, is a defense of formalism in terms of its ability to “guide conduct.” Id. at 1467.
first appear that I am knocking down straw men. The purpose of the discussion, however, is merely to suggest skepticism of the notion that courts should categorically ignore information when it is agreed, by hypothesis, that the information will lead to better results.

Second, I respond to the most influential argument for economic formalism in contract law by demonstrating particular weaknesses from which the argument suffers. The argument comes from Alan Schwartz and Robert Scott, two leading theorists of contract law. Schwartz and Scott’s argument is specifically that rational, risk-neutral contracting parties prefer formalist interpretive methodologies that depend mostly on the text of written contracts to broader methodologies that consider more sources of information and are more likely to discover the parties’ actual agreement. Schwartz and Scott argue that formalist methodologies are preferable because they are less expensive and do not affect the “average” (or expected) result; instead, they affect only the range (or variance) of possible results, and risk-neutral parties don’t care about the range. As I will show, this argument—despite its cleverness and initial appeal—seriously misstates the costs and benefits of formalism for several reasons.

First, and most fundamentally, it confuses probability with uncertainty. That is, it assumes that probability distributions of events like litigation results are known specifically, and that parties can make decisions with them in mind, rather than acknowledging that such distributions are unknown and often unknowable. Second, it draws distinctions between “gaps” in contracts and questions of interpretation, but these distinctions are both untenable and impossible to determine by the time litigation occurs. Finally, in dealing with only those cases that reach a particular stage in litigation, it ignores the impact of some prominent features of litigation, such as the possibility of settlement.

7. Alan Schwartz & Robert E. Scott, Contract Theory and the Limits of Contract Law, 113 YALE L.J. 541 (2003). Schwartz and Scott’s argument has, for good reason, received substantial attention and interest; it has also received some insightful criticism. For instance, commentators have discussed other problems with Schwartz and Scott’s analysis, such as its questionable assumptions about human language, Jeffrey M. Lipshaw, The Bewitchment of Intelligence: Language and Ex Post Illusions of Intention, 78 TEMP. L. REV. 99 (2005), and its propensity to promote bad faith during performance, Juliet P. Kositsky, Plain Meaning vs. Broad Interpretation: How the Risk of Opportunism Defeats a Unitary Default Rule for Interpretation, 96 KY. L.J. 43 (2007); James W. Bowers, Murphy’s Law and the Elementary Theory of Contract Interpretation: A Response to Schwartz and Scott, 57 RUTGERS L. REV. 587, 601 (2005) (“Wide margins of error have potential incentive effects. Once contracts are formed, both parties have an incentive to chisel—to maneuver to divert as much of the contractual revenues to themselves and to transfer as much of the costs as feasible to the other party. If a party thinks there is a good chance that its chiseling behavior will be protected by an erroneous contract interpretation, the more chiseling will tend to occur.”).
1

RATIONAL CLOSED-MINDEDNESS IN INDIVIDUALS

The rational ignorance of individuals is well documented. For instance, in searching for a product or a job, individuals rarely consider every possibility. It is worth understanding the ways in which rational ignorance may appropriately characterize individual behavior, because some of these ways may be more relevant to analyses of contract interpretation than others.

To begin with, it is worth recognizing that rational ignorance and closed-mindedness need not be absolute, even where they apply to particular information and arguments. When faced with a new fact or argument, we have more choices than simply considering it or not considering it. We might ignore it completely, consider it quickly without trying to understand its significance, study it carefully, and so on. Ignorance and closed-mindedness simply reflect decisions not to consider (or habits of not considering) the significance of a new fact or argument.

Broadly speaking, rational ignorance and closed-mindedness address two distinct problems: diminishing returns and bias. The problem of diminishing returns arises when we think that the new information or point of view will help us overall (that is, it has a positive expected value), but we might also think that the costs of finding or processing it are too high. Commentators typically describe rational ignorance in this context. For example, in searching for a job or a needed product, the search itself (and the processing of information) has costs, and we expect individuals at least loosely to weigh those costs against the expected benefits of further information. Individuals don’t necessarily decide how long to search for jobs or products by performing explicit rational calculations, but it is not unreasonable to imagine that they try to avoid some of the costs—even just the tediousness or unpleasantness—of searching for something long past the point of diminishing returns.

A second problem, which is less recognized in discussions of rational ignorance and closed-mindedness, is the concern that the information we’re considering acquiring could bias us in a particular direction, in ways for which we can’t always easily correct. This might occur in cases of full-body CT scans, as I mentioned before. It is probably irrational for most people to acquire detailed information about every physical abnormality in their bodies, given that they are not trained to understand, among other things, that most of these abnormalities are medically irrelevant. As another example, if a voter around election time expects that a cable news channel offers information that is biased

8. See supra note 1.
10. See, e.g., id.; see also supra note 1.
11. See supra note 3.
toward a particular viewpoint, she might rationally avoid watching that channel. The alternative—watching it and being swayed by the biased information the channel presents—might be worse than remaining less informed but unbiased.

In general, for an individual to be rational in ignoring information and arguments even though they are free or extremely inexpensive to process, the individual must expect that his or her own processing is potentially skewed in ways for which it is difficult to correct. Bias in the source of information is not, strictly speaking, enough. For example, in the case of a newscast that we expect to be biased, there is little danger if the bias is known and if we trust our ability to account for it. We can simply factor the information appropriately into our broader understanding, realizing that it’s of little worth if it’s in fact of little worth. Avoidance becomes increasingly rational as we become more afraid that new information or arguments may bias us in ways that we cannot easily predict or account for.

An expectation that one has imperfect cognition is not relevant only when processing biased information; it may well apply when processing entirely accurate information. A towering body of psychological research highlights the many cognitive biases that humans experience—everything from loss aversion\(^{12}\) and confirmation biases\(^{13}\) to implicit racial prejudices.\(^{14}\) One way to respond to cognitive biases is to educate oneself about them in an attempt to learn to avoid their effects; reading psychological studies can sometimes (but not always) work as a kind of inoculation against various kinds of systematically-biased cognition that people display in experimental tests. But another way to respond to a known cognitive bias is to realize that one is cognitively limited and to counteract it at a grosser level by making presumptions in favor of choices against which one is knowingly biased, or by shielding oneself from information that may trigger a bias. So, for example, someone who recognizes a personal bias against hiring people older than forty might explicitly instruct applicants not to list their ages. Alternatively, one might put a thumb on the scale in favor of certain information or arguments, in order to counteract known biases. For example, Bill Gates once wrote: “I make it a point to read at least one newsweekly from cover to cover because it broadens my interests. If I read only what intrigues me, such as the science section and a subset of the business section, then I finish the magazine the same person I was before I started. So I read it all.”\(^{15}\)

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15. Bill Gates, *Reading Difficulties: The Bill Gates Column*, THE GUARDIAN (London), Feb. 16, 1995, at 6. This is essentially the sort of “thumb on the scale” I have in mind in the text:
Given that rational ignorance and closed-mindedness help individuals to cope with the problems of diminishing returns and bias, it may seem justifiable for courts to ignore broad classes of information. And this notion is at least worth considering. But as I argue in Part II, it would be a mistake to generalize too far from individuals to courts, and no such generalization supports textual formalism in contract interpretation.

II
MODERN ECONOMIC FORMALISM AS PURPORTEDLY RATIONAL IGNORANCE AND CLOSED-MINDEDNESS IN COURTS

In law, the term formalism has many meanings. In the context of interpreting legal documents, it often refers to a position known alternatively as textualism. The central tenet of this kind of formalism is that legal documents should be interpreted without (much) regard for information beyond their text. As I noted earlier, there are several possible justifications for textual formalism, but they all urge a fairly narrow restriction of information and arguments in interpreting contracts, statutes, and even cases. For example, two mainstays of modern formalist argument are that it is ordinarily advantageous for courts to ignore legislative history in statutory cases and evidence of oral agreements in many contracts cases.

When put in this way, of course, the connection between rational ignorance, rational closed-mindedness, and formalism becomes clear:

if you know your interests are limited, you might intentionally ignore those interests in choosing what to read.

16. One significant version of formalism is also called conceptualism: the view of law as a closed system, operating by its own rules and with relatively fixed categories, heedless of its effects on the world. Under this view, law is its own goal instead of a way to achieve the social purposes people may want to set for it (whatever those purposes may be). Conceptualism was the dominant approach to law at the time law schools arose in America, and it appears to be gaining adherents once again. See, e.g., Martin A. Kotler, Social Norms and Judicial Rulemaking: Commitment to Political Process and the Basis of Tort Law, 49 Kan. L. Rev. 65, 72 (2000) (“In fact, much of the significant tort scholarship of the past few decades can be described as ‘neo-conceptualist,’ i.e., scholarship that seeks to identify some single value or set of values that underlie, and thus provide, some universally accepted basis (not to mention cohesiveness) for modern tort doctrine.”).

The chief characteristic of conceptualism is that it insulates itself from (some) social facts, arguments about the law’s functions, and instrumental or moral purposes. This sort of conceptualism deserves greater treatment but it is not my focus here, although its willingness to restrict drastically the field of information and arguments that are considered “legal” is representative of formalism in general.

17. See Schwartz & Scott, supra note 7.
formalism is, at heart, an argument for ignorance or closed-mindedness. Correspondingly, economic defenses of formalism are arguments for purportedly rational ignorance or closed-mindedness.

Because it is often rational for individuals to close themselves off from facts and arguments, it might seem only natural to assume courts should do so too. And indeed, there are clear cases in which courts should ignore information and arguments. As an important but obvious example, it would be unjust to consider the race, gender, age, or sexual orientation of parties in cases where these features did not matter, and the common law is similarly hesitant to consider parties' wealth. This familiar refusal to consider some facts may represent an attempt to avoid bias, as I described in Part I. In some sense, it may even be fair to call this refusal "formalist" and to acknowledge at least a limited role for "ignorance" in the law, captured roughly by the familiar saying that "justice is blind."

But beyond familiar cases in which courts exclude evidence of a kind that we have collectively decided simply shouldn't be relevant in deciding cases, it is a mistake to generalize too far from the rational ignorance of individuals to the rational ignorance of courts. The reasons to reject this generalization largely track my discussion in Part I about rational ignorance and closed-mindedness in individuals. Recall the following observations regarding individuals: (1) ignorance and closed-mindedness need not be absolute, but instead can manifest themselves as investing marginally less effort in or paying less attention to new information or arguments; and (2) rational ignorance and closed-mindedness address two distinct problems—the costs of acquiring and processing new information, and expected bias. These observations suggest ways in which formalism (as rational ignorance and obstinacy) fails to apply appropriately to courts, at least in the way formalists think it should.

To begin with, consider that rational ignorance in individuals is not usually absolute. Bright-line rules requiring courts to ignore certain kinds of information wholesale are a formalist staple. But an absolute bar to information goes beyond the kind of rational ignorance individuals ordinarily adopt: individuals are usually willing at least to glance at information they plan to ignore, and they certainly are not ordinarily governed by procedures that prevent them from doing so.

22. See Michael J. Trebilcock, The Role of Insurance Considerations in the Choice of Efficient Civil Liability Rules, 4 J.L. ECON. & ORG. 243, 247 (1988) ("[A] given loss reduces the utility of a rich person less than a poor person . . . [but this is a consideration] that by long historical tradition in common law civil disputes the courts are supposed sedulously to eschew. If they were now to become influential in determinations of liability, they would cast courts in a radically new role.").

23. Cf. Fed. R. Evid. 403 ("Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice . . .").

24. See, e.g., Schwartz & Scott, supra note 7, at 576–77. I respond in detail to such arguments in Part III, infra.
As for informational costs, courts themselves usually face relatively low costs in acquiring information and arguments because the litigants themselves ordinarily supply them. Of course, systemically, the costs of acquiring information and making arguments may be much larger; this is a point I address in more detail in Part III. My observation for now is only that courts, looking out for their own interests, have little reason to refuse to hear certain kinds of facts or arguments wholesale merely on the ground that it is too expensive for them to do so. Actually processing—that is, fully considering—the information may well be expensive for courts, but there is no reason to think the kinds of information that the formalists wish to exclude (such as precontractual memos or legislative history) is systematically any more expensive than the fairly intensive cognitive processing that represents courts' ordinary function. In other words, if we're concerned that courts have too much information to process in general, limiting arguments that textualists want to limit would be an arbitrary and odd way to help them; the cure would not fit the ailment.

Finally, even though judges and others who work in courts are human beings who likely suffer from individual cognitive biases, institutional considerations make it systematically less likely that courts will suffer from the sort of cognitive biases that make rational ignorance and rational closed-mindedness appealing for individuals. The primary reason for this is that common-law courts hear arguments from adverse parties, who can correct one another's information and arguments and otherwise draw attention to the kinds of skewed processing from which individuals may suffer. It is likely that if a court hears the equivalent of a biased news broadcast, it will also hear an opposing party correct it.\(^25\)

Even if one of the parties fails in its argumentative role, appellate courts in America ordinarily are comprised of multiple judges, who at least theoretically can check one another's biases. For instance, Justice Scalia has famously quoted Judge Leventhal in describing legislative history "as the equivalent of entering a crowded cocktail party and looking over the heads of the guests for one's friends."\(^26\) After doing this, he (less famously) proceeded to describe precisely how he believed the majority's use of legislative history was misleading.\(^27\) That analyzing legislative history can lead to biased results is not, by itself, an argument against legislative history. It is just an argument against

\(^25\) Parties may well be incomplete in their argumentation, although ordinarily we can expect the skill of lawyers' arguments at least roughly to track the importance of issues to the parties they represent; if it does not, the problem is with poor representation, not with insufficient formalism. I have addressed in other work the problems that may arise in setting precedent from insufficiently argued law. See generally Bayern, supra note 19. But problems with precedent ought to be addressed by more sensitive evaluation of precedent, not by limiting the ways that cases are decided in the first instance.


\(^27\) Id. at 519–28.
bad analysis of legislative history. Similarly, as we shall see in Part III, the mere opportunity for one party to make a bad argument to a court is usually not problematic on its own.28

My goal so far has just been to show, at a very general level of analysis, that individuals' rational ignorance and closed-mindedness need not extend to courts. Courts hear arguments from adverse parties and are in many cases made up of groups of people. Moreover, formalism seems to harbor an argument that courts ought to be more ignorant than individuals in that formalists suggest bright-line rules are needed to limit the information and arguments courts can consider, whereas individuals are more fluid in their processing limitations. This is not, of course, a comprehensive refutation of formalism, just a suggestion that there is little reason to think rational ignorance and rational closed-mindedness are generally foreordained in law.

In the next Part, I will amplify my argument by demonstrating some more specific failings of economic formalism in contract law—that is, of the leading modern argument that courts should be rationally ignorant or closed-minded. To this end, I address Schwartz and Scott's argument for contract formalism in depth. There, my goal will be not just to show that formalism is not inevitable but that it is a seriously flawed approach to contract adjudication.

I do not argue that all evidence in all cases needs to be heard and considered exhaustively. Surely sometimes, in view of the fact that some information is costly to process, only of marginal relevance, or excessively prejudicial, courts need not consider it in detail. But to imagine we can figure this out beforehand in all contract cases, or at least in enough cases to set a default rule that excludes most evidence beyond written contracts, is unwarranted.

III
IGNORANCE AND CLOSED-MINDEDNESS AS PURPORTED WEALTH MAXIMIZATION IN CONTRACT LAW

One of the most thorough recent analytical defenses of formalism in contract law comes from Alan Schwartz and Robert Scott, who offer an influential view of contract interpretation that rests largely on the costs and benefits of considering different kinds of information when interpreting contracts.29 Their conclusion, put simply, is that rational and risk-neutral firms would prefer courts to use limited information (consisting mostly of the text of contracts) because to do so is efficient. Schwartz and Scott believe that deciding contract cases using more information—like precontractual memos or industry custom—is more expensive but yields no offsetting expected benefit to risk-neutral firms. This is because risk-neutral firms care only about the

28. See infra text accompanying notes 61 and 73.
29. See Schwartz & Scott, supra note 7.
expected value (roughly, the average) of a court’s possible interpretations but not about the variance (roughly, the range) of those interpretations.\(^3\)

The argument that Schwartz and Scott put forward for formalist contract interpretation, though helpful in clarifying the economic issues at stake in interpreting contacts, ultimately rests on something resembling sleight of hand. Showing why this is so serves as a demonstration of ways in which formalist arguments tend to fail to achieve even purely economic goals. In Part A below, I outline Schwartz and Scott’s argument; in the three Parts that follow it, I address problems with the argument in detail.

\textit{A. Schwartz and Scott’s Formalist Argument}

Schwartz and Scott’s argument proceeds essentially as follows.\(^3\) Consider a case in which contracting parties dispute the meaning of their contract, and the court’s interpretation can be more or less favorable to either party. To formalize the idea that interpretations that favor one party hurt the other, Schwartz and Scott model the meaning of a disputed contractual term as a number on a number line, where higher numbers are better for one party and lower ones better for the other.\(^3\) (This, of course, is an abstraction, but not one that I need to dispute.) So, for instance, the parties might have originally agreed to a state of affairs represented by the number forty-six. The court, in

\begin{itemize}
  \item[30.] \textit{Id.} at 575–76.
  \item[31.] I simplify their argument here somewhat, but not in ways that affect its validity against the criticisms I offer. In particular, I discuss only the case of \textit{continuous payoffs}, see \textit{id.} at 574–77, versus \textit{discontinuous payoffs}, see \textit{id.} at 578–83, but my criticisms are meant to apply to their general argument for formalist contract interpretation. Similarly, I do not detail or respond to every assumption that Schwartz and Scott make, even in some cases where I think they are incorrect or unjustified.

  It is perhaps worth noting, however, that the central assumption of risk-neutrality is probably poorly descriptive even of the behavior of large firms. Firms are likely risk-neutral in some respects, but probably not when it comes to significant litigation, which might involve large sums that serve potentially as shocks and that might have a public dimension or at least extend in importance beyond a particular dispute. Moreover, firms’ decision makers are individuals or groups of them, and individuals are likely to be risk-averse even on behalf of companies that ought by rights to be more risk-neutral; their own careers or reputations may depend at least indirectly on the successful resolution of a case, for example.

  Even Schwartz and Scott struggle with their assumption of pure risk-neutrality among firms. They wonder, for instance, why risk-neutral firms would ever engage in fixed-price contracts in thick markets. \textit{Id.} at 562–63. Schwartz and Scott explain such contracts by suggesting firms \textit{act as if} they are risk-averse when the stakes are high enough. \textit{Id.} at 564. Of course, this recognition should—as they briefly acknowledge, \textit{id.} at 558—apply just as well to firms’ attitudes toward contract interpretation. In any event, I don’t think fixed-price contracts are mysterious; there are many reasons they might be made, even in thick markets. Perhaps the most significant is that contracts can ensure supply, and the price terms in such contracts, even if fixed, may not be significant; moreover, corporate structure may come to the fore in situations like this, with negotiators either (a) wanting to guarantee a particular price because they are risk-averse or (b) constrained by a particular division’s budget, which simplifies intra-corporate planning even if the corporation as a whole is risk-neutral.

  \item[32.] \textit{Id.} at 573–75.
\end{itemize}
interpreting the contract, might choose a particular reading that corresponds to a different number—say, fifty-two. One party gains and the other party loses from this difference.

Schwartz and Scott defend formalism, given this way of understanding contract interpretation, by observing that if contracting firms expect the court's interpretation to average at the number they originally agreed on, then all is well. This is because firms are taken to be risk-neutral—that is, they care about average ("expected") values, not specifically about results. Thus, if my original agreement was for the number fifty and I am risk-neutral, I will not care whether the expected result of interpreting my agreement will be always fifty, or forty half of the time and sixty the other half of the time, or thirty half of the time and seventy the other half of the time, and so on. As a rational firm dealing with contracts that don't threaten to destroy my business, I am said to be indifferent to this risk: I'll probably win some and lose some, and I expect the costs and benefits to cancel each other out.

If I am indifferent to this risk, I would prefer not to pay to reduce it. Suppose, for instance, that I have two choices in the methodology that courts will follow to interpret my contract. Under one, courts will use only what Schwartz and Scott call the "minimum evidentiary base," which they define as the text of the contract, a dictionary, averments about the history of performance, and general common sense. Under the other, the court will allow further information, such as precontractual memos, my testimony about what I actually thought when I was contracting, information about industry custom, and so on.

Suppose my contracting partner and I agreed on the number fifty. Schwartz and Scott's central conclusion is that even if the larger base of information reduces my risk (say, makes it nearly certain that the court will decide on the number fifty, rather than something between thirty and seventy), using this larger base of information will not be worthwhile because of its costs: I'll have to introduce more evidence, contest more evidence, go through a longer trial, and pay my lawyers more. Given that I didn't care about the risk (formally, the variance) in the court's result in the first place, I would

33. For example, a risk-neutral party will be completely indifferent between receiving $1 and being told that it has a 50% chance of receiving $2.

34. Schwartz and Scott seem to suggest that their argument requires that courts reach the right particular result some of the time (i.e., "with positive probability"), Schwartz & Scott, supra note 7, at 574–75, but this assumption is not in fact necessary for their analysis, even in the case of continuous payoffs. It may be required if payoffs are to be imagined as truly "continuous," but a case where payoffs are continuous except that one intermediate value is impossible to reach is more properly treated under Schwartz and Scott's analysis like other continuous-payoff cases than like their discontinuous-payoff cases.

35. Id. at 572–73.

36. See id. at 576 ("As the permissible evidentiary base widens, each party has incentives to introduce more evidence and, in turn, will need to contest more evidence. Since trials are expensive, risk-neutral firms [prefer courts to use less information].").
prefer not to pay to reduce it. Instead, I'd prefer the minimal evidentiary base. This, of course, is specifically an argument for the court to be rationally ignorant: what Schwartz and Scott are saying is that the court will maximize value for the parties, all things considered, if it relies on less information rather than more information.37

Schwartz and Scott, accordingly, defend the use of the "minimum evidentiary base." This base is not, of course, the absolute minimum we might use. For example, we could truly minimize adjudication costs by having courts flip a coin to reach a decision. But Schwartz and Scott suggest that the informational base they describe provides the minimal evidence necessary for courts' interpretations to average at the correct interpretation of the contract.38 That is, courts are taken to be unbiased in general, and if they are supplied with the contract text, a dictionary, and the parties' claims about the history of performance—and if they're allowed to use their own background knowledge—then Schwartz and Scott believe that courts will, on average, reach the correct interpretation.39 Courts could, again, get closer to the correct interpretation more often if they used more evidence, but risk-neutral parties care only about the average value of the court's interpretation. Thus, Schwartz and Scott purport to show that courts should not look beyond the "minimum evidentiary base."

But Schwartz and Scott's argument—a useful and clear statement of the best modern formalist insights on the topic—fails for at least three subtle reasons. First, it depends on assumptions that superficially seem unobjectionable but are essentially impossible; to say this differently, the limitations they place on their argument essentially rule out its applicability to any real cases. Second, even correcting for this deficiency, the argument confuses probability with uncertainty and as a result is almost entirely circular. Third, by focusing only on litigated disputes, Schwartz and Scott's argument implicitly imagines that settlement between parties is impossible; accounting for settlements, however, suggests that if Schwartz and Scott's model were

37. Schwartz and Scott's iteration of economic formalism differs in an important respect from an earlier view that assumed that formalism promoted a traditional kind of "certainty" in legal results and thereby decreased the variance of the outcome. See, e.g., Robert E. Scott, The Case for Formalism in Relational Contract, 94 NW. U. L. REV. 847, 848 (2000) ("[A] rigorous application of the common-law plain meaning and parol evidence rules [would] preserve the value of predictable interpretation . . . ."). I take Schwartz and Scott, in the analysis to which I respond here, to be attempting to defend formalism even assuming the validity of arguments that interpretive formalism does not promote greater certainty. See generally, e.g., Stanley Fish, There Is No Textualist Position, 42 SAN DIEGO L. REV. 629 (2005).

38. Perhaps importantly, Schwartz and Scott do not state the argument this way, but this is what they must mean. They instead make this assumption implicit and devote their energy to defending the assertion that courts will sometimes find the correct meaning and that, being unbiased, they will not veer from it in one direction more than in the other. See Schwartz & Scott, supra note 7, at 575–77. I elaborate infra on the distinction between these two views.

39. Id. at 574–75.
The following three Parts address each of these weaknesses in greater detail: Part B explains why Schwartz and Scott's argument has trouble making predictions about real cases, Part C discusses the circularity caused by a conflation of probability with uncertainty, and Part D explores the role that the possibility of settlement plays in undermining Schwartz and Scott's argument.

B. The Relationship between Contractual Gaps and Interpretation

Schwartz and Scott firmly tie their argument to contract interpretation, and they aim for it to address only matters that the parties actually decided, not gaps in their contract—that is, questions that the parties never resolved—for which the court must supply new terms. Highlighting this limitation is not pedantic on my part; it is specifically what Schwartz and Scott have in mind. For example, they note explicitly that their formalist interpretive argument applies only to "cases in which the parties have attempted to solve their problem with written words." They continue: "The court, that is, is not called upon to fill gaps, but rather is asked to discover what the parties intended their written words to do." They observe further that courts "can only interpret what is said, so our analysis [has] assumed that the parties' writing was complete for the subjects at issue." Their aim is specifically to suggest that interpretive rules, which are not currently formalistic, ought to be more formalistic. Gaps, they argue, ought to be treated separately and perhaps not formally-a point to which I will return later.

In analyzing contract interpretation, then, Schwartz and Scott are considering cases in which the parties reached an actual agreement on an issue but have faced difficulty conveying that agreement to courts with written words. Of course, in these cases, we cannot treat Schwartz and Scott's numerical abstraction of contract interpretation literally; if parties agree on a particular number, they could of course simply write that number into the contract and eliminate any disagreement, barring unusual situations in which written numbers may be ambiguous. But that alone isn't fatal to Schwartz and

40. See id. at 568 n.50 (restricting the formalist interpretive argument to "cases in which the parties have attempted to solve their problem with written words [such that the court . . . is not called upon to fill gaps, but rather is asked to discover what the parties intended their written words to do.").
41. Id.
42. Id.
43. Id. at 594.
44. See, e.g., RESTATEMENT (SECOND) OF CONTRACTS § 201 (1981) (reasonable meaning of disputed contract terms prevails); id. § 202 (interpretation proceeds "in the light of all the circumstances" and in view of the parties' purpose); id. § 203(a) (reasonable interpretations favored).
45. Schwartz & Scott, supra note 7, at 568-73, 569 n.52.
46. Id. at 594-609.
47. These cases are not unheard of, but they generally involve disputes about how precise a
Scott’s argument.

What is fatal, at least to the particular view that Schwartz and Scott spell out, is that they make the following series of assumptions. First, they assume the parties considered, and reached agreement on, a specific potential conflict. (Otherwise, there would be a gap in the agreement, and the court would have to figure out what to do in circumstances the parties did not predict or decide to address.) Second, Schwartz and Scott assume that the parties thought the matter was important enough, and that litigation about the particular potential disagreement at issue was likely enough, that they attempted to address the potential conflict in their written agreement. (Again, without this assumption, the written agreement would have a gap, and the court would not be engaged in interpretation, as Schwartz and Scott define it.) Third, they assume that the language the parties used to address this specific disagreement nonetheless fails to resolve the very disagreement at issue. Fourth, they assume that despite this failing in the language, the parties have a shared, specific expectation in mind about the agreement, and they expect that the average interpretation by a court will, from the text and minimal additional information alone, have the same value as their shared, specific expectations.

To demonstrate how wildly unlikely it is that all these assumptions hold at once, in the same case, I will elaborate the example that Schwartz and Scott use: one in which the contract “requires the seller to prepare machines prior to delivery so as to minimize the buyer’s cost of adjusting the machines for their intended use” and where the parties eventually “disagree over whether the seller fully complied with its duty to prepare the machines.” So, for instance, suppose that the parties agreed that the seller would deliver a particular collection of 450 desktop PCs to the buyer’s office, with a particular set of software installed. For Schwartz and Scott’s four assumptions all to hold at once, we must imagine something like the following scenario: The buyer and seller agree that a collection of particular versions of software programs will be licensed and preinstalled on the PCs. The parties anticipate a specific future disagreement about the version or configuration of a specific program (say, an e-mail program), and they resolve this disagreement. They consider this issue important enough to write its solution into the contract; that is, at least one of

number was meant to be, not the numeric quantities that written numerals represent. See, e.g., S. Concrete Servs., Inc. v. Mableton Contractors, Inc., 407 F. Supp. 581, 582 (N.D. Ga. 1975) (a case, cited by Schwartz and Scott, in which the meaning of “‘approximately 70,000 cubic yards’ of concrete” was disputed). On the other hand, even a written number might be illegible or otherwise confusing. See Valente v. R.I. Lottery Comm’n, 544 A.2d 586, 587 (R.I. 1988) (“Photographs of the ticket at issue were introduced at trial. These photographs revealed that the numeral that plaintiff had stated ‘appeared to be a 1,’ was blurred and ambiguous.”); cf. Dowell v. Remmer, 254 N.Y.S.2d 457, 462 (N.Y. App. Div. 1964) (“The burden of proof was on the plaintiffs to establish that the hospital nurses gave Mrs. Dowell 175 milligrams of demerol instead of the 75 milligrams ordered by her doctor. The only evidence on which plaintiffs base their claim is a nurse’s entry on the labor record of the numeral 75 written over the numeral 100.”).

48. Schwartz & Scott, supra note 7, at 574.
the parties thinks that if they don’t write their solution into the contract, it might be hard to demonstrate in the future that the parties reached this particular agreement. Accordingly, they add terms to their written agreement that specify the obligation about the particular version or configuration of the e-mail program at issue, in view of the potential future disagreement they have in mind. The language, nonetheless, fails to resolve the disagreement that the parties specifically considered. There is, instead, a significant range of possible interpretations that a court might plausibly supply, instead of the particular agreement the parties reached (and insignificant variations thereof). Fortunately, however, the expected value of this range precisely matches the parties’ agreement.

Several elements are in tension in this unlikely scenario. Schwartz and Scott purport to address questions the parties actually decided, rather than contractual gaps, but then seem to ignore that the contract’s text is likely to be least ambiguous when it addresses specifically contemplated potential disagreements. In fact, if there is really no gap in the written contract on a particular issue the parties expected but ambiguity remains as to that issue, it means that the parties reached a decision that resolves the specific ambiguity on that issue, aimed to write the solution to that specific ambiguity into the written contract, but nonetheless used language that retains that specific ambiguity. This alone is unlikely as a general matter, but it is possible (and frequently reflected in litigated cases) because parties can always be sloppy, careless, or thoughtless in their language. But when this happens, Schwartz and Scott’s next assumption becomes extravagant: they assume that even in the case of language so sloppy that it fails to achieve its purpose of avoiding a very specific disagreement, courts’ expected (average) interpretation is the correct answer; that is, it happens to equal, exactly, the actual agreement of the parties.

My sense is that Schwartz and Scott may have overlooked precisely how much they have limited their argument in confining it to “interpretation” versus “gaps,” as if the two are meaningfully different. The general interpretive problem that courts face is not different for gaps and for “interpretive” questions; indeed, interpretive questions are only interpretive questions because the written contract contains some gap. If a distinction between the two problems is forced, we end up with the unlikely scenario I’ve just described, where language fails to do what it’s intended to do, but nonetheless where Schwartz and Scott need to assume that courts will on average reach the correct results.

Regardless, Schwartz and Scott seem genuinely to think that gaps are so different from interpretive problems that the same analysis can’t apply to them. Gap filling, for Schwartz and Scott, is a different activity that should generally be resolved either by “dismiss[ing] a case on the ground that a contract is too indefinite to enforce, or . . . read[ing] the contract to reach a reasonable
result." To assume all contracting firms prefer that their contracts be potentially unenforceable (because those contracts are necessarily incomplete and contain some gaps) requires a leap of faith, and Schwartz and Scott do not justify that result. Reaching a "reasonable" result is, on the other hand, exactly what the existing rules, which are not formalist, aim to do.

In any event, even if the distinction between gaps and interpretation is analytically coherent, it is far from clear that courts can, at the time of litigation, discern the difference between gaps and interpretive questions. All that remains at litigation, in both cases, is language that appears not to answer the particular question the parties have raised. Even if the contracting parties originally could have distinguished gaps from interpretive questions, it is unlikely that courts can reconstruct this difference from written text alone.

C. Two Meanings of "Bias," and Sleight of Hand

To interpret Schwartz and Scott’s argument generously, I’m going to avoid relying exclusively on the difficulty of separating interpretive questions from gap-filling endeavors. That is, I will suppose, for argument’s sake, that Schwartz and Scott’s argument is meant generally for situations in which courts have to read some result into a contract whose text (plus other features of the

49. Id. at 609.
50. See generally Oliver Hart, Firms, Contracts, and Financial Structures (1995). Amir Licht puts it nicely:
   In contrast to what some scholars and courts may have believed in the past, commercial relationships between corporations and their creditors can never be ‘exhaustively documented’ in a contract. The complete contingent contract—namely, the contract that defines the parties’ rights and entitlements in every future contingency—is impossible to achieve.
51. See Schwartz & Scott, supra note 7, at 568 n.50.
52. Recall that the interpretative situation Schwartz and Scott have in mind is one in which the parties anticipate a specific disagreement but find written language inadequate to the task of conveying their solution to that specific disagreement. It is possible that the unstated prominence of this situation for Schwartz and Scott comes from their familiarity with what economists call contract theory, which has come to emphasize the possibility that information will be known by both parties but impossible to prove to courts. See, e.g., Robert E. Scott & George G. Triantis, Incomplete Contracts and the Theory of Contract Design, 56 Case W. Res. L. Rev. 187, 191 (2005) (“Over the past twenty years or so, back-end obstacles have driven a large body of the theorists’ models: namely, that some states of the world are not verifiable to a court, even though they may be observable to both the parties.”).

A way to state the fundamental tension in Schwartz and Scott’s argument in terms of contract theory is as follows: the argument appears to assume that written text can both (1) have a particular expected value observable ex ante to two commercial parties using a well-known language and (2) nonetheless retain ambiguity because this expected value is not verifiable to a court (at least without information beyond the “minimum evidentiary base”). But it is unclear why this would be so—that is, why parties have access to information about what courts will do (in response to written text in a well-known language) that courts themselves do not have. There are several possible ways to address this tension, but they likely require additional assumptions on Schwartz and Scott’s part that would further limit the scope of their argument.
"minimal evidentiary base") doesn’t absolutely dictate that result, whether we call this activity "gap filling" or "interpretation." Even so, Schwartz and Scott’s argument suffers from a deep problem that is essentially a conceptual mathematical error. By conflating different notions of "bias" and by assuming that very specific probability distributions apply to the courts’ results in the cases they are considering, they more or less assume the result that they set out to demonstrate.

The central assumption that Schwartz and Scott make is that courts’ average expected interpretive result will be the correct one. By referring to the "correct" result, I mean the one that the parties originally wanted (or perhaps would have wanted, given my extension of Schwartz and Scott’s argument). Simply put, there is no reason to suppose that this is correct; Schwartz and Scott justify the assumption by what amounts to sleight of hand.

Schwartz and Scott defend the notion that courts’ expected result is the correct result by saying that “there is no reason to believe that courts will systematically deviate from the correct answer . . . in ways that are more or less favorable to particular parties or classes of firms.” This justification appears to confuse a casual definition of the word “bias” with a formal statistical definition of it. Even if we suppose that a court is not systematically prone to favor one party or kind of party over another, that supposition does not compel the conclusion that the meaning the court supplies to a contract will average at the particular meaning the parties previously reached.

There are several problems with viewing the “correct” meaning this way, however, even accepting for argument’s sake that expressions can have objective meanings. Most simply, the two justifications Schwartz and Scott offer for courts’ pursuit of “correct” interpretations support a subjective understanding of intent rather than an objective one (and suggest that they really have subjective agreements in mind). Schwartz and Scott say that courts should aim to reach correct interpretations because (1) courts should hold a contracting person to do only “what he had agreed to do,” and (2) maximizing contracting surplus “is unattainable if courts fail to enforce the parties’ solution but rather impose some other solution[, and courts should therefore] ascertain the solution that the parties actually adopted.”

More fundamentally for my purposes here, a defense of formalism approaches circularity if it assumes that the right target of contractual interpretation is the objective meaning of the parties’ expressions. In other words, if Schwartz and Scott’s argument is that courts ought to act formalistically because courts axiomatically ought to pursue a roughly formalist goal, there is little else for critics of the argument to do but reject the axiom.


54. Schwartz & Scott, supra note 7, at 575.
1. The Central Unjustified Assumption

To see why this is so, consider the following situation, embracing Schwartz and Scott's abstraction of courts' interpretive decisions to points on a number line. We are told that a court is going to pick some number from among all whole numbers (that is, from the range of numbers that looks like 

\[ \ldots -3, -2, -1, 0, 1, 2, 3 \ldots \] 

where both ends extend to infinity). Furthermore, we are told that there is no more reason to suppose this number will be greater than fifty rather than less than fifty. From this, it might be tempting to conclude that the expected value of the number the court will pick is fifty. After all, if we have no reason to suppose that the court’s number will be higher or lower than fifty, then it seems like each possibility is equally likely in fully symmetric ways, and thus the average value appears to be fifty. Reasoning in this way, however, is fallacious. Just because we have no reason to believe that the court’s number is more likely to be greater than fifty than it is to be less than fifty, and vice versa, does not mean that the expected value of the court’s number is fifty. Consider that we might also have no reason to believe the number is going to be higher or lower than sixty, or seventy, or any other given number.

Simply put, the mere lack of a suspicion of "bias" tells us nothing, alone, about expected values. We need some affirmative reason to think the average decision will be the correct one; otherwise, we could pick any other possible decision and still say: “The court has no systematic reason to veer up or down from this decision.” Knowledge of expected values depends on knowledge of the likelihoods of the various possible outcomes; we cannot, from mere uncertainty, determine specific expectations. As economic commentators have nicely put it:

Uncertainty is not equatable with risk [or probability]. Risk implies the existence of (and the knowledge of) a definable numerical series, the constituents of which can be identified and discounted. . . . Risk relates to knowledge of the appropriate probability distribution; uncertainty implies that we do not know whether any such distribution exists, and that in fact it may not exist.

55. Id.

56. There is a rich literature on the distinction between probability and uncertainty, but that doesn't stop commentators from assuming that probability distributions are known when they are not. See, e.g., Mark Perlman & Charles R. McCann, Jr., Varieties of Uncertainty, in UNCERTAINTY IN ECONOMIC THOUGHT 9 (Christian Schmidt ed., 1996) (summarizing several approaches to uncertainty); cf. Paul Davidson, Some Misunderstanding on Uncertainty in Modern Classical Economics, in UNCERTAINTY IN ECONOMIC THOUGHT 21, 28 (Christian Schmidt ed., 1996) (“The current fad in mainstream economics is to argue as if all economic observations are part of time series realizations generated by stochastic processes.”); see generally, FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT (1921).

57. Perlman & McCann, Jr., supra note 56, at 11–12.
In other words, in cases of pure uncertainty, there are simply no probability distributions to deal with and thus no way to compute expected values sensibly. How much would you pay for a chance at some amount of money, to be determined by an undisclosed procedure? Is there a God? Do we exist in a computer simulation?\(^{58}\) The answers to questions like these are at best subject to rough *speculation* in subjective probabilistic terms, where probability distributions might be proposed and debated by people with particular intuitions, particular scientific understandings, different experiences with the world, and so forth.\(^{59}\) But they are not subject to definite probabilistic analysis, as if a known expected value can be computed. Squarely and honestly recognizing uncertainty requires that we avoid resting arguments on the assumption that all uncertainty can be modeled by particular probability distributions. Just because the conflation between probability and uncertainty is convenient does not make it correct.\(^{60}\)

2. Assumptions Regarding Probability Distributions in General

In considering what you’d rationally pay for a chance at an amount of money to be determined by an undisclosed procedure, infinities come into play and may obscure the analysis. In considering all possible sums of money, ranging in at least one direction toward infinity, there is no midpoint to speak of and thus not even a way to begin fixating on any potential “average” in the abstract, in any sense.

But even when there is a midpoint—that is, even when (as perhaps is usual) there are upper and lower limits on the possible outcomes of a case—that alone, too, is insufficient to justify an assumption that the midpoint is the expected value. For one thing, medians (midpoints) routinely differ from means in many kinds of distributions. More generally, it would require specific knowledge, or at least a specific assumption, to associate the midpoint of a

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59. Strictly speaking, determining the expected value of a random variable requires knowing the expected distribution of that variable—that is, the range of possible values and their probabilities. *See Thomas M. Cover & Joy A. Thomas, Elements of Information Theory* 13 (1991). These expectations may be subject, of course, to subjective probabilistic beliefs, determined by intuition and background knowledge, but in the abstract they cannot be derived from scratch.

60. It is worth pointing out that neutrality to risk does not necessarily imply neutrality toward uncertainty. *Cf.* Daniel Ellsberg, *Risk, Ambiguity, and the Savage Axioms*, 75 Q.J. Econ. 643, 646 (1961) (proposing that individuals might not ignore uncertainty). Another response to Schwartz and Scott’s argument, then, is that even risk-neutral firms may not be uncertainty-neutral. It is reasonable to imagine managers of risk-neutral enterprises preferring certainty to uncertainty on behalf of the enterprise, and to be willing to pay something for this, particularly given that nobody is really risk-neutral if the stakes are large enough: even the most rational firms are not risk-neutral with respect to life-or-death decisions for the firm, and pure uncertainty may imply that there is an opportunity for significantly negative results (or may at least make it impossible to rule out those results).
To illustrate, imagine that we know that in a particular contract case, the court isn’t really considering awarding all possible measures of damages. Suppose instead that the terms of a case make it so that the only reasonably expected range for damages is $20,000–$60,000. In that case, it may superficially seem reasonable to suppose that the expected value of damages—assuming we know nothing more than the range—is $40,000, the average of the upper and lower limits. In some cases that may well be the expected value, but accepting it as a particular expectation requires a further specific assumption—for instance, that all values within the range are equally likely to occur.

However, if it is not known that all values within a range are equally likely, merely assuming that they are is not helpful (or required by any kind of rationality or risk-neutrality). For instance, if you’re told nothing other than that there are two possible outcomes of an abstract event, reason alone does not require that you assume the likelihood of each possibility is 50%. In fact, with pure uncertainty, 50% is just as arbitrary a bet as any other number. You might as well estimate probabilities purely on intuition, or make an entirely arbitrary guess. If you really don’t know what the likelihood is of either of the two events, there is simply nothing more to say about the probabilities of those two events. The probabilities are unknown.

Indeed, in evaluating economic choices under conditions of pure uncertainty, it is better to say that there is no expected value than that the expected value is the average of possible cases’ values. For example, suppose you’re given the opportunity to participate, at a cost of $14, in a game in which you’re told you’ll be given either $10 or $20, as chosen by an undisclosed procedure. Assuming you’re risk-neutral, is it rationally required for you to pay $14 for the bet, given that the average of the two possible outcomes is $15? It may seem intuitive to think so, perhaps because many people have been conditioned to treat cases like this as if they’re governed by probabilities. In fact, people do tend to suppose that, without knowing more, it’s appropriate to say that the probability of each of the two possibilities (here $10 and $20) is 50%. But this simply isn’t true. It is not irrational even for a risk-neutral party to turn down the bet. Without knowing or assuming more about the

61 This sort of reasoning may lead to results that appear counterintuitive. For example, suppose you have a choice between two alternatives. In one case, you’re told you might be given either $10 or $20, to be decided by an undisclosed procedure. In the other case, you’re told you might be given either $5 or $21, by another undisclosed procedure. Should you choose the first case over the second case just because the values average to $15 instead of $13? It may seem natural to do so, but this is probably only because we generally have intuitions that uncertainty never governs a case entirely—that is, that what’s stated as uncertainty actually contains an element of probability too, so that we assume (for instance) that the two possibilities in each case are roughly equally likely (or that all the possible probability distributions favoring either direction somehow cancel out). But in fact, in cases of true uncertainty, you have no reason to pick one case over the other. You would not be irrational simply to flip a coin or to make an arbitrary decision between the two cases. One way of making an arbitrary decision would be to
probabilities of each possible outcome, the bet has no expected value.62 Therefore you have little reason to play or not to play; you might as well make the decision arbitrarily, or decide based on some methodology other than a rational calculation of the odds.63

The point of this admittedly abstract example is to suggest that there is no reason, theoretically or by default, to assume that events with truly unknown probabilities are equally likely to occur. Similarly, it is not always correct to assume that unknown data spreads evenly through a range of possible values, as in the sample contract case I mentioned earlier, where the possible damages range from $20,000 to $60,000. In some cases (as with truly random data), values might indeed be expected to spread evenly through the range. In others, the data may fit a normal distribution (a bell curve). But sometimes, and perhaps often, it might conform to neither of those preconceived templates, in which case computing the expected value of the distribution—that is, the weighted average—requires much more information than the endpoints of a range.

For instance, suppose we need to determine the weighted average speed at which manmade vehicles are operated and that all we know is that, on one end of the spectrum, there are scooters that move at about 20 miles per hour and that, on the other hand, there are rocket ships that move at about 20,000 miles per hour. It would be wrong to assume from this information that the weighted average speed of manmade vehicles is the average of the two ends of the spectrum that we’re aware of—in this case, 10,010 miles per hour. The result, on just the information we’re given, is simply uncertain; we don’t have enough information to answer the question, knowing only the range of possible values. If we’re forced to make a decision, choosing the midpoint is not specifically more problematic than any other alternative, but it also has nothing specially to recommend it, except perhaps intuitions that we know more than we initially thought we did about the probability distribution at issue. For example, we might decide that we have some reason to think, perhaps based just on background experience, that normal distributions occur more frequently in problems like these than other sorts of distributions.64

62. We do know, however, that if an expected value exists, it must be between $10 and $20, inclusive. More to the point, the result must be either $10 or $20. Accordingly, a rational, risk-neutral party ought not to turn down the bet if it costs $10 or less, and certainly ought to turn it down if it costs $20 or more.

63. In practice, it may well be reasonable to be averse to uncertainty when facing artificially constructed bets like this because in the real world, blatantly stated uncertainty may be intended to obscure bad faith or other sorts of practices adverse to the bettor. Cf. Deborah Frisch & Jonathan Baron, Ambiguity and Rationality, 1 J. BEHAV. DECISION MAKING 149, 152–53 (1988) (offering several reasons people may avoid uncertainty).

64. Bell curves—normal distributions—have wide applications in many fields, ranging
Given real uncertainty, there are a variety of approaches we can adopt to predict litigation outcomes. We can, like Schwartz and Scott, introduce a new assumption that the distribution of the values that we’re interested in happens to conform to a bell curve, or another similar shape that centers on the midpoint of an expected range. But for this to be a plausible approach, we need some reason to make this assumption. Thus, for Schwartz and Scott’s argument in favor of formalist contract interpretation to be correct on its own terms, we need to recharacterize its central assumption. It is not sufficient merely for courts to be “unbiased.” Instead, institutional considerations about courts in general, or courts interpreting contracts in particular, must lead us to believe that in cases where parties present alternative interpretations of a written contract, the court’s expected holding will average exactly to the ex ante agreement of the parties. This assumption seems heroic and implausible as a general matter, and I consider reasons it is specifically unlikely to be true in the next Section.

3. Expected Values and Probability Distributions in Contract-Interpretation Cases

In the prior Section, I showed that in the abstract, there is no justification for assuming the particular probability distribution that Schwartz and Scott assume. That is, on its own formal terms alone, the argument is unjustified. But of course we’re not limited to pure mathematical models in trying to predict the outcome of contract cases; we can draw on experience with and knowledge about courts and contract cases in doing so. In the cases Schwartz and Scott have in mind, however, practical and institutional considerations about courts and contract cases strongly suggest that courts employing the “minimum evidentiary base” will not, on average, reach the correct result.

In contract-interpretation cases generally, we have no practical reason to imagine that courts will center on precisely the result that the parties originally had in mind. Schwartz and Scott occasionally seem to recognize this point; for instance, they observe in a somewhat different context that, if a party unduly persuades a court that an incorrect result is correct, the court’s result could be anything at all, rather than settling on a specific average that the parties had in mind:

For example, assume a contract uses the word “red,” and a disappointed party persuades the court, wrongly, that the contract

from pure mathematics and physics to psychology and natural science, because they happen to fit a variety of data well. There are sound theoretical reasons for this (simply put, it is the shape that results, given certain assumptions, from the additive combination of independent random selections of values), but it is wrong to assume without more that an unknown distribution is necessarily normal. See ENDERS A. ROBINSON, STATISTICAL REASONING AND DECISION MAKING 61 (1981) (“Despite [the] seeming universality of the normal distribution, we cannot expect it to apply to every measurement . . . . ”).
was written in a private language in which the word "red" meant "green." Both red and green are vague. In this example, the space of possible judicial interpretations would center around some instance of the concept "green," but the court here could not be right on average. It would be attempting to find the correct shade of green while the parties, ex ante, wanted a court to find the correct shade of red. When courts are mistaken regarding the contract's language, their constructions must be inefficient....

It is exceedingly difficult to construct a principled basis that allows Schwartz and Scott to separate the two cases—that is, to differentiate ordinary interpretative inquiries from those in which a court has been inappropriately persuaded by a party of an incorrect interpretation. Schwartz and Scott reach the two cases differently: in one case, they imagine that courts are interpreting a well-known word; in the other, they imagine that the very choice of an interpretive language is at stake, and choosing the wrong language (for instance, a private language of the parties as opposed to what Schwartz and Scott call "majority-talk") will dictate the wrong result. But of course, the only difference here is a question of which particular framing is adopted: we could ask both (1) why, in the case of ordinary interpretation, a court might not be incorrectly persuaded by one of the parties, after which the result will necessarily be wrong and (2) why, in the case of language selection, we don't begin our analysis prior to the point that the court has been led down an erroneous path.

In any event, regardless of how the inquiry is framed, there is simply no reason to suppose that the average result (when using just the written text of agreements and other components of the minimal evidentiary base) will be the correct result. Schwartz and Scott's only justification for this proposition is that contracting parties know that if their contracts are too vague, the "mean [interpretation] could be anywhere." To ensure that the expected interpretation is knowable rather than unknown, "firms will attempt to write contracts with sufficient clarity to permit courts to find correct answers, though with error." As noted briefly earlier, Schwartz and Scott seem to be aiming to justify only the assumption that courts can find the correct interpretation using the minimal evidentiary base (which, recall, includes the contract's written text, a narrative of the contract's performance, a dictionary, and general background knowledge). This may well be true. But they offer no real justification for the proposition that the correct interpretation will be at the weighted center of the probability distribution they imagine will characterize

65. Schwartz & Scott, supra note 7, at 587.
66. Id. at 586.
67. Id. at 577.
68. Id.
69. See supra note 35.
courts' decisions. Thus, they more or less assume their conclusion: their argument is essentially that if formalist textual interpretation is good enough to reach correct interpretations on average, then it is good enough.

There are several reasons to suppose that, in fact, parties' incentives to draft agreements carefully are insufficient to ensure that adjudication based on the minimal evidentiary base will allow courts' decisions to average to the parties' real agreement. Indeed, these incentives seem mostly irrelevant in the cases Schwartz and Scott have in mind. For cases in which courts need to construct meaning—either for poorly chosen language or gaps—whatever incentives the parties had to draft their contract carefully were already insufficient to avoid the lack of clarity that led to litigation. Such cases are not especially susceptible to a suggestion that "[i]t is optimal for risk-neutral firms to invest resources in drafting until the writing is sufficiently clear, in an objective sense, so that the mean of the distribution of possible judicial interpretations is the correct interpretation." There may simply be a limit to the effectiveness of incentives to draft language carefully. Moreover, it is hard to imagine that contracting parties have precisely enough of an incentive to draft language carefully enough so that courts' average interpretation will be correct but not carefully enough to avoid the dispute in the first place.

As a more general matter, even if it were sometimes true that commentators could agree on a specific expected distribution of interpretive responses to text by a court, it is systematically unlikely to be true in contract cases, particularly in the kind of contract cases Schwartz and Scott have in mind. For contract cases generally, compared to accident-law or criminal cases, there is little opportunity to aggregate repeated "runs" of the very similar cases in order to build a reliable probability distribution. For the specific kinds of cases Schwartz and Scott have in mind, in which parties intend for language to mean something specific but the language simply fails to achieve its purpose in ways the parties couldn't expect, there is no reason to believe the court can, from this erroneous or sloppy language alone, reach interpretations that average

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70. Schwartz & Scott, supra note 7, at 577.
71. Drafting, moreover, has a cost that is certain—whereas litigation's cost is presumed to be small (because it must be discounted by the likelihood of litigation) at the time the contract is drafted. Indeed, the increased drafting costs under Schwartz and Scott's suggested formalist approach may well be greater ex ante, in an expected-value sense, than the extra costs associated with more accurate contract interpretation during litigation.

Similarly, formalism can encourage too much precaution in drafting, and it also might promote sharp drafting practices in bad faith by parties that hope to slip apparently irrelevant text past their counterparts (which in turn promotes further precaution in drafting), perhaps to introduce new clauses where the likelihood of a particular kind of potential sloppiness in drafting might be expected to bias in one's favor, and so on.

72. Cf. Perlman & McCann, Jr., supra note 56, at 12 ("[O]ne kind of uncertainty stresses the absence of enough experiences which will yield a stable probability function. Given sufficient cases, a distribution can usually be found; but just how many cases (how much 'experience') is required cannot be known a priori.").
to the correct decision. Indeed, sloppy language is an especially poor candidate for text that, standing more or less alone, can produce a correct meaning on average.

A related point is that in cases involving sloppy language, which largely approach "mistake" cases, the cost of correcting a contract that is before the court is likely to be small. The solution will probably not require complicated evidence; instead, straightforward facts about how the term in the contract fails to achieve the parties' intent will likely suffice. This is because sloppy language is likely to be the result of a lapse, or mechanical error.\footnote{Cf. Cooter & Ulen, supra note 2, at 354 (discussing "lapses"); Melvin A. Eisenberg, Mistake in Contract Law, 91 CALIF. L. REV. 1573, 1584 (2003) (defining "mechanical errors" in "mistake" cases as "physical or intellectual blunders that result from transient errors in the mechanics of an actor's internal machinery ... ").} It is possible for such a lapse to result in unintended language that the parties could nonetheless plausibly have agreed on (thus making the error more difficult to demonstrate), but given that such plausible agreements are a small set of all possible uses of language, it is more likely that the lapse will be evident and easily correctible.\footnote{See Cover & Thomas, supra note 59, at 209–11 (discussing formal models of error correction).}

To summarize, whether we are faced with (1) sloppy language that we know failed to reflect the agreement of the parties or (2) a contract provision that is so vague that a court must fill the gap, it seems particularly unlikely that the court's interpretations will average to precisely the right answer from the text (and other minimal evidence) alone.

D. The Possibility of Settlement

Schwartz and Scott's argument fails for an independent reason: even assuming its various assumptions were correct and that its model of probability held, it fails to take into account the incentives to settle cases that different legal rules might create. Schwartz and Scott paint the following picture of the costs and benefits of considering information beyond the "minimum evidentiary base" when interpreting contracts:

As the evidentiary base approaches $B_{\text{max}}$ [the maximal evidentiary base, which includes testimony about industry custom and many other sorts of information], the variance in the [court's] error . . . approaches zero. A risk-neutral party cares about the mean of the interpretation distribution but not the variance. This is because the variance term measures risk while risk-neutral parties are indifferent to risk. Therefore, it is enough for a risk-neutral firm that the expected interpretation . . . equals the correct interpretation . . . . Put another way, a firm's preference at contract time is to have courts make interpretations on the minimum evidentiary base unless it would be
costless to widen the base. But it is not costless.\textsuperscript{75}

In other words, Schwartz and Scott's central aim, in discussing contract interpretation, is to show that even if more evidence tends toward theoretically perfect interpretive results, risk-neutral contracting firms will prefer that a minimal evidentiary base be used, in order to save on costs once litigation has begun.

Such an analysis, however, fails to consider how parties might respond to a legal rule in which the evidence that they expect will be introduced will lead to a better interpretive result (or a narrower range of possible results). To begin with, it is important to emphasize again that, in Schwartz and Scott's model, the "correct" interpretive result is something the parties had in mind when they initially reached their agreement.\textsuperscript{76} This follows from the fact that they reached a specific agreement on the issue in question, and Schwartz and Scott also state it as an explicit assumption: parties need to have a particular expected average interpretive result in mind for Schwartz and Scott's analysis to work at all.\textsuperscript{77} Thus, we can reasonably suppose that at the time of litigation, both parties still know what the theoretically correct interpretive result is. This result favors one party: the Ideal Winner, whose conduct conforms to the agreed-upon terms of the contract. The other party, the Ideal Loser, stands to benefit only if it can fool the court into adopting an alternative (incorrect) interpretation.\textsuperscript{78}

But assuming that the parties can introduce information from the maximal evidentiary base, we have—by Schwartz and Scott's hypothesis—a situation where the court is expected to reach the correct result, or at least an interpretation very near the correct result. In this situation, the Ideal Winner and the Ideal Loser face a relatively simple antagonistic game: the Ideal Loser can try to introduce evidence that skews the decision in his direction, but he knows that if he does this, the Ideal Winner can attempt to introduce further evidence so that the court has all it needs to reach the correct result.\textsuperscript{79} Thus, in a litigation setting that permits the introduction of maximal evidence, the Ideal Loser

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\textsuperscript{75} Schwartz & Scott, \textit{supra} note 7, at 576.
\textsuperscript{76} Even if saying that an interpretation is "correct" means something else—\textit{cf.} \textit{supra} note 53—my analysis here depends only on the ability for parties to know what the "correct" result is. This ability is a cornerstone of Schwartz and Scott's argument: without it, the parties have no expected interpretive result from which Schwartz and Scott can derive the parties' preference for the minimal evidentiary base in the first place.
\textsuperscript{77} See, e.g., Schwartz & Scott, \textit{supra} note 7, at 574.
\textsuperscript{78} "Winner" and "loser" refer here to litigation positions; the point isn't that the contract favored one "winning" party overall ex ante, but that it favors one party's interpretive position ex post.
\textsuperscript{79} This could be explained in more formal terms with payoff matrices, but ordinarily such formalization is unnecessary. For the leading economic perspective on settlement and litigation, which is consistent with my analysis in this Section, see George L. Priest & Benjamin Klein, \textit{The Selection of Disputes for Litigation}, 13 J. LEGAL. STUD. 1, 6-17 (1984). As Priest and Klein recognize: "In litigation, as in gambling, agreement over the outcome leads parties to drop out." \textit{Id.} at 17.
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knows he cannot win, at least as long as the Ideal Winner is paying attention.  

At best, the Ideal Loser can force the Ideal Winner to incur some additional litigation expenses. But that strategy would cost the Ideal Loser something too—in fact, probably roughly the same amount. As a result, when all evidence may be heard, Schwartz and Scott's model should predict that rational parties will settle on the interpretive issue in question: the result of the dispute is (according to Schwartz and Scott) nearly certain, and the parties have little reason to incur litigation expenses just to find out what they already know.

If the parties can perfectly estimate the court's expected interpretations on the minimal evidentiary base (as Schwartz and Scott assume), we would expect them to settle as well, assuming (as Schwartz and Scott also do) that the parties are both rational and risk-neutral. Thus, at best, there is no difference between formalist and non-formalist legal rules; we would expect rational, risk-neutral parties to settle in all cases.

If, however, we allow for the possibility that the parties will fail to settle, perhaps because some transaction costs associated with settlement are large (maybe the parties, though otherwise rational, simply don't like one another) or because at least one of the parties is irrationally optimistic about his chances of getting a favorable ("biased") interpretation from the court, then we would expect a rule that allows the maximal evidentiary base to be systematically better that one that allows smaller bases. This is because, as the variance in the court's expected result decreases, there is simply less to be unduly optimistic about; the expected result is more certain, and there is systematically less reason to litigate.

If this argument seems naggingly facile, it is probably because its purpose is only to respond to an argument that by its own terms sets rules for litigation

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80. Strictly speaking, the Ideal Loser would need to expect the Ideal Winner to be rational—an assumption that is not always correct, but one that we can take for granted here since Schwartz and Scott's argument depends thoroughly on the rationality and risk-neutrality of firms that enter into contracts with one another.

81. It is possible for the expected costs of litigation between the parties (or other features of the situation, like the parties' relative resources to devote to litigation and their ability to externalize litigation costs) to be skewed such that the Ideal Loser has an incentive to threaten to introduce evidence just to require the Ideal Winner to incur greater settlement costs, and thus to extract a larger surplus from settlement. See Cooter & Ulen, supra note 2, at 446-47 (describing how differences in the parties' litigation costs can distort incentives to settle lawsuits). However, this possibility is unlikely to be significant in the cases Schwartz and Scott describe: both parties are firms and are litigating the same contract. In any event, Schwartz and Scott aim for their model to apply generally, not only when a variety of further specific assumptions regarding the litigation environment hold.

Similarly, my discussion of settlement assumes that parties have access to roughly symmetric information regarding the litigation; this, too, should be an unobjectionable assumption given the intended scope of Schwartz and Scott's argument.

82. See id. at 443-46 (arguing that fully rational parties facing the same litigation costs will fail to settle lawsuits only when at least one is unduly optimistic, a situation that cannot occur if the result is nearly certain).
under which litigation ought, by the argument's assumptions, never to occur.\textsuperscript{83} In responding in this way, I don't mean to suggest that interpretive rules that are sensitive to a wide range of evidence ordinarily do, in fact, encourage settlement. I have little reason to think such rules particularly would or wouldn't do so. My observation is only that following through on Schwartz and Scott's own assumptions leads either to a situation in which litigation never occurs or one in which the formalist rule they propose is systematically worse than its alternative.

\textbf{E. Summary}

Schwartz and Scott purport to show that at least when parties to a contract are firms, rather than individuals, they will prefer that courts interpret contracts using only the text of written agreements, a history of performance, a dictionary, and some basic background knowledge.\textsuperscript{84} Given this preference, Schwartz and Scott maintain that courts should oblige: doing so will maximize the surplus for the parties. In short, Schwartz and Scott's discussion of formalistic contract interpretation is a nicely representative argument for rational ignorance on the part of courts: their argument is that the costs of processing additional information outweigh the benefits of doing so.

In some sense, Schwartz and Scott's discussion is intended simply as a prediction of preferences among contracting firms: "Typical firms prefer courts to make interpretations on a narrow evidentiary base whose most significant component is the written contract."\textsuperscript{85} In addition to making their prediction through formal analysis, they also suggest that it is empirically true: "There is considerable evidence that firms prefer a formalist adjudicatory style."\textsuperscript{86} To support this claim, however, Schwartz and Scott point to nothing more than two articles written by Lisa Bernstein, another proponent of formalism.\textsuperscript{87} The cited references\textsuperscript{88} draw from individual case studies of close-knit industries with private adjudicators who, it turns out, seem sometimes to follow industry customs and are thus not really formalist or textualist after all.\textsuperscript{89}

\textsuperscript{83.} Schwartz and Scott note that their argument "begin[s] at the litigation stage," Schwartz & Scott, supra note 7, at 574, but they never evaluate this arbitrary starting point for the analysis or consider any incentives on parties prior to litigation.

\textsuperscript{84.} See id. at 573 ("[F]irms [that this set of cases describes] prefer courts to make interpretations on the minimum evidentiary base . . . except in unusual circumstances.").

\textsuperscript{85.} Id. at 569.

\textsuperscript{86.} Id. at 576 n.66.

\textsuperscript{87.} Id.


\textsuperscript{89.} See Bernstein, Merchant Law, supra note 88, at 1780. As Barak Richman has shown, informal communities may also operate with informal contracts and large reputational sanctions, and they may best be explained with models that accommodate behavior beyond "simple profit
Schwartz and Scott have thus done nothing more, it seems, than to choose an evidentiary base that corresponds to textual formalism and then to assert without justification that reliance on this base will produce the correct result on average. In form, a similar argument could be made that risk-neutral firms would prefer a coin flip to a court trial, or that they would prefer no remedy at all in the event of breach (if the likelihood of being a plaintiff is the same as the likelihood of being a defendant). But failing to allow lawsuits—like deciding questions with a coin flip—gives parties perverse incentives. If lawsuits are not permitted, then the instrumental benefits of contract law, which creates value by allowing parties to make credible commitments, is lost. If all interpretive disputes are decided by coin flips, then parties have incentives to raise disputes even when they have no merit. These problems suggest the futility of enforcing such things as sloppy contractual language even when there is no plausible chance a court can reconstruct the parties’ agreement by relying on it alone.

To summarize this somewhat differently, suppose that the possible results of a case range, on a number line, between zero and one hundred. To assume that all results are equally likely, or even that fifty is the mean of the possible results, requires a specific assumption: that the arguments will be roughly in equipoise. If two contracting parties agreed that they would have just one dispute, on a particular issue where it was clear at the outset that the arguments were equally compelling, Schwartz and Scott’s model might work. Instead, the contracting parties have little idea what particular disputes will arise, and they have no reason to imagine anything ex ante about the adjudicator’s interpretive mean. Perhaps they imagine their written language is so good that it admits of little ambiguity, but this confidence is belied by the fact that the language had a specific purpose and failed to achieve that specific purpose.

CONCLUSION

Formalism’s economic advantages are illusory. At least, they cannot easily be derived from simple formulas, or pronounced after considering only a lofty abstraction of cases. Modern economic formalism, as set forth so far, is essentially an argument for a rigid kind of rational ignorance and rational closed-mindedness gone wrong, and it fails to achieve even its welfarist goals.

Of course, in criticizing one leading formalist argument in detail, it is not my intent to establish that all arguments for formalism necessarily fail—and particularly not to demonstrate that they all fail for the same reasons. Schwartz and Scott’s argument is essentially an attempt to demonstrate firms’ preferences deductively, and my response is merely that the deduction does not work—and that purely formal deductions are unlikely to be helpful here. Some kinds of firms may well, in some situations, prefer formalist interpretive rules.

If we could be confident of their preferences through empirical study or experience with the adjudication of cases, and if our goal remains to adopt majoritarian default rules, we might decide that formalist rules are appropriate in those particular situations. Similarly, as with information about the race or wealth of parties, there may well be classes of evidence that we decide (again through study or experience, or alternatively through propositions about fairness or morality) are unreliable indications of the merit of parties' cases, or are prone to trigger prejudice or confusion. Indeed, we could even decide that certain kinds of evidence are simply not worth their adjudicative costs, after all. But ruling out broad classes of evidence needs to rest on a different and more robust argument than one that would eliminate most information from consideration based only on an attempt at a formal deduction.

To make specific policy pronouncements in law from only an abstract understanding of Schwartz and Scott's argument, and thus to derive the preference of firms through formal analysis alone, would be to do contract law a significant disservice.

90. Cf. supra text accompanying note 22.