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MIDSTREAM CONTRACT INTERPRETATION

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This Article makes two original contributions to the contract interpretation and renegotiation literatures. First, we introduce an underexplored cause of renegotiation failure: party uncertainty regarding the type of court that will interpret their contract. Parties may predict differently how the applicable court will weigh facts, apply legal rules, or interpret contracts. When parties disagree regarding the court's interpretive practices, they will assess their expected litigation payoffs differently. This could cause parties to litigate transactions rather than complete them, even when the parties agree on the economic parameters. Litigators know that differing predictions about what a court will do can impede settlement. We add that party uncertainty over court types can prevent parties from making efficient deals and continuing those deals to completion. Neither scholars nor courts have analyzed how the consequences of uncertainty over court types affects the parties' behavior.

Our second contribution is to suggest a novel interpretive procedure that responds to uncertainty about both party and court types. Parties should be able to obtain a "midstream contract interpretation": a judicial interpretation of their contract at the renegotiation stage rather than after a breach occurs. A midstream interpretation, in the form of a declaratory judgment or a new reformation remedy, would permit parties to learn about the applicable court and each other. As a result, parties would be more likely to continue an arrangement they would otherwise inefficiently terminate, or efficiently terminate a relationship without bearing unnecessary performance or litigation costs.

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INTRODUCTION

Parties have an "interpretive dispute"[1] when they disagree about what their contract directs in the state of the world they turn out to be in. For example, the seller may believe that the contract permits her to tender an *X* widget in every future state. The buyer, in contrast, may believe that the contract requires the seller to tender the less expensive *Y* widget when demand for widgets is low. The parties will have an interpretive dispute if demand for widgets actually is low. The court's task in such a case is to resolve the dispute by identifying the parties' "type": that is, to interpret the contract to determine which party's view of the seller's obligation is correct.[2] Courts identify types by aggregating "signals" the parties send. Signals necessarily include the written contract, the seller's performance (what the seller was prepared to tender is evidence of what the contract permitted the seller to tender), and "what happened." Aspects of the commercial context in which the parties operated also could be signals. Contract law's "interpretive rules" guide courts in performing the aggregation—that is, the interpretation—task.[3]

The interpretive rules differ among the states regarding how much commercial context evidence a court will admit. There are two approaches to context evidence. "Contextualist" courts choose a broad evidentiary base in the belief that widening the signal space improves a court's ability to find the parties' type.[4] "Textualist" (or formalist) courts choose a narrow evidentiary base in the belief that attributing the most interpretive weight to the contract itself best preserves the parties' deal and increases the predictability of

1 Interpretive disputes are the largest source of contract litigation between business firms. *See* Alan Schwartz & Robert E. Scott, *Contract Interpretation Redux*, 119 YALE L.J. 926, 928 (2010).

2 *See, e.g.*, Alan Schwartz & Joel Watson, *Conceptualizing Contractual Interpretation*, 42 J. LEGAL STUD. 1, 3 (2013) (explaining that the concept of type as applied to contractual interpretation "captures an intention: the performance that the contracting relationship intended to trade"); *see also* Robert E. Scott, *The Case for Formalism in Relational Contract*, 94 NW. U. L. REV. 847, 853 (2000) ("Interpretation errors result . . . from courts' failure to distinguish correctly among the different signals used by the parties.").

3 The interpretive rules matter for contract design as well as contract enforcement because the rules affect the costs of writing contracts, provide parties with incentives to invest in the deal, and can reduce (or increase) expected litigation costs. *See, e.g.*, Schwartz & Scott, *supra* note 1, at 963; Alan Schwartz & Simone M. Sepe, *Economic Challenges for the Law of Contract*, 38 YALE J. ON REGUL. 678, 700 (2021); Schwartz & Watson, *supra* note 2, at 2; Robert E. Scott & George G. Triantis, *Anticipating Litigation in Contract Design*, 115 YALE L.J. 814, 839–56 (2006).

4 This broader evidentiary base includes the parties' past practices and current practices under the contract, trade usages, and precontractual exchanges of information.

interpretive conflicts.[5] The formalist view, however, delegates much of the power over evidence to the parties. Parties create the contract, and so can choose whether to inform the court about context in their writing or with context evidence they introduce at trial. The contextualist view, by contrast, delegates both formal and actual power over evidentiary decisions to the court because contextualist courts admit all relevant and material evidence.[6]

This much is conventional wisdom. In this Article, we make two novel contributions to interpretive law and practice. First, we explore an overlooked "type issue"—i.e., a cause of interpretive conflict: party uncertainty regarding the "court type" that will interpret their contract. Parties may disagree about (i) the evidence a court will admit (and the weight the court will give to the evidence), (ii) the factual inferences a court will draw from the evidence, and (iii) how a court will apply contract law to the evidence.[7] Parties can disagree over a court's type because how a court will behave regarding these three issues is partly the court's private information. When parties have inconsistent second-order beliefs[8]—that is, they disagree—regarding the court's interpretive practice, parties may assess their prospects in a litigation differently. As a result, parties may litigate an interpretive dispute even when they recognize that both could benefit by renegotiating to an updated contract. Courts and commentators have been concerned with the court's problem of identifying the parties' type;[9]

5 By a narrow evidentiary base, textualists (or formalists) refer to the contract itself, and the pleadings and briefs describing the parties' performance under the contract. *See* Schwartz & Scott, *supra* note 1, at 931 n.13. U.S. jurisdictions differ as to which interpretive rules they use. New York and the states that follow it are textualist, while California and the states that follow it are contextualist. *Id.* at 928. New York is the majority rule. *See id.* at 928 n.1.

6 *See id.* at 957–63.

7 Stare decisis facilitates predictability but only in part because contract cases may have idiosyncratic features; some doctrines are equitable in nature (e.g., rescission) and the stare decisis doctrine is inapplicable to equity decisions; and some common-law standards (e.g., good faith, reasonableness) are fact dependent. Courts might interpret the facts differently, even under evidence that is common knowledge.

8 In brief, first-order beliefs are beliefs on the external world, while second-order beliefs are beliefs about beliefs. Under the theory of belief formation, parties may disagree when they begin a relationship with different *prior beliefs* regarding the state of the world (here, the court's type). *See* MICHAEL MASCHLER, EILON SOLAN & SHMUEL ZAMIR, GAME THEORY 365 (Mike Borns ed., Ziv Hellman trans., 2013). In general, this occurs because of "errors in the calculation of conditional probability, lack of knowledge of the prior distribution, psychologically induced deviations from calculated probabilities, or in general any 'subjective feeling' regarding the probability of any particular event, apart from any calculations." *See id.* at 365, 365–66.

9 In line with Harsanyi's information approach, the simplest way to model this disagreement is analyzing the asymmetric information problem as a "type problem." *See id.* at 345–48.

the concern we introduce here is the parties' problem of identifying the court's type.

Courts developed the two interpretive approaches summarized above to govern the task of identifying the parties' type. The approaches also affect how parties can identify the court's type, however. The formalist approach increases transparency about the court's type because it restricts the evidence a court can use to make an interpretation: as said, textualist courts largely draw type inferences from the written contract. This practice helps parties predict what the court will do. The contextualist approach, by contrast, yields less transparency because it permits a court to consider significant context evidence. Because courts under this approach have more discretion to make an interpretation, parties are more likely to hold divergent beliefs about what the court will find to be the parties' type.

Though the textualist approach reduces uncertainty relative to the contextualist approach, it cannot fully solve the parties' problem of identifying court types. Initially, the space of court discretion is never empty.[10] Further, parties commonly use the contractual freedom the textualist approach permits to introduce some context information. For these reasons, there are interpretive disputes even in formalist jurisdictions such as New York. Finally, in an increasingly relevant class of modern relational contracts[11]—which in prior work we term "new-economy contracts" (or "collaborations")[12]—parties cannot write contracts that specify their obligations in detail. This is because the parties are not trading a product but rather are attempting

10 This conclusion emerges when considering interpretive problems of language in addition to the classic problems of meaning. The classic account is that interpretation is about what the contract means. In some cases, however, disagreement may arise about the language in which the parties wrote their contract. For example, the parties may have used a term that has an English-language meaning but also has a different meaning in a technical language. *See* Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 570–71 (2003). In these cases, textualism will not help to reduce the space of a court's discretion. *See also infra* notes 90–91 and accompanying text.

11 Unlike in traditional relational contracts, where norms of cooperation remain largely external to the contract, modern relational contracts are structured to provide a relationship-management process that serves to embed social norms of cooperation in the formal contract. *See* David Frydlinger, Oliver Hart & Kate Vitasek, *A New Approach to Contracts: How to Build Better Long-Term Strategic Partnerships*, HARV. BUS. REV., Sept.–Oct. 2019, at 116; David Frydlinger, Oliver Hart & Kate Vitasek, *An Innovative Way to Prevent Adversarial Supplier Relationships*, HARV. BUS. REV. (Oct. 8, 2020), https://hbr.org/2020/10/an-innovative-way-to-prevent-adversarial-supplier-relationships [https://perma.cc/V7X3-AT64].

12 The new "collaborations" are designed to facilitate repeated cooperation between parties rather than locate production within individual firms. *See* Alan Schwartz & Simone M. Sepe, *Contract Remedies for New-Economy Collaborations*, 101 TEX. L. REV. 749, 754–55 (2023).

jointly to create a new product. At the outset, the parties cannot know just what their obligations will be.[13] Therefore, new-economy contracts seldom contain substantive content, such as prices or product descriptions. Rather, parties structure new-economy contracts as framework arrangements that describe the cooperative behavior in which the parties are supposed to engage in the presence of significant uncertainty regarding the parties' ultimate exchange.[14] For this class of contracts, the nature of the exchange rather than the rules preclude a purely textualist approach.

To summarize, parties to modern contracts face two "type concerns": to inform the court of their own type and to discover the court's type. Parties may litigate rather than settle, even when there is a more efficient contract they can reach, when parties disagree about their counterparty's type. We add that parties may also litigate inefficiently even when they agree about their own types if parties disagree importantly about the court's type: that is, they disagree about what a court will do on their facts. Parties cannot ameliorate these inefficiencies—particularly the second—without permitting the court to access at least some context evidence. Parties thus face what we term "unavoidable contextualism."[15]

Our second novel contribution is to suggest a new interpretive rule that ameliorates the unavoidable contextualism problem. Under this rule, parties can request a "midstream contract interpretation": that is, parties can ask the court how it will interpret their contract before a breach occurs. An action for midstream contract interpretation could take the form of a declaratory judgment or a new reformation

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13 As observed by Gilson, Sabel, and Scott:

> [U]nder high uncertainty the parties themselves can neither set prospective rules to govern their conduct, nor even specify the relevant context by which conduct might be assessed. . . . In these circumstances, parties are contracting over the creation of something whose features, and the contributions of each of the parties, are unknowable and will emerge only after many iterations between the contracting parties.

Ronald J. Gilson, Charles F. Sabel, & Robert E. Scott, *Text* and *Context: Contract Interpretation as Contract Design*, 100 CORNELL L. REV. 23, 63 (2014).

14 *See* Schwartz & Sepe, *supra* note 12, at 754–55.

15 Another way to put this concern is that the problem of court types arises whenever a case presents a mix of text and context such that the court has some discretion over determining what that mix is. *Cf.* Gilson et al., *supra* note 13, at 28 (suggesting that the divide between the contrasting contractual prototypes considered by textualists and contextualists is too crude to capture the reality of current contracting practices). To this extent, our analysis begins where prior discussions of formalism end. We examine how courts and legislatures should design interpretive rules when the contract is designed "to create context rather than respond to it." *See id.* at 44 (observing that in some contracts, "[c]ontext [is] endogenous: the contract process is designed to create context rather than respond to it").

remedy.[16] Parties would have to disclose information to the court about their own types in the litigation, and the court could not provide a midstream interpretation without disclosing material information about its type. Midstream interpretation thus would reduce uncertainty regarding both party and court types. Better-informed parties, in turn, are more likely to continue a project they would otherwise inefficiently terminate, or efficiently abandon a project without bearing unnecessary performance or litigation costs. Unlike ordinary interpretation, where the court's role is to enforce the parties' contract *after breach*, midstream interpretation would help prevent breach by enabling the court to coordinate the parties' beliefs about their current state of the world.

We introduce here how the two approaches to contract interpretation and our proposed interpretive rule function with a common contracting problem.[17] The contract requires a manufacturer (he) to produce a software program for a buyer (she) to use with her operating system. The parties discussed several possible software versions the manufacturer was exploring, some of which would be a material improvement over the buyer's current operating system but which would

16 There is legal precedent for midstream contract interpretation. *See* DEL. CODE ANN. tit. 10, §§ 6502–6503 (2013) (permitting a declaratory judgment action to "determine[] any question of construction or validity arising under . . . [a] contract . . . either before or after there has been a breach thereof"); *see also* Samuel L. Bray, *Preventive Adjudication*, 77 U. CHI. L. REV. 1275, 1286 (2010) ("[B]efore performance or breach it would be useful to have an opinion clarifying validity."). More particularly, Bray says:

> At times courts are asked to do something other than award damages or issue an injunction. They are sometimes asked only to say how the law applies to a particular set of facts. In these cases—instances of what could be called *preventive adjudication—a litigant seeks to avoid future harm by having a court resolve a legal indeterminacy without issuing a command*. . . .
>
> Preventive adjudication, then, has three characteristics: the plaintiff seeks an opinion that (1) is not accompanied by a remedial order commanding action by the parties, (2) is prospective with respect to harm, and (3) resolves indeterminacy in the application of law.

Id. at 1279–80 (emphasis added beginning with "*a litigant seeks*"). Bray is concerned with a contract's legal validity and with existing instances of "preventive adjudication" (which occurs in, for example, declaratory judgment actions about wills, patents, and unconstitutionally vague statutes; in paternity and maternity petitions; in petitions to have missing persons declared dead; etc.). *See id.* at 1276. We are concerned with a contract's meaning and argue for a generalized extension of the preventive remedy. But Bray's point is the same as ours: it would be helpful for parties to know their status before making a breach or performance decision. For a discussion of the historical antecedents to midstream interpretation, see *infra* text accompanying notes 107–19. As to Bray's claims that generalizing preventive adjudication would include increased "administrative costs of deciding unnecessary questions and the error costs of deciding with less information," *id.* at 1276, see *infra* text accompanying note 26 and sub-subsection III.C.2.b (both disputing Bray's claims).

17 We reprise this example throughout this Article.

be more costly to produce. The contract, however, only requires the manufacturer to tender its best current program for a specified price. After the parties contracted, the manufacturer realizes that it could tender an even better software program. Can the manufacturer perform the contract by tendering the improved software but at a higher price? Can the buyer demand the new software at the contract price? Can the buyer reject every software but the contract software? Would the answers to these questions turn on whether a court will admit evidence of the parties' precontractual discussions or other context evidence?

This example has two key features. First, the parties in the example attempt to trade specialized goods. As a result, the value a trade would create depends on the seller's investment in developing a software program and the buyer's investment in conforming her operating system to the software program she ultimately buys. The second feature has two facets. Initially, to maximize their return, the parties will invest before uncertainty regarding the ex-post state of the world resolves. Further, because the goods are specialized, the parties' investments themselves may be specialized: that is, neither party's investment may be fully deployable in another use.

The example thus raises the canonical underinvestment problem.[18] To remind readers about this problem, suppose the buyer announces that she will reject after the seller produces an improved software program unless the seller agrees to a lower price. Because the seller's investment is sunk, he may agree. But if the seller is sophisticated, he will anticipate being "held up" in this way and underinvest: that is, reduce, possibly to zero, his reliance cost. Turning to the buyer, the parties will recognize that their contract may direct an inefficient result when uncertainty about the state of the world resolves. If so, the parties likely would renegotiate to an efficient contract. This contract, because it is efficient, would generate surplus that the parties would divide. The buyer thus may anticipate that she will have to leave some renegotiation surplus to the seller/manufacturer in order to get the efficient contract, but this would lower the buyer's return from investing and so reduce the buyer's incentive to invest initially. In our example, then, both the seller and the buyer may underinvest in their transaction. And more generally, our concern is with the effect of unavoidable contextualism in an investment economy where parties exchange specialized goods.[19]

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18 *See generally* Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691 (1986); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POL. ECON. 1119 (1990).

19 The term "investment economy" refers to commercial areas in which sellers manufacture goods that are tailored to the needs of one or a few buyers. *See infra* subsection

The midstream-interpretation remedy could ameliorate our illustrative and other investment pathologies if courts do not make systematic interpretive mistakes.[20] The buyer could anticipate, before she invests, that the contract might ultimately require a state-contingent inefficient trade. If so, the buyer would ask the court for a midstream interpretation. The court would interpret the contract in light of information the parties developed after they contracted as well as information about their preexisting context. Such better-informed courts would be less likely to make systematic interpretive mistakes.[21] "Interpreted contracts" therefore would probably direct ex–post efficient trades. And anticipating efficient trades, buyers would invest more efficiently.

Modern relational contracts—which are of increasing importance in the current economy—present additional interpretive complexities because asymmetric information frequently attends them. Relational transactions often are multiyear affairs, and delegate different tasks to the parties. Respecting time, changes in the external world are common (rather than exceptional) in long-term relational contracts. Parties may observe different external changes and draw different inferences regarding their project from them. As a result, parties may actually come to know less about each other as their relationship proceeds: in the language of this Article, the parties' private information

III.C.2. The term "exchange economy" refers to commercial areas in which parties trade finished goods or commodities to each other in complete markets. *See infra* subsection III.C.1.

20 Because parties in exchange economies expect to trade with their contract partner or with a similar firm if there is breach, whether a midstream interpretation is correct only matters to a limited extent. If the court's midstream interpretation does not maximize deal value, parties, recognizing that they have an alternative contract partner, will engage in efficient renegotiation of their (erroneously) interpreted contract. Parties in an exchange economy thus always can bargain to the efficient outcome. For this reason, uncertainty regarding court types is a more severe problem in investment economies where an alternative contract partner is not available.

21 In an investment economy, parties' relationships evolve over time. When new information materializes during the execution of the contract, the court at midstream could be better informed than the parties were at signing (although always less than the parties themselves during the execution of the contract). Further, under midstream interpretation the court's role extends to constructive participation during the parties' relationship rather than being limited to acting after the relationship is broken. This is consistent with the claim of contract theorists that courts should be a part of the parties' contract framework itself. *See* Schwartz & Sepe, *supra* note 3, at 692–97 (offering an overview of contractual mechanisms). Accordingly, the availability of midstream interpretation may open new possibilities to implement some of the mechanism-design protocols the economic literature has identified to mitigate the issue of ex-post unverifiability of the parties' information. *See id.* at 697–705.

on their own types may increase.[22] In addition, parties seldom can fully observe the performance of a counterparty's task and the results. This too exacerbates the asymmetric information concern.[23] Therefore, parties face "endogenous" informational asymmetry about their types in modern relational contracts. This fact makes the parties' problem of identifying the court type significantly more severe. When the parties have inconsistent *first-order beliefs* on their own types—how each believes their relationship should proceed—the parties *necessarily will* have inconsistent second-order beliefs about how a court would interpret their contract.

Midstream interpretation therefore would be especially helpful for the new-economy collaborations. As above, this new interpretive rule would accelerate the parties' discovery of the court's type. But in addition, parties seeking or opposing a particular interpretation would have to reveal their types to the court, and as a result to each other. Midstream interpretation, that is, also performs an information-forcing function for modern relational contracts. When information is not verifiable,[24] midstream interpretation may involve a mediation process under which the court proposes to the parties a forward-looking assessment of their arrangement. This would remove uncertainty about the parties' rights and thereby would also facilitate the parties' voluntary disclosure of information. In both cases, midstream interpretation would help reduce the probability that valuable collaborations will fail.

We conclude this Introduction with two remarks. First, courts under our approach will not be creating contracts for parties. The evidence a court will consider when making a midstream interpretation is the same evidence the court would consider if a deal broke up and the court had to interpret the contract to see which party was in breach. What changes under our approach is not how the court performs but rather *when* the court performs (before breach rather than after). Further, we would permit parties to contract out of this interpretation remedy. Thus, parties, not courts, would choose the level of

22 A classic example is long-term supply contracts where "noncontractible" changes in the external state of the world (e.g., disruptions in input availability or prices) may change the contract's risk profile. *See* Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 J. LEGAL STUD. 271, 284 (1992).

23 In collaborative contracts, for example, the parties often have private information on their respective technologies and performances. *See* Schwartz & Sepe, *supra* note 12, at 771–73 (describing the scope and effects of private information about the parties' types at different stages of their collaboration).

24 To remind readers, a datum of information is *observable* if a party can observe it. For example, a seller may be able to observe the factory in which the buyer would use the goods. A datum of information is *verifiable* if the costs a party would incur proving the datum to a court are lower than the expected gain from having a better-informed court.

court intervention—consistent with a broader claim that freedom of contract should extend to the choice of interpretation and remedy rules (including equitable remedies) rather than just substantive rules.[25]

Second, this Article contributes to an important current project in contract law. Courts developed Anglo-American contract law in the nineteenth and early twentieth centuries to regulate two transactions: a single-stage sale of goods that left the seller in their finished state, or a sale of services.[26] Contract law facilitated trades in this economy. For example, the efficient expectation interest remedy permitted a seller to recover the difference between price and cost, or a buyer to recover the difference between value and price. A court could administer the remedy because it could know price, cost, and value when a party breached. Modern relational contracts, in contrast, govern multiyear collaborations between firms whose object is to create a new product or platform or materially alter a current product. Here, contract law is unhelpful. For example, when a collaboration dissolves in the second year of a four-year project to create a drug, the disappointed party cannot avail itself of the expectation interest remedy. The cost of the final product or its ultimate value to the buyer are unknown then, nor can the parties price a final deal at such an early stage.[27] The current contract law project thus is to create a new law for the new economy.

Unlike earlier times, however, this largely is a project for scholars and legislators. A party to a contract may sue if it is aggrieved and the law supplies a remedy. But because there are no apt remedies for the new collaborations, aggrieved parties to them seldom sue. Two private institutions also are supposed to contribute to creating American contract law: the American Law Institute and the Uniform Law Commission. These institutions, however, have not kept up. Article 2 of the *Uniform Commercial Code* (UCC), regulating sales, was last comprehensively revised in 1952 and the *Restatement (Second) of Contracts* is a product of the 1970s. Therefore, the task of creating a contract law for today falls to the scholars and to whichever legislatures can be interested in the problem. Robert Scott and his coauthors have made much

25 We explore this argument in detail elsewhere. *See* Alan Schwartz & Simone M. Sepe, Justice as Freedom in Contract Law (Dec. 18, 2023) (unpublished manuscript) (on file with authors); *see also* Schwartz & Scott, *supra* note 10, at 594.

26 *See* Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, *Contract, Uncertainty, and Innovation*, *in* CONTRACT GOVERNANCE: DIMENSIONS IN LAW AND INTERDISCIPLINARY RESEARCH 155, 169 (Stefan Grundmann et al. eds., 2015); Alan Schwartz & Robert E. Scott, *The Common Law of Contract and the Default Rule Project*, 102 VA. L. REV. 1523, 1533–34 (2016). We focus on sales of goods here.

27 For a through discussion of the differences between the contract law developed in the nineteenth and twentieth centuries and the contract law needed in a modern economy, see generally Schwartz & Sepe, *supra* note 12.

progress in showing where new rules are needed and their likely form.[28] Lisa Bernstein has vividly shown how the new procurement practices require legal support.[29] In recent work, we suggest new remedies,[30] and here we suggest a new strategy for interpreting the framework agreements that govern the new-economy collaborations.

We proceed as follows. In Part I, we discuss how the interpretation rules should change to reflect the two information problems that parties must solve: learning each other's type and learning the court's type. We distinguish between traditional and modern relational contracts when analyzing the court type problem. In Part II, we make the interpretive task more precise, developing a stylized illustration to show how disagreements over the court's type can cause parties who know each other's type to litigate even when there are renegotiation gains to share. In Part III, we introduce our proposal for a rule of midstream interpretation, explaining how this remedy could ameliorate both type problems. We also show how midstream interpretation would function differently for contracts in the traditional exchange and investment economies and for contracts that govern modern relational arrangements. Part IV concludes.

I. THE INTERPRETATION PROBLEM REVISITED

A. The Classic Approaches

We expand our introductory example to clarify the interpretation problem for traditional transactions,[31] as prelude to analyzing the

28 *See, e.g.*, Alan Schwartz & Robert E. Scott, *Obsolescence: The Intractable Production Problem in Contract Law*, 121 COLUM. L. REV. 1659 (2021).

29 *See* Lisa Bernstein, *Merchant Law in a Merchant Court: Rethinking the Code's Search for Immanent Business Norms*, 144 U. PA. L. REV. 1765, 1771–82 (1996) [hereinafter Bernstein, *Merchant Law*] (studying the private legal system created by the National Grain and Feed Association to resolve contract disputes among its members and showing that this system rejects the UCC's "immanent business norms," *id.* at 1771, as counterproductive to modern commercial relationships). *See generally* Lisa Bernstein, *Private Commercial Law in the Cotton Industry: Creating Cooperation Through Rules, Norms, and Institutions*, 99 MICH. L. REV. 1724 (2001) [hereinafter Bernstein, *Private Commercial Law*] (investigating how the cotton industry has almost entirely opted out of the public legal system, replacing it with a system of private commercial law that better enables the creation of value-enhancing contract governance structures).

30 *See* Schwartz & Sepe, *supra* note 12.

31 The literature on contract interpretation is too vast for us to cite in its entirety. For some seminal works, see, for example, Steven J. Burton, *Breach of Contract and the Common Law Duty to Perform in Good Faith*, 94 HARV. L. REV. 369 (1980); Oliver Wendell Holmes, *The Theory of Legal Interpretation*, 12 HARV. L. REV. 417 (1899); Richard A. Posner, *The Law and Economics of Contract Interpretation*, 83 TEX. L. REV. 1581 (2005); Schwartz & Scott, *supra* note 1; and Schwartz & Scott, *supra* note 10.

more complex interpretive task courts face when adjudicating the framework agreements that structure the new collaborations. Consider a contract under which the seller agrees to trade ten widgets to the buyer.[32] The buyer rejects because, she claims, the seller tendered aquamarine widgets when the contract required green widgets. The seller responds that the contract permitted him to deliver just the widgets he tendered. The parties cannot resolve this dispute privately.

The interpretive task is to recover the parties' type: here, which widgets the contract required. Courts proceed by decoding "signals" the parties send.[33] Three signals are indispensable to any interpretation:

(i) The contract;
(ii) The dispute: what the seller tendered; how the buyer responded; and
(iii) The seller's performance: what the seller tendered is relevant to the question of what the contract required the seller to tender.[34]

An additional set of signals, collectively denoted "context," may help a court identify the parties' type: the parties' prior performance under the contract at issue; the parties' performances under prior contracts; custom in the industry concerning which tenders are acceptable;[35] and the parties' precontractual communications, written or oral.

The court's task is to aggregate the first three signals, and as many of the context signals as the court's interpretive approach permits, to uncover the parties' type. The seller in our example would be in breach if the court found that the parties were a green widget type, but the buyer would be in breach if the court found that the parties were an aquamarine type. But note: because interpretation occurs in the course of a lawsuit, identifying the parties' type *is not productive*. Clarifying the parties' type will not facilitate an efficient transaction (if one existed) because the transaction is over. Contract interpretation today only determines which party must pay money.

Courts and commentators disagree on two basic interpretive issues.[36] The first is whether the court or the parties should control the interpretive inquiry. To see how this question presents, let our widget

32 Part II later makes traditional-economy transactions more realistically complex.

33 Interpretation is a matter of law. *See* U.C.C. §§ 1-205, 2-202, 2-208 (AM. L. INST. & UNIF. L. COMM'N 2023).

34 As an illustration of how this signal relates to intention, if widgets come in 100 colors, that the seller delivered one color says little about what the contract required, but if widgets come in only two colors, that the seller delivered one of them suggests that the contract required that color.

35 *See* U.C.C. § 2-314(2)(c) (AM. L. INST. & UNIF. L. COMM'N 2023).

36 *See* Schwartz & Scott, *supra* note 10, at 572.

parties' contract contain a merger clause,[37] telling a court to base its interpretation on the indispensable signals identified above. The parties are in charge in jurisdictions such as New York, in which courts obey merger-clause instructions.[38] The court is in charge in jurisdictions such as California, in which courts treat a merger clause only as indicating the parties' view regarding the evidence a court needs to perform its interpretive work.[39]

The second, related disagreement concerns how much context a court should consider when the court is attempting to identify the parties' type. As suggested above, a "textualist" court commonly will use only the contract and the parties' performance. A "contextualist" court will use all relevant and material evidence. To the extent context is admissible under either approach, however, the court's task is the same: to recover a past historical state—the context that existed when the parties contracted.[40]

B. Toward a New Approach

1. Traditional Contracts

The classic accounts of the interpretation problem implicitly suppose that parties know the court's type. In actuality, parties may hold divergent beliefs, both about each other and about the court. Parties that materially differ over the applicable court type could assess their expected litigation payoffs differently, which in turn could cause them to litigate although other sources of uncertainty are minimal. We next

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37 A merger clause recites that a contract is completely "integrated": all of the parties' prior representations and understandings are merged into the written contract itself. For examples of these clauses, see *UAW-GM Human Resource Center v. KSL Recreation Corp.*, 579 N.W.2d 411, 412 (Mich. Ct. App. 1998); and *Luther Williams, Jr., Inc. v. Johnson*, 229 A.2d 163, 165 (D.C. 1967).

38 Merger clauses are given virtually conclusive effect in textualist jurisdictions like New York. *See, e.g.*, Tempo Shain Corp. v. Bertek, Inc., 120 F.3d 16, 21 (2d Cir. 1997) ("Ordinarily, a merger clause provision indicates that the subject agreement is completely integrated, and parol evidence is precluded from altering or interpreting the agreement.").

39 *See* Schwartz & Scott, *supra* note 1, at 960 & n.84 (citing supporting cases).

40 In this sense, both textualism and contextualism are versions of *originalism*; they both "ground contractual obligation in facts that were in place when the contract was formed." Gideon Rosen, *Textualism, Intentionalism, and the Law of the Contract*, *in* PHILOSOPHICAL FOUNDATIONS OF LANGUAGE IN THE LAW 130, 164 (Andrei Marmor & Scott Soames eds., 2011). As we shall see, in modern relational contracts, interpretation is forward looking rather than backward looking. *See infra* subsection I.B.2. More generally, as put by Rosen, originalism is limited "in making sense of the application of old contracts to factual situations that were not and could not have been contemplated either by the parties themselves or by their linguistic communities." *See* Rosen, *supra*, at 164. In modern relational contracts, these situations are the rule rather than the exception.

show how the midstream-interpretation remedy could help resolve both types of asymmetric information: between parties *inter se* and between parties and the court.

To begin, let the parties in our example contract at t_0 and require performance at t_2. At t_1, the buyer receives a signal suggesting that the seller may breach. For example, the buyer learns that the seller has not procured certain inputs used in making green widgets. Under current law, the buyer must wait until t_2 to see whether the seller would be compliant. If midstream interpretation were available, however, the buyer could ask the court at t_1 for an interpretation that the contract required green widgets.[41] The court would make a midstream interpretation in the same way it would have made a standard interpretation, except that there would not be a performance signal. Otherwise, the court would infer the parties' type from the contract and as much context as would be permitted in the jurisdiction—contextualist or textualist—in which the court sits. Midstream interpretation thus does not change the interpretive task for traditional-economy transactions; rather, it accelerates the time when the court performs that task. As such, it accelerates the parties' knowledge of the court's type.

We stress an important feature of midstream interpretation that contrasts with standard interpretation. Because midstream interpretation precedes breach, the information it reveals about the court's type could be *productive*. When it would be efficient for parties to perform the deal, midstream interpretation would make performance more likely. Conversely, when it would be inefficient to perform, midstream interpretation advances the time for parties to reallocate their resources to other uses.

2. Modern Relational Contracts

The interpretive task differs for contracts that regulate the new collaborations. There the contract creates only a relationship-management process, and parties create new context as they go along. In this environment, the typical signals courts use are insufficient for an interpretation: there is neither a final performance (as in more traditional contracts), a strongly relevant preexisting context (which would be outmoded), nor a directive written agreement.

41 In contracts involving sequential performances—such as new-economy collaborations—the action for midstream interpretation could also occur after the (initial) performance (i.e., after t_2) but before the final performance and, in any event, before a formal breach occurs.

Further, each party to a modern relational contract commonly possesses important information that the other party lacks.[42] Consider a modified version of our introductory illustration: now the seller agrees to produce a new software program for the buyer. The seller could make the new software in various possible versions, each of which would affect the buyer's return differently. The buyer is not fully aware of the choices the seller has nor their different costs. Similarly, the seller is unaware of which software type would be the best match for the buyer and so would be most profitable to trade. When such "endogenous" informational asymmetry exists,[43] parties may come to hold different beliefs about their relationship's prospects for success.

Changes in the external world, which are frequent in long-term relational contracts, also increase informational asymmetry.[44] Thus, in relational supply contracts the prices of inputs are subject to fluctuations (consider, for example, the market for mixed fertilizers where nitrogen and phosphate are important inputs,[45] or aluminum production where electricity is a major input[46]). These fluctuations, which may be better known by one side than the other, could also cause parties to hold inconsistent beliefs about their relationship's prospects.[47]

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42 In new-economy collaborations, the source of this asymmetry is frequently technological: the complexity of the joint productions that are typical of collaborative contracts involve private information on the parties' technology. *See* Schwartz & Sepe, *supra* note 12, at 765–68.

43 In more general terms, the bilateral informational asymmetry captured by the example in the text arises from the technological difficulty of combining resource inputs to produce outputs. *Cf.* ANDREU MAS-COLELL, MICHAEL D. WHINSTON & JERRY R. GREEN, MICROECONOMIC THEORY 128–30 (1995) (noting that when there is a single-output technology, this can be described through a production function that maps the different inputs into an output).

44 The transactional environment we consider differs from the standard case of uncertainty about future states of the world. In that case, parties are symmetrically informed—i.e., they have the same information about the distribution of possible future states. For example, the parties may know that with probability fifty percent the state of the world will be "good" and it will be efficient to trade more, and with probability fifty percent the state of the world will be "bad" and it will be efficient to trade less. Under this model, there is uncertainty when the parties contract, but uncertainty later resolves into a particular state that both parties observe. *See generally* 2 JEAN-JACQUES LAFFONT, THE ECONOMICS OF UNCERTAINTY AND INFORMATION 6–7 (John P. Bonin & Hélène Bonin trans., The MIT Press 1989) (1986). In modern relational contracts, uncertainty may resolve only for one party because she is performing a different task than the counterparty. Such a resolution may not materially increase the likelihood of cooperation.

45 *See, e.g.*, Columbia Nitrogen Corp. v. Royster Co., 451 F.2d 3 (4th Cir. 1971).

46 *See, e.g.*, Aluminum Co. of Am. v. Essex Grp., Inc., 499 F. Supp. 53 (W.D. Pa. 1980).

47 Index clauses that relate the contract price to the current market price may provide a solution to this source of uncertainty in traditional contracts (or traditional relational contracts). *See* Schwartz, *supra* note 22, at 285. But modern relational contracts may not even contain prices until a later stage, which limits the usefulness of index clauses as a

Endogenous and exogenous informational asymmetry about party types exacerbates the problem of learning court types. When parties have inconsistent first-order beliefs on their own types, they likely will have inconsistent second-order beliefs regarding court interpretation. Thus, if the price of a major input to a supply contract substantially increases and the parties' private information causes them to differ on how the increase will affect their project's prospects, they probably will hold different beliefs about how their contract allocates the risk of the increase.[48] The buyer may believe the court would be interpreting a contract that allocates the risk to the seller while the seller may hold the opposite belief. Because parties to relational contracts often have different views of each other's type and of a possible court type, they are less likely than parties to traditional contracts to modify their contract to a Pareto-improving version. The utility to parties of a midstream-interpretation remedy thus is greater for relational contracts.

II. UNKNOWN COURT TYPES AND INCONSISTENT BELIEFS

In this Part, we formalize the interpretive task in order better to show how midstream interpretation could function in different transactional environments. More precision also helps advance the debate between the two interpretive methods: contextualist and textualist. We offer new reasons for a court to use the latter. In particular, contextualist interpretation increases the probability that parties will litigate potentially efficient projects and prematurely terminate profitable projects.

A. Text, Context, and Disagreement

In the formal version of our example, two risk-neutral parties contract to trade a specialized widget for a price K. The seller can produce two widget types—w_1 and w_2—with w_1 costing less to make. If the seller does not produce anything, by convention we say he has produced the

contractual solution. *See* Schwartz & Sepe, *supra* note 12, at 755. Further, index clauses cannot mitigate the risk arising from the effect of external changes in the parties' private information regarding contractual performance.

48 *See* Raffaella Giacomini, Vasiliki Skreta & Javier Turen, *Heterogeneity, Inattention, and Bayesian Updates*, AM. ECON. J.: MACROECON., Jan. 2020, at 282, 285 (2020) ("[M]ultiple channels of heterogeneity are necessary to explain the fact that disagreement remains high even as the uncertainty about the forecasted variable diminishes. In normal times, it is enough to postulate that agents put high faith in their initial heterogeneous forecasts and are heterogeneously inattentive, but otherwise behave in a homogenous fashion. . . . During the crisis, additional heterogeneity in the way agents interpret public information is needed to partly explain the high and persistent disagreement.").

null widget w_0; which of the three widgets is efficient for the parties to trade depends on the ex-post state. There are three equally probable and observable future states, denoted ω_1, ω_2, and ω_0.[49] The parties agree on these probabilities[50] but, as we will see below, they may disagree on the probability of court type they may face.[51] We make three more assumptions:

A1: Producing widget w_1 in state ω_1 would be socially and privately efficient because the buyer's value exceeds the seller's cost and also the contract price K.[52]

A2: Producing widget w_2 in state ω_2 would be privately efficient for the buyer because her value exceeds the contract price K. Producing w_2 also would be socially efficient because the buyer's value exceeds the production cost. On the other hand, the seller's cost to produce w_2 in state ω_2 exceeds the contract price K while the cost to produce widget w_1 is below the price K. The parties' interests thus conflict in state ω_2: the buyer would reject w_1 because K is higher than the buyer's value while w_1 is the only profitable widget for the seller to produce under the contract.[53]

A3: Producing no widget—i.e., the null widget w_0—would be efficient in state ω_0 because the production cost of both widgets would exceed the buyer's value. The contract, however, unconditionally requires the seller to deliver one of the widgets. Hence, the buyer may demand that the seller tender widget

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49 Our footnotes use more precise notation to represent the relation between the variables of interest, but the more intuitive text should be sufficient for nontechnical readers. We denote $v(\omega_i, w_j)$ (resp.: $c(\omega_i, w_j)$)—as the buyer's utility (resp.: the seller's cost) in state ω_1 when she consumes (produces) widget w_j—as v_{11} (resp.: c_{11}). Generalizing, we represent buyer utility as v_{ij}, where the first subscript, i, denotes the state of the world (i.e., 1, 2, or 0) and the second, j, denotes the widget consumed (resp.: produced) (i.e., 1, 2, or 0). Thus, v_{11} (resp.: c_{11}) denotes the buyer's utility (resp.: seller's cost) in state ω_1 when she consumes (produces) w_1.

50 *See supra* note 44 (explaining the difference between contractual environments characterized by uncertainty but where the parties share symmetric information on the distribution of possible states of the world and contractual environments with asymmetric information).

51 *See infra* text accompanying notes 74–82. Formally, each party receives a signal that correlates positively but imperfectly with the type of court the party will face. We assume that the signals differ, so that each party may come to hold different views about the relevant court type.

52 Formally, A1 means that in state ω_1, $v_{11} > v_{12} > K > c_{11} > c_{12}$ holds. In words, producing widget one in state one creates more value than producing widget two in state one, and the price for either widget exceeds the cost of production.

53 Formally, A2 means that in state ω_2, $v_{22} > c_{22} > K > v_{21} > c_{21}$ holds, with $(v_{21} - c_{21}) < (v_{22} - c_{22})$.

w_1 because, in state ω_0, the buyer's value for w_1 exceeds the price K.[54] The parties' interests thus also conflict in state ω_0.

These assumptions capture three typical cases. In the first, ω_1, described in A1, the parties' interests are aligned; both prefer the seller to produce the same widget, w_1. A2 captures an ex-post state that is similar to the manufacturing example above: there is conflict because the widget w_2 is efficient to produce in state ω_2 but the contract price K is below cost.[55] The parties here disagree on *which* performance is due. A3 captures a state, ω_0, in which no widget would be efficient to produce. That is, the parties disagree on *whether* performance is due.

The states that assumptions A2 and A3 characterize therefore pose interpretation issues because our illustrative contract is obligationally complete but economically incomplete. A contract is obligationally complete if the contract sets a price (here, K) and a quantity (here, either w_1 or w_2). With these variables pinned down, a court could monetize damages. The contract is economically incomplete, however, because it *does not* contain a state-contingent plan of action specifying whether the seller must deliver w_1, w_2, or w_0 depending on which of ω_1, ω_2, or ω_0 materializes.[56]

The parties proceed as follows:

- t_0: The parties sign a contract to trade widget w_1 or w_2 at price K, which the buyer pays up front.
- t_1: The state of the world (ω_0, ω_1, or ω_2) becomes clear; the seller announces the production of either widget w_0, w_1, or w_2 (or the buyer demands the tender of widget w_1 or w_2).
- t_2: The parties may renegotiate or litigate.
- t_3: If the parties have neither renegotiated nor litigated, the seller tenders a widget, the buyer accepts, and the parties repeat the process.

The "continuation value" of the contract sums the expected gains from future deals and the saved litigation costs from not litigating the current deal.[57] We denote the continuation value V_B (resp.: V_S) for the buyer (resp.: the seller). If the parties litigate at t_2, the court will award expectation damages if it finds breach, but the continuation value

54 Formally, A3 means that in state ω_0, $c_{02} \geq c_{01} > v_{01} \geq v_{02} > K$ holds. In words, the cost of either widget exceeds the widget's value, which makes performance inefficient, but the value exceeds the price, so the buyer wants an inefficient performance.

55 It may actually be efficient to subsidize the seller's production in this case.

56 *See* Schwartz, *supra* note 22, at 272 ("[A]n incomplete contract has [either] a true gap—for example, no [relevant] price term—or . . . it partitions future states or potential contracting partners 'too coarsely.'").

57 Because the continuation value includes litigation-cost savings, the value is always strictly positive.

vanishes.[58] If production does not occur, the buyer is entitled to restitution of the price.

B. Party Types, Court Types, and Interpretation

1. Party Types and Accuracy

We initially reprise the difference between the two interpretive approaches in the context of our example. Beginning with textualism, the contract's words require the seller to deliver one of the two widget types. The parties thus will believe that in state ω_2, because the cost exceeds the price of the efficient widget w_2, the seller will not voluntarily deliver that widget.[59] Also, because the contract is silent regarding nonperformance, the parties will believe that in state ω_0 the buyer can require the seller inefficiently to tender a widget.[60] By contrast, under a contextual interpretive regime, the parties' precontractual discussions would be admissible. As a result: (a) in state ω_2, both parties would believe that the buyer is entitled to the efficient widget w_2 (possibly at a higher price);[61] and (b) in state ω_0, both parties would believe that the seller can tender w_0—nothing—while returning K to the buyer.[62]

The increased exchange efficiency the contextual interpretive regime permits is costly, however. Trials are expensive, so extending the evidentiary base to contextual information increases a party's expected adjudication costs. Choosing between these interpretive approaches requires a court to trade off accuracy (on party types) against contract writing and adjudication costs.

We do not pursue the question of which approach is best in this section, however.[63] Rather, we add the problem for parties of identifying court types to their problem of identifying each other's type. As we show, the parties' interpretive problem becomes more complex, as

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58 Given the structure of our analytical representation, this assumption comes without any loss of generality.

59 Formally, $\mu_B(w_2|\omega_2, \textit{text}) = \mu_S(w_2|\omega_2, \textit{text}) = 0$.

60 Formally, $\mu_B(w_0|\omega_0, \textit{text}) = \mu_S(w_0|\omega_0, \textit{text}) = 0$.

61 Formally, $\mu_B(w_2|\omega_2, \textit{context}) = \mu_S(w_2|\omega_2, \textit{context}) = 1$.

62 Formally, $\mu_B(w_0|\omega_0, \textit{context}) = \mu_S(w_0|\omega_0, \textit{context}) = 1$. Here, we are assuming that the parties have developed transactional practices and procedures—either during the execution of the contract or during precontractual negotiations—that provide clarifying contextual information on the contract's obligational content and this information is common knowledge. Together, these practices and procedures may permit the parties to implement a complete state-contingent plan of action.

63 One of us has extensively defended the normative desirability of a textualist position. *See* Schwartz & Scott, *supra* note 1, at 944–47; Schwartz & Scott, *supra* note 10, at 568–94.

does the normative ranking between textualist and contextualist interpretive theories.

2. Court Types and Coordination

This subsection analyzes the two interpretive regimes when parties are uncertain about the type of court that will interpret their agreement. We show:

(i) Under the textualist regime, parties are likely to hold similar views about the court. As a result, they are likely to coordinate: that is, to renegotiate an inefficient contract so that it directs the efficient outcome; and

(ii) Under the contextualist regime, parties are likely to hold divergent views about the court. As a result, parties may fail to coordinate; it can be an equilibrium for them to litigate even when their contract is efficient or when there is an alternative efficient contract to write.

a. Textual Interpretation

Under a textualist regime, parties expect the court to interpret their contract under a hard parol evidence rule,[64] use the plain-meaning rule, enforce merger clauses, and exclude evidence of ex-post oral modifications. These practices constrain the court's interpretive space. Hence, the parties will likely believe that the court will interpret their contract as their shared first-order beliefs would direct.[65] In state ω_2, then, the buyer would not require the seller to deliver w_2; in state ω_0, the buyer would require the seller to deliver w_1.[66] These outcomes

64 The hard parol evidence rule holds that when parties fully integrate a final written agreement, they cannot later prove understandings that the integrated writing did not contain. *See, e.g.*, Arthur L. Corbin, *The Interpretation of Words and the Parol Evidence Rule*, 50 CORNELL L.Q. 161, 171 (1965); Eric A. Posner, Essay, *The Parol Evidence Rule, the Plain Meaning Rule, and the Principles of Contractual Interpretation*, 146 U. PA. L. REV. 533, 534–37 (1998); *see also* Morgan Stanley High Yield Sec., Inc. v. Seven Circle Gaming Corp., 269 F. Supp. 2d 206, 214–15 (S.D.N.Y. 2003) (holding that the prior agreement is excluded where the writing appears, in view of thoroughness and specificity, to embody a final agreement); Intershoe, Inc. v. Bankers Tr. Co., 571 N.E.2d 641, 644 (N.Y. 1991) (same); Mitchill v. Lath, 160 N.E. 646, 646–48 (N.Y. 1928) (upholding the four-corners presumption that an apparently complete contract is complete and excluding evidence of an alleged collateral agreement to a land-sale contract).

65 In the limit, parties will expect a textualist court to be only of one type.

66 Under a textualist regime, when the interpretive question is *which* performance is due, the parties will expect the court not to admit evidence of ex-post oral modifications. Likewise, the parties will expect the court not to consider evidence of subsequent practices. Similarly, concerning the interpretive question *whether* performance is due, the parties will expect the court not to excuse performance.

are inefficient, so renegotiating to the efficient contract would be productive. The buyer would induce the seller to produce the w_2 widget in state ω_2 by paying the seller's higher production cost[67] out of the renegotiation surplus that renegotiation would create.[68] Similarly, the seller would pay the buyer's expectation damages (i.e., deliver w_0) in ω_0 rather than inefficiently tender a widget.[69] In addition, renegotiation would allow the parties to preserve the contract's continuation value and save litigation costs.

b. Contextual Interpretation

Under a contextualist interpretive regime, the court will apply a soft parol evidence rule,[70] reject the four-corners test for interpreting a contract, and accord at most presumptive weight to a merger clause. These practices permit the court to admit extrinsic evidence of meaning, though the writing appears final and complete on its face.[71]

Litigation can occur as a result because the court has interpretive discretion[72] and, importantly, because party preferences over a court's interpretive practice *are partly a function of the ex-post state.*[73] Thus, in our example the seller prefers interpretation to be based on the text in state ω_2 (because this would allow him to deliver the inefficient but less costly widget w_1), while the buyer prefers the court to consider context (because this would enable her to require the seller to deliver

67 This is $c_{22} - c_{21}$.

68 This is $[(v_{22} - c_{22}) - (v_{21} - c_{21})]/2$.

69 That is v_{01}.

70 A "soft parol evidence rule functions, in effect if not formally, as an open gate:" courts will consider "any extrinsic evidence that a party sees as advantageous ex post." Schwartz & Scott, *supra* note 1, at 961.

71 *See, e.g.*, Int'l Milling Co. v. Hachmeister, Inc., 110 A.2d 186, 189–91 (Pa. 1955) (holding extrinsic evidence of negotiations and antecedent agreements admissible to show that the buyer had not assented to the contract as a complete integration of the contract despite the presence of an express merger clause); *see also* RESTATEMENT (SECOND) OF CONTS. § 216 cmt. e (AM. L. INST. 1981) (same).

72 Anticipating the existence of court discretion, the parties may make different predictions about how a court will interpret their contract in consequence of their previous litigation experience (e.g., their rate of success or failure in past litigations), their possibly different (intangible) information about a court's interpretive behavior, their belief that they have a better legal team, and so on.

73 As put by Robert Aumann, if a group of individuals have common prior beliefs and there is common knowledge of their posterior beliefs about an event, then those posterior beliefs should be the same. Thus, if individuals publicly disagree about the posterior probabilities of an event (and fail to revise them), then there is common knowledge that their posteriors are different, although they might not know the source of different priors. *See* Robert J. Aumann, *Agreeing to Disagree*, 4 ANNALS STAT. 1236, 1236 (1976). This is the case with parties to a contract that are symmetrically informed about their types and could mutually gain by renegotiation but end up litigating in court.

the efficient but more costly widget w_2). Conversely, the buyer prefers interpretation to be based on the text in state ω_0, (because this would allow her to require the seller to deliver the inefficient widget w_1), while the seller prefers the court to consider context because this would efficiently excuse him from performance. As an illustration of how these conflicting preferences could prevent renegotiation, in state ω_2 the buyer may prefer to litigate believing the court will use context while the seller also may prefer to litigate believing differently that the contract is sufficiently clear for the court to exclude context. The result would be an unnecessary lawsuit because, in ω_2, the parties could efficiently renegotiate.

We next formalize this interpretive conflict. There are many court types, but our example requires three: θ_1, θ_2, and θ_3. The parties assign different probabilities to which of these courts they may face; it is these differing probability assignments that make inefficient litigations possible. We characterize the three court types as follows:

1. A type θ_1 court (a) bases its interpretation partly on the context when the parties agree that a delivery is due (i.e., in states ω_1 and ω_2), but (b) bases its interpretation exclusively on the text when the parties disagree that a delivery is due (i.e., in state ω_0).[74] This court type will admit evidence that the parties had exchanged information about the production of a new operating system and orally agreed that the seller would produce the more costly software (i.e., w_2). The court thus will hold that, in state ω_2, the buyer has a right to the widget w_2. On the other hand, the court, in state ω_0, will require the seller to deliver a widget despite an unforeseen increase in manufacturing costs.
2. A type θ_2 court (a) bases its interpretation exclusively on the text when the parties agree that a delivery is due (i.e., in states ω_1 and ω_2), but (b) bases its interpretation partly on the context when the parties disagree that a delivery is due (i.e., in state ω_0).[75] This court will allow the seller to deliver the less costly widget w_1 in state ω_2 although the parties had exchanged precontractual communications about the possibility of a new, more costly operating system. On the other

74 To explain further, the θ_1 court will find an ambiguity in states ω_1 and ω_2 because the contract requires the seller to deliver a widget in both states, but the contract does not direct which one. On the other hand, the θ_1 court will rest its interpretation on the text in state ω_0 because the text clearly requires the seller to deliver something.

75 When the contract requires the seller to deliver something, the θ_2 court believes it can tell which widget is required from the contract's text alone. On the other hand, the court will believe the contract is unclear regarding whether a delivery is due in ω_0 and so will admit contextual evidence to resolve the issue.

hand, the court will permit the seller to deliver w_0—i.e., nothing—if there is an unforeseen increase in manufacturing costs.

3. A type θ_3 court considers contextual evidence both when the parties agree that a delivery is due (i.e., in states ω_1 and ω_2), and when they disagree that a delivery is due (i.e., in state ω_0). This court will hold that the buyer has a right to w_2 in state ω_2 and only to the return of the price K in state ω_0.

Regarding possible probability assessments:

(i) The buyer may believe that she will face a θ_1 court with probability $1 - p_2$. Hence, if p_2 is low, the buyer expects the θ_1 court to interpret the contract to give the buyer a right to w_2 in state ω_2. Conversely, the seller may believe that he faces a θ_1 court with probability $1 - q_2$. If $q_2 >> p_2$, the seller will assign a low probability to facing a θ_1 court. Hence, he expects the court not to order her to produce w_2 in state ω_2 (i.e., he believes the court likely is a θ_2 type).[76]

(ii) The buyer may believe that she will face a θ_2 court with probability $1 - p_1$. Hence, if p_1 is low, the buyer expects the court not to order the seller to deliver a widget in state ω_0. Conversely, the seller may believe that he faces a θ_2 court with probability $1 - q_1$.[77] If $q_1 >> p_1$, the seller will assign a low probability to facing a θ_2 court. Hence, he expects the court to order her to deliver a widget (i.e., he believes the court likely is a θ_1 type).[78]

When parties are symmetrically informed about each other's type, they will probably agree on their monetary payoffs from litigation. The expected value of litigation, however, is the product of the probability of success and the payoff. When the parties assign very different probabilities to the court type they may face,[79] they effectively are assigning very different probabilities to their success in a litigation. As a result, their expected litigation values will differ widely.[80] Litigation thus could occur although the parties would benefit from renegotiation both under (i) (when the question is which performance is due) and under (ii) (where the question is whether any performance is due).

Further, to clarify, let ω_2 materialize, in which it would be efficient to produce w_2 (i.e., the more costly software widget), but the seller will only produce the less costly widget w_1. The buyer must then decide

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76 For the buyer, $p_1 + (1 - p_1 - p_2) = 1 - p_2$. And similarly for the seller.

77 That is, $p_2 + (1 - p_1 - p_2) = 1 - p_1$.

78 That is, $p_2 + (1 - p_1 - p_2) = 1 - p_1$.

79 *See supra* notes 73–74 and accompanying text (discussing the sources of the parties' inconsistent second-order beliefs on court types).

80 That is, $p_2 + (1 - p_1 - p_2) = 1 - p_1$.

whether to renegotiate or to sue for breach. If she does sue when the seller tenders w_1, she will expect to receive damages (based on her value for widget w_2) with probability $1 - p_2$.[81] To the contrary, if the buyer does not sue, her default position will be the contract's continuation value, V_B. Given her different beliefs on the distribution of court types, the seller will expect that if the buyer sues when he tenders w_1, he will pay expectation damages with probability $(1 - q_2) < (1 - p_2)$. Instead, if the seller delivers w_2 and avoids litigation, she will receive the contract's continuation value, V_S, but will have to incur the additional production cost.[82]

The parties will sue when both of their expected litigation payoffs exceed both of their contract's continuation values.[83] These conditions can be satisfied when the parties' probability estimates differ widely: litigation would then be the equilibrium outcome.[84] Litigation would be inefficient for two reasons. First, the efficient exchange does not take place. Second, parties destroy the future value of their relationship (and bear litigation costs).[85]

We conclude this analysis with three points. First, commercial parties investigate potential contract partners and review their experience with repeat players. Therefore, typical parties have both the expertise and the opportunity to learn their counterparty's type. Parties, however, litigate infrequently and, despite legal help, often lack the competence to make precise predictions about how different court types

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81 The buyer's expectation damages are $v_{22} - v_{21}$.

82 That is, $c_{22} - c_{21}$. Notice, however, that the seller can avoid litigation and produce the more expensive widget: $(1 - p_2)(v_{22} - v_{21}) < c_{22} - c_{21}$. By paying expectation damages whenever those damages are less than the marginal increase in cost, the seller can avoid litigation.

83 For the buyer, $(1 - p_2)(v_{22} - v_{21}) - V_B > 0$. For the seller, $\min[(c_{22} - c_{21}), (1 - p_2)(v_{22} - v_{21})] - V_S > (1 - q_2)(v_{22} - v_{21})$.

84 Similarly, consider the realized state ω_0, in which it is efficient to excuse the seller due to, for example, an unforeseen increase in manufacturing costs. Let the seller announce she will produce w_0 (that is, nothing) and return the price K. In this case, the buyer will believe that if she sues the seller, she will receive the value of consuming a widget with probability p_1 and receive the contract price as a restitution remedy with probability $(1 - p_1)$. If instead the buyer does not sue, she will receive the price and preserve the contract's continuation value, V_B. Given her different beliefs on the distribution of court types, the seller will believe that the buyer, upon suing her, will receive the value of consuming a widget only with probability $q_1 < p_1$ and will instead receive only the contract price as a restitution remedy with probability $(1 - q_1) > (1 - p_1)$. To avoid litigation and save the contract's continuation value, the seller can settle (i.e., renegotiate) with the buyer and pay the buyer's estimation of his expected litigation payoff. Hence, the seller will prefer litigation whenever his expected litigation payoff is lower than the no-litigation payoff. This leads again to an inefficient equilibrium, i.e., it wastes the contract's continuation value and expends litigation costs.

85 The total social cost from litigation in this case is $[(v_{22} - c_{22}) - (v_{21} - c_{21})] + (V_B + V_S)$.

will rule on complex commercial litigations. As a result, predicting court types is more difficult for parties than predicting counterparty types.

Second, decisionmakers commonly face the question whether the applicable law should be a standard—"best efforts," "fair dealing"—or should be a rule. We add an additional reason for decisionmakers to prefer rules. A court has more discretion regarding which facts are determinative and what the relevant norms should be under a standard than under a rule. Hence, parties have more difficulty predicting a court's type when the law uses standards.

Third, we uncover an additional virtue of specialized courts: they reduce the probability of litigation because parties can learn the court's type relatively conveniently. There are two reasons. First, specialized courts usually have few members, who serve for considerable periods. The Delaware Chancery Court thus has only seven members,[86] who serve for twelve years.[87] In most federal districts, there are only one or a few bankruptcy judges, who also are long serving.[88] Second, specialized courts hear similar cases over time, thereby revealing their views as to how such cases should be decided. As a result of the small number of judges and the continuity of their judgments, parties can learn specialized-court types more easily than learning generalist-court types. Specialized courts thus are useful not only for solving the problem of courts and parties learning party types but also for solving the problem of parties learning court types.

C. Unavoidable Contextualism

Party beliefs about court types diverge as the court's interpretive discretion increases. Parties thus may hold similar beliefs about court types under a textualist interpretive regime because courts then have relatively little interpretive discretion. Conversely, parties may hold divergent beliefs about court types under a contextualist regime because courts then have considerable interpretive discretion. Therefore, a textualist interpretive regime apparently better enables parties to solve ex-post coordination problems. It does not solve those problems entirely, however, for four reasons. These reasons sum to the position that more than an interpretive switch from textualism to contextualism is needed materially to increase the efficiency of business contracting. Rather, the remedy of midstream interpretation also is necessary.

First, judicial discretion can exist under a textualist interpretive regime. The best example occurs when the interpretive problem not

86 *See* DEL. CODE ANN. tit. 10, § 307 (2013).

87 DEL. CONST. art. IV, § 3.

88 *See* 28 U.S.C. § 152(a)(2) (2018).

only involves contract meaning but also involves contract language. In these cases, the parties not only disagree about what they intended the contract language to say, but differ regarding the language in which their contract itself was written. There is a distinction between the conventional language used by the majority of people within a community, including judges, lawyers, and jurors, and the language used by particular communities such as the parties to the contract or the parties to a trade.[89] Extrinsic evidence is necessary when one party claims that a contested term was written in the English language while the other says the term was written in the language of a linguistic subgroup and the two terms direct different outcomes.[90]

Second, though textualist interpretation based on a hard parol evidence rule restricts the domain of admissible evidence, it cannot affect the court's choice of legal rule. As a result, even in formalist jurisdictions like New York, the existence of residual court discretion may lead parties to hold divergent beliefs regarding their expected litigation payoffs.[91]

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89 For a useful metaphor illustrating the difference between majority and private talk, see LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS para. 18 (G.E.M. Anscombe trans., Basil Blackwell Ltd. 2d ed. 1958) (1953) ("Our language can be seen as an ancient city: a maze of little streets and squares, of old and new houses, and of houses with additions from various periods; and this surrounded by a multitude of new boroughs with straight regular streets and uniform houses.").

90 A typical example of a language-interpretive problem occurs when parties use a term that has a different meaning depending on the community language or dialect that is used. *See, e.g.*, Frigaliment Importing Co. v. B.N.S. Int'l Sales Corp., 190 F. Supp. 116, 117 (S.D.N.Y. 1960) (where the problem was whether the word "chicken" in poultry-business dialect referred to any adult bird of the relevant species or only to young birds suitable for broiling); Cochran v. Whitby (*In re* Soper's Est.), 264 N.W. 427, 431 (Minn. 1935) (where the problem was whether the term "wife" indicated the woman to whom a man was legally married or the woman with whom the man had been living). Another typical example of a language problem concerns cases of homonymy. *See, e.g.*, Raffles v. Wichelhaus (1864) 159 Eng. Rep. 375; 2 H. & C. 906 (concerning a shipping contract where there were two ships named *Peerless* and where the defendant meant one *Peerless* and the plaintiff another). In all of these cases, even strict textualism cannot resolve the contract's ambiguity, introducing some unavoidable contextualism. In similar cases, the parties' choice of a textualist interpretive rule will have only limited effect on court discretion.

91 There is evidence of such residual court discretion in derogating from formalism even in formalist jurisdictions. For example, in *Hicks v. Bush*, 180 N.E.2d 425 (N.Y. 1962), the contract provided for a merger of two corporations into a new corporation with the agreement that owners of the two corporations were to subscribe for stock in the new one within twenty-five days after the contract was signed. *Id.* at 426. Otherwise, the contract was to be cancelled. *Id.* One of the two corporations subscribed, but the other did not, and the deal fell through. *Id.* In an action for specific performance, the defendant offered testimony that the written agreement was signed "upon a parol condition" that it "was not to operate" as a contract and that the contemplated merger was not "to become effective" until the party acquired funding in a certain amount. *Id.* The trial judge admitted the testimony, and the plaintiff appealed. *See id.* The New York Court of Appeals ruled that

Third, a textualist rule would not constrain the parties' freedom to select the evidentiary base but rather would function as "a useful aid to contract design by offering parties the opportunity either to expand or to contract the context"[92] that a court will consider in solving interpretive disputes. Under textualism, parties could choose between introducing context in the contract or at trial. While the exercise of this contractual freedom should promote accuracy in interpretation, it also would increase the scope of court discretion. As a result, optimal contract design only partially solves the coordination problem that the issue of court types raises.

Fourth, in modern relational contracts, parties may be unable to write agreements that specify their contractual obligations in detail or, anyway, might not know which evidence will come to matter in the event of litigation. As we saw, these contracts specify the cooperative behavior in which parties are supposed to engage in the presence of significant uncertainty with regard to what they will ultimately exchange. Given its intrinsic imprecise nature, the obligational content of a modern relational contract necessarily must be integrated ex post with contextual information. For this class of contracts, a textualist interpretive regime is precluded by the nature of the parties' relationship rather than by the law. And to summarize, for these four reasons, contracting parties face "unavoidable contextualism." Thus, we ask how contract law should respond to this phenomenon.

III. MIDSTREAM INTERPRETATION AS A COORDINATION DEVICE

A. Midstream Interpretation

Parties should be able to ask a court, *before* a breach occurs, for an anticipatory (or "interim") interpretation of their contract. Midstream interpretation would not give the parties enforceable rights but would commit the court to an evidentiary base and a particular application of contract doctrine. If the parties later litigate,[93] the court would make a textualist interpretation of the "interpreted contract." To this extent, midstream interpretation would promote a form of neotextualism. Ordinary textualist interpretation permits the resolution

parol evidence is admissible to prove an oral "condition precedent to the legal effectiveness of a written agreement." *Id.* at 427 (first citing Saltzman v. Barson, 146 N.E. 618, 619 (N.Y. 1925); then citing Grannis v. Stevens, 111 N.E. 263, 265 (N.Y. 1916); and then citing Reynolds v. Robinson, 18 N.E. 127 (N.Y. 1888)).

92 Schwartz & Scott, *supra* note 1, at 963.

93 Under the availability of midstream interpretation, litigation for breach remains possible off the equilibrium path.

of many interpretation disputes by summary judgment.[94] Although this remedy saves litigation costs, a summary judgment results in a severed relationship, thereby wasting the parties' continuation value (and still involving *some* litigation costs). By contrast, midstream interpretation may permit parties to continue relationships worth saving.

The scope of the coordination problem parties face depends on the degree of unavoidable contextualism, which suggests that midstream interpretation could take different forms. When there is only residual uncertainty on a court's legal views, midstream interpretation could take the form of a declaratory judgment.[95] This remedy would allow the court to state its authoritative opinion regarding the applicable law. When parties are asymmetrically informed both about their own types and about the court's type, however, a declaratory judgement—which typically only involves an issue of law on undisputed or relatively undisputed facts[96]—is poorly suited for a midstream interpretation. As an alternative, midstream interpretation could take the form of a modified reformation remedy. Courts today[97] use the equitable

94 *See, e.g.*, Kallman v. Radioshack Corp., 315 F.3d 731, 735 (7th Cir. 2002) ("[I]nterpretation of the terms of an unambiguous contract is traditionally a question of law and is particularly suited to disposition on summary judgment." (first citing Church v. Gen. Motors Corp., 74 F.3d 795, 799 (7th Cir. 1996); and then citing Bechtold v. Physicians Health Plan of N. Ind., Inc., 19 F.3d 322, 325 (7th Cir. 1994))); Thrower v. Anson, 752 N.W.2d 555, 560–61 (Neb. 2008); Drake v. Hance, 673 S.E.2d 411, 413 (N.C. Ct. App. 2009); *see also* William C. Whitford, *The Role of the Jury (and the Fact/Law Distinction) in the Interpretation of Written Contracts*, 2001 WIS. L. REV. 931, 938 n.18 ("[M]ost courts find that if the written terms have a clear or plain meaning, summary judgement is appropriate, and jury consideration of the meaning of extrinsic evidence is not necessary.").

95 *See* DEL. CODE ANN. tit. 10, §§ 6502–6503 (2013) (permitting a declaratory judgment action to "determine[] any question of construction or validity arising under . . . [a] contract . . . either before or after there has been a breach thereof").

96 As a general rule, the judge resolves ambiguities in a written contract unless the resolution depends on disputed parol evidence. *See, e.g.*, Chuy v. Phila. Eagles Football Club, 595 F.2d 1265, 1271 (3d Cir. 1979) (first citing Pines Plaza Bowling, Inc. v. Rossview, Inc., 145 A.2d 672, 676 (Pa. 1958); then citing Easton v. Wash. Cnty. Ins. Co., 137 A.2d 332, 336 (Pa. 1957); and then citing Castellucci v. Columbia Gas of Pa., Inc., 310 A.2d 331, 334 (Pa. 1973)); Smith v. Prudential Prop. & Cas. Ins. Co., 10 S.W.3d 846, 850–51 (Ark. 2000).

97 A recent case of "classic" reformation is *Wells Fargo Bank, N.A. v. Coleman*, 768 S.E.2d 604 (N.C. Ct. App. 2015), where Wells Fargo sought reformation of the contract on the ground of mutual mistake. In *Wells Fargo*, the court stated that "[r]eformation is a well-established equitable remedy used to reframe written instruments where, through mutual mistake or the unilateral mistake of one party induced by fraud of the other, the written instrument fails to embody the parties' actual, original agreement." *Id.* at 611 (quoting Metro. Prop. & Cas. Ins. Co. v. Dillard, 487 S.E.2d 157, 159 (N.C. Ct. App. 1997)). Interestingly, on appeal the defendants argued that summary judgment was appropriate on the merits based on the argument that reformation was impermissible because Wells Fargo did not use "reasonable diligence" in drafting the deed of trust. *Id.* The court rejected the claim because there is no "reasonable diligence" requirement in an action for reformation based on mutual mistake. *Id.* A mutual mistake is one that is shared by both parties to the

remedy of reformation[98] when a party entered into a contract partly because of a factual error;[99] reformation ensures that the contract reflects the deal both parties believed they were making.[100] Our proposed extension of reformation would thus call for lifting the constraint[101] that a party's mistake must "relate to the facts existing at the time of the making of the contract."[102] More broadly, midstream interpretation via modified reformation would call for extending freedom of contract to remedy rules, including equitable remedies.[103]

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contract, "wherein each labors under the same misconception respecting a material fact, the terms of the agreement, or the provisions of the written instrument designed to embody such agreement." *Id.* (quoting *Dillard*, 487 S.E.2d at 159).

98 For a view of equitable remedies as a supplemental "system" that facilitates parties' contracting, see Samuel L. Bray, *The System of Equitable Remedies*, 63 UCLA L. REV. 530, 593 (2016) ("The equitable remedies, together with the equitable managerial devices and equitable constraints, can be seen as a system. A claim for an equitable remedy is a claim within that system . . . .").

99 *See* STEVEN J. BURTON, ELEMENTS OF CONTRACT INTERPRETATION 102 (2008) ("To get reformation, the party seeking it must prove that, unknown to either party, their true agreement differed materially from the written agreement. Examples are typographical and transcription errors, or the parties' inattention to the writing." (footnote omitted)).

100 *See id.* (explaining that the reformation exception to the parol evidence rule "is based mainly on the premise that the parties[] intend to replace their subjective agreement with an accurate written contract").

101 Other constraints on the use of reformation also should be rethought: Initially,

> [t]he burden of proof [for classic reformation] is high: "[T]o be entitled to reformation, a party must establish that the undisputed material facts fully, clearly, and decisively show a mutual mistake." Second, reformation is an equitable doctrine. A court may withhold it as a matter of discretion, as when it thinks a party seeks reformation as a strategic pretext.

Id. (third alteration in original) (footnote omitted) (quoting OneBeacon Am. Ins. Co. v. Travelers Indem. Co. of Ill., 465 F.3d 38, 41 (1st Cir. 2006)). Further, an action for reformation is normally premised on a party's claim of mistake or fraud. Many states require the plaintiff to plead specific facts supporting claims of fraud or mistake, which makes the burden of proof even more demanding. *See, e.g.*, N.Y. C.P.L.R. 3016(b) (MCKINNEY Supp. 2023); FLA. R. CIV. P. 1.120(b); PA. R. CIV. P. 1019(b); Thrifty Payless, Inc. v. Americana at Brand, 160 Cal. Rptr. 3d 718, 729 (Cal. Ct. App. 2013) (mistake must be pled with some particularity). Lifting these constraints would mean that parties could ask for midstream interpretation as a modified reformation remedy independent of factual mistakes or whether there is fraud but on the assumption that they were unable to write a fully state-contingent contract at signing.

102 Schwartz & Sepe, *supra* note 12, at 796 (quoting SAMUEL WILLISTON & RICHARD A. LORD, 27 A TREATISE ON THE LAW OF CONTRACTS § 70:3 (4th ed. 2020)). This constraint is efficient for traditional contracts. The risk-allocation function of a traditional contract would be lost if a court would change a contract term (e.g., a price or a quantity) on the ground that the party seeking the change had made an erroneous economic prediction.

103 *But see* Jody P. Kraus & Robert E. Scott, *The Case Against Equity in American Contract Law*, 93 S. CAL. L. REV. 1323, 1323 (2020) ("While initially intended to do justice between the parties, if used today these doctrines [(equity)] perversely and unjustly deny parties contractual rights that were bargained for in a free and fair agreement. Yet judges continue

That is, reformation would become available to the parties, thereby providing them with an efficient response to the informational problem of identifying court types.[104]

Before moving to how midstream interpretation actually would work,[105] we note that the proposal for a modified reformation remedy has important historical antecedents. These antecedents date back to the Roman law's institute of the *jurisconsulti*, a body of legal experts vested with the power of providing authoritative opinions on the law.[106]

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to recognize the ex post doctrines, even as they struggle to reconcile them with respect for the parties' intent. . . . The penumbra of uncertainty they cast over contract adjudication continues to undermine contracting parties' personal sovereignty."). This is a well-taken objection to the "equity system," but we think it is overcome by our call for granting parties discretion over how and to what extent to use this system in the context of a broader call for generalizing freedom of contract.

104 Extending parties' freedom concerning contract remedies—including equitable remedies—would shift authority from courts to the parties themselves, with courts remaining in charge of the enforcement of contractually specified remedies. That is, courts would be constrained by the parties' contractual choices in the application of remedies, rather than the other way around. To this extent, our claim to generalize freedom of contract to remedies can be seen as an application of "libertarian paternalism," under which parties *willingly* choose a paternalistic solution, such as action for midstream interpretation, to solve both behavioral problems and limited-commitment problems. *See generally* Richard H. Thaler & Cass R. Sunstein, *Libertarian Paternalism*, AM. ECON. REV., May 2003, at 175; Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron*, 70 U. CHI. L. REV. 1159 (2003); *see also generally* Simone M. Sepe, *Board and Shareholder Power, Revisited*, 101 MINN. L. REV. 1377 (2017) (arguing that the adoption of a staggered board might help solve the shareholders' limited-commitment problem). Similarly, parties' decision to delegate authority to the court via an action for midstream interpretation would help solve the informational problems arising from uncertainty around court types.

105 In prior work, we have explored a more limited application of modified reformation to new-economy collaborations. *See* Schwartz & Sepe, *supra* note 12, at 797–801. In this Article, we expand on that discussion, proposing to introduce a modified-reformation remedy for cases when unavoidable contextualism presents.

106 The writings of the jurisconsulti consisted of commentarii on the Twelve Tables, on the Edict, [and] on particular leges . . . . The later jurists also commented on the writings of the earlier jurists. They also wrote elementary treatises (*elementa*, *commentarii*), such as the Institutiones of Gaius, which is the earliest work of the kind that we know to have been written; books called Regulae, and Definitiones, which probably were collections of maxims and legal principles; collections of cases and answers, under the various names of responsa, epistolae, sententiae, and opiniones; systems of law; and various works of a miscellaneous character, with a great variety of names, such as disputationes, quaestiones, enchiridia, res quotidianae, and various other titles.

ALEXANDER ALLEN ET AL., A DICTIONARY OF GREEK AND ROMAN ANTIQUITIES 655 (William Smith ed., London, John Murray 1875) (1842); *see also id.* at 653–55 (providing a general overview of the institute). For additional sources, see F.P. BREMER, DIE RECHTSLEHRER UND RECHTSSCHULEN IM RÖMISCHEN KAISERREICH (Berlin, Verlag von I. Guttentag 1868); Contardo Ferrini, *Le scuole di diritto in Roma antica: Discorso inaugurale*, ANNUARIO DELLA REGIA UNIVERSITÀ DI MODENA, ANNO SCOLASTICO 1891–92, at 17 (Modena, Antica Tipografia Soliani 1892); GIOVANNI BAVIERA, LE DUE SCUOLE DEI GIURECONSULTI ROMANI (Florence,

Similarly, an action for midstream interpretation would enable parties to request an interim authoritative opinion from the same court that would judge their case if a breach occurs. The *jurisconsulti* had "such a knowledge of the laws . . . and customs . . . which prevail in a state as to be able to advise (*respondendum*), act (*agendum*), and to secure a person in his dealings (*cavendum*)."[107]

More specifically, *respondere* entailed giving parties an opinion on the legal questions they put in front of the *jurisconsulti*—that is, identifying what the legal problem is.[108] *Agere* involved identifying the applicable legal principles to solve the problem and guiding the parties' "advisors" in how to address the controversy. *Cavere* was the action of suggesting to the parties how to specify (or respecify) their contractual rights and obligations so to avoid possible future controversies.[109] The similarities with midstream interpretation are quite apparent, especially under the actions of *respondere* and *cavere*. Similar to the function

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Fratelli Cammelli 1898); WILHELM KALB, DAS JURISTENLATEIN: VERSUCH EINER CHARAKTERISTIK AUF GRUNDLAGE DER DIGESTEN (Nuremberg, Schärtel'schen Officin (Theodor Hässlein) 1887) (focusing on the language used by the *jurisconsulti* in their interpretive activity).

107 ALLEN ET AL., *supra* note 106, at 653 (quoting CICERO, DE ORATORE I.48, *reprinted in* CICERO ON ORATORY AND ORATORS 201 (J.S. Watson ed. & trans., London, Henry G. Bohn 1855) (55 B.C.); *see also* Saverio Masuelli, *Interpretazione, chiarezza e oscurità in diritto romano e nella tradizione romanistica,* 8 RIVISTA DI DIRITTO ROMANO art. no. 4, at 2 (2008) (explaining that in ancient Rome, the interpretation of the law consisted in *respondere*, *cavere*, and *agere).*

108 The *jurisconsulti*'s "*respondere*" activity is thought to have been later formalized by Augustus into a source of law. On this view, Augustus would have given the *jurisconsulti* the right to create law by making their opinion binding on the judges. *See, e.g.*, RICHARD A. BAUMAN, LAWYERS AND POLITICS IN THE EARLY ROMAN EMPIRE: A STUDY OF RELATIONS BETWEEN THE ROMAN JURISTS AND THE EMPERORS FROM AUGUSTUS TO HADRIAN 1–21 (1989). Other scholars, however, maintain that the *jurisconsulti* only continued to serve as advisors to Roman judges. *See, e.g.*, MARIE THERES FÖGEN, RÖMISCHE RECHTSGESCHICHTEN: ÜBER URSPRUNG UND EVOLUTION EINES SOZIALEN SYSTEMS 205–06 (2002). It seems uncontroversial, however, that judges held the *jurisconsulti*'s opinions in great consideration (indeed, Pomponius refers to these opinions as "ius . . . compositum a prudentibus"). *See* Massimo Brutti, *Gaio e lo* ius controversum, 40 ANNALI DEL SEMINARIO GIURIDICO DELL'UNIVERSITÀ DEGLI STUDI DI PALERMO 75, 79 n.5 (2012). For a full discussion of the relevance of the *jus respondendi* and the issue of the freedom of Roman jurisprudence, see Kaius Tuori, *The* Ius Respondendi *and the Freedom of Roman Jurisprudence*, 51 REVUE INTERNATIONALE DES DROITS DE L'ANTIQUITÉ 295 (2004).

109 "*Cavere*" involved the writing of formal instruments, whether contracts or wills, by the *jurisconsulti.* At a later period, both *agere* and *cavere* were gradually taken upon by persons who were paid a fee and thus there arose a body of practitioners distinct from those who gave *responsa* and who were writers and teachers. *See* VINCENZO ARANGIO-RUIZ, STORIA DEL DIRITTO ROMANO 124 (7th rev. ed. 1957) (discussing each of the activities of the *jurisconsulti*).

performed by the *jurisconsulti*,[110] the midstream interpretation court could clarify the factual[111] and legal problems affecting the parties' relationship and to coordinate the parties' actions in solving those problems.

Further, the literature on the predecessor to reformation in English contract law—"rectification"[112]—illustrates that the contract-meaning doctrines "operat[e] on a spectrum."[113] That is, the differences between these doctrines would be more "matters of degree . . . than kind."[114] More particularly, "[o]ne could move from interpretation of the express words, to correcting mistakes[115] through construction of the text,[116] to implication and then to rectification,"[117] so that the line between one doctrine and the other is difficult to draw. This fluid view of interpretation and reformation-rectification thus suggests

110 It is worth emphasizing that the "*ius respondendi*" was later incorporated in *The Digest of Justinian* and preserved its influence throughout the Middle Ages. *See* Tuori, *supra* note 108, at 301.

111 While the *jurisconsulti* exclusively focused on matters of law, our proposal for a modified reformation also extends to questions of fact.

112 On rectification, see generally Paul S. Davies, Case, *Rectifying the Course of Rectification*, 75 MOD. L. REV. 412 (2012). Davies conceives of interpretation and rectification as different doctrines. In particular, interpretation would be unsuitable to correct all possible mistakes affecting the parties' relationship. Rectification, instead, would be better equipped to strike a balance between respecting the terms of the written document and correcting it. This is consistent with our proposal for midstream interpretation via modified reformation, as Davies understands rectification (reformation) as an equitable legal institution that can better serve the parties' ends than rigid common-law rules, including by avoiding the costs of litigation connected to "classic interpretation." *See id.*

113 CATHERINE MITCHELL, INTERPRETATION OF CONTRACTS 105, 104–05 (2d ed. 2019).

114 *Id.* at 105.

115 *See generally* George E. Palmer, *The Effect of Misunderstanding on Contract Formation and Reformation Under the Restatement of Contracts Second*, 65 MICH. L. REV. 33 (1966). Palmer identifies two types of cases of contract reformation: (1) those involving true misunderstanding, in the sense that the parties were in disagreement on the contract's terms without being aware of it; and (2) those in which the parties intended to contract on different terms but one of them knew this to be the case whereas the other did not. *See id.* at 56. The first case is closer in spirit to our proposal for modified reformation as it includes cases where each party believes a contract has been made but they have different conceptions of its terms. These differences may occur when parties have inconsistent beliefs on a court type.

116 *See, e.g.*, Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83, 107 & n.78 (1977) (citing *Paymaster Oil Mill Co. v. Mitchell*, 319 So. 2d 652 (Miss. 1975), in which the court held that factors outside the writing may show that the parties contracted with reference to a particular parcel of land; so in this case the court intervention was aimed at specifying contract terms (similar to the "*cavere*" part of the *jurisconsulti* activity, see *supra* note 109 and accompanying text)).

117 MITCHELL, *supra* note 113, at 105.

that our proposal for a reformed reformation qua midstream interpretation doctrine also has common law roots.[118]

B. Coordination and Accuracy

When the economic parameters are verifiable, midstream interpretation yields the efficient outcome (i.e., the court's opinion is more likely to be accurate). To see how, suppose that state ω_2 is realized, in which it is efficient for the seller to deliver the more costly software w_2. The seller, however, communicates his intention to produce w_1 (i.e., the older, less costly software). If the buyer had a midstream-interpretation remedy, she could request a judicial opinion about which performance is due before a breach occurs. A type θ_1 court, which accesses context when the contract directs the seller to deliver a widget, would hold that the buyer has a right to the costly software, though at a higher price.[119] The parties, however, could anticipate the content of the interpreted contract. As a result, they would realize that litigation is unnecessary and would dissipate the relationship's continuation value. Rather, the parties would voluntarily trade the w_2 widget.[120]

Midstream interpretation also would facilitate party coordination when the court cannot identify value-maximizing terms of exchange (i.e., the court's opinion is less likely to be accurate).[121] Section C below contrasts how, in such cases, the remedy would function in an exchange and in an investment economy. In Section D, we explicate the

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118 Some notable cases of rectification include, for example, *Townshend v. Stangroom* (1801) 31 Eng. Rep. 1076, 1079–80; 6 Ves. Jun. 329, 338–39 (Lord Eldon LC); *Fowler v. Fowler* (1859) 45 Eng. Rep. 97, 103; 4 De G. & J. 250, 264 (Lord Chelmsford LC); *Lake v. Lake* [1989] STC 865 (Ch) at 869 (Eng. & Wales) (all requiring strong and irrefragable evidence that the writing did not reflect the true intentions of the parties); *Bell v. Lever Brothers, Ltd.* [1931] UKHL 2, [1932] AC 161 (HL) (appeal taken from Eng.) (agreement (on the definitive nature of the written contract) would then be something "essentially different" from what the parties had intended and would be vitiated by their fundamental common mistake); and *Frederick E. Rose (London) Ld. v. William H. Pim Jnr. & Co. Ld.* [1953] 2 QB 450, at 455 (Eng. & Wales) (establishing that since the remedy of rectification is only concerned with correcting instruments which, by a mistake in the verbal expression, do not accurately reflect the parties' true agreement, rectification cannot be used to alter the actual terms of that agreement). *But see* Gibbon v. Mitchell [1990] 1 WLR 1304 (Ch) at 1307 (Eng. & Wales) ("The equitable remedy of rectification . . . is only one aspect of a much wider equitable jurisdiction to relieve from the consequences of mistake.").

119 *See supra* notes 74–74 and accompanying text.

120 At the same time, midstream interpretation would not involve higher contract writing and adjudication costs than litigation for breach; to the extent that midstream interpretation would not involve a jury trial, it would lower those costs overall.

121 In our manufacturing example, the court could, for example, be unable to verify the exact content of the parties' oral agreements, or not fully understand that producing the new software results in an efficiency gain, or be unable to verify the seller's increased costs of production.

different implications of midstream interpretation for traditional contracts and modern relational contracts. Midstream interpretation helps the court incorporate contextual information but, we will see, it matters whether the context is preexisting, as with traditional contracts, or ongoing, as with modern relational contracts.

C. Coordination vs. Accuracy

1. Exchange Economy

In an exchange economy, parties trade efficiently whether the court is accurate or not because efficiency in this economy *only* requires parties to know what the court will do. Consider again our illustration and assume that state ω_2 is realized, but the court is of type θ_2, i.e., a court that rests its interpretation on the text when the parties agree that a delivery is due (in states ω_1 and ω_2) but disagree on which widget should be traded. When rendering an interim opinion, the court will exclude context evidence and so inefficiently allow the seller to deliver the less costly widget w_1. However, because the parties would know their legal situation, they could renegotiate the interpreted contract to permit the seller to deliver the efficient widget w_2.[122]

Similarly, suppose the buyer expects to face a θ_1 court (i.e., a court that imperfectly observes context when the parties disagree about whether a delivery is due). When the realized state is ω_0—it would be efficient for the seller not to deliver a widget—the buyer could demand the delivery of w_1 and litigate if the seller refuses. In contrast, under midstream interpretation the seller could ask the court to resolve the issue of whether performance is due in state ω_0. Once the court has announced its type (through its interpretation), the parties will accept the interpreted contract if the court interpretation is accurate, or efficiently renegotiate if the court interpretation is inaccurate.

To summarize, in an exchange economy it is sufficient for ex-post efficiency that parties know the court's type. When there are many sellers and buyers of the standard goods the parties contract to trade, the court's interim interpretation functions similarly to a legal default rule. If the interpretation directs an efficient result, the parties will accept it. If the interpretation directs an inefficient result, the parties will "contract out": that is, each party can make an efficient deal with another seller or buyer. But recognizing that alternative efficient deals

122 It is clarifying to see that uncertainty on court interpretation actually is a transaction cost; hence, its elimination facilitates the application of the Coase theorem. In our example, because it would be efficient to trade the w_2 widget, both parties would modify their contract to require this trade.

are possible, the parties would renegotiate their contract so that it directs the efficient outcome.

Two normative implications follow from the recognition that revealing the court's type in an exchange economy is sufficient for efficiency. First, there is another reason for preferring textualist interpretation. Both interpretive approaches would induce the court to reveal its type in the course of making an interpretation. Because parties only need to know the court's type, textualism is the preferable interpretive approach because textualist litigations are cheaper.[123] Second, the availability of the midstream-interpretation remedy reduces a party's temptation strategically to misrepresent its belief regarding the applicable court's type in order to improve its bargaining position.[124] Recognizing that the facts will come out in the midstream interpretation action, both parties would do better reporting their true second-order beliefs regarding the court's type.

2. Investment Economy

Efficiency is more difficult to achieve in an investment economy because deal value depends on the parties' investments.[125] To see the concern, recall that our illustrative contract has one price—*K*—and

123 In an exchange economy, the availability of midstream interpretation may have distributive effects (if the court interpretation can move the parties' default bargaining point closer to efficiency), but would not lead to a Pareto improvement relative to a textualist default rule. As we shall see below, this result no longer applies when parties transact in an investment economy, in which the availability of midstream interpretation always increases efficiency relative to just having a default textualist rule. *See infra* sub-subsection III.C.2.b.

124 The buyer nevertheless would sue the seller if her expected litigation payoff exceeds the continuation payoff: that is, when $(1 - p_2)(v_2 - v_1) > V_B$. The seller, however, would prefer to avoid litigation when the parties agree on the probability of the ex-post state because its performance cost is less than the buyer's expectation: that is, $\min[(c_{22} - c_{21}), (1 - p_2)(v_{22} - v_{21})] - V_S < (1 - q_2)(v_{22} - v_{21})$ always holds for $(1 - p_2) = (1 - q_2)$ (even when there is no continuation value for the seller).

125 The standard underinvestment concern is that the party who moves second may exploit its counterparty's sunk-cost investment to renegotiate in order to shift surplus in its favor. A midstream interpretation may ameliorate this "holdup problem." We are interested here in a slightly different aspect of this problem, which is the accompanying underinvestment problem. For a technical overview of the holdup problem, see PATRICK BOLTON & MATHIAS DEWATRIPONT, CONTRACT THEORY 560–63 (2005); and BERNARD SALANIÉ, THE ECONOMICS OF CONTRACTS: A PRIMER 195–200 (2d ed. 2005); see also Benjamin E. Hermalin, Avery W. Katz & Richard Craswell, *Contract Law*, *in* 1 HANDBOOK OF LAW AND ECONOMICS 3, 84–86 (A. Mitchell Polinsky & Steven Shavell eds., 2007); Benjamin Klein, Robert G. Crawford, & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297, 298–99 (1978) (discussing how relationship-specific investment can allow a party opportunistically to hold up its counterparty); and Benjamin Klein, *Why Hold-Ups Occur: The Self-Enforcing Range of Contractual Relationships*, 34 ECON. INQUIRY 444, 445–46 (1996) (explaining that holdup occurs because the contract form makes opportunism possible).

permits the seller to deliver either widget w_1 or w_2. This contract would direct an inefficient result with positive probability: that is, the contract would permit the seller to deliver widget w_1 in states ω_2 and ω_0, though it would be efficient to deliver w_2 in ω_2 and w_0 in ω_0. Because we assume that uncertainty dissipates ex post, if ω_2 presents the parties would recognize the inefficiency and renegotiate to the efficient contract. This contract would require the seller to deliver widget w_2 at a price above *K*.

Now turn to the time just after the parties contract, when the buyer must choose an investment level in order to increase widget value. Efficiency requires the buyer to invest until the marginal increase in value equals the marginal cost, discounted by the probability that in some states of the world (i.e., in state ω_0) the investment would be wasted. The buyer will invest less than the efficient level, however. Because the parties' contract is not fully state contingent, the buyer expects to renegotiate it with positive probability. In particular, the buyer expects to renegotiate to the efficient contract if state ω_2 presents.

A renegotiation bargain would not occur unless the seller consents, but the seller would not consent unless he can share in the renegotiation gain. Because the buyer's investment would have been sunk when state ω_2 occurs, it will not play a role in the parties' renegotiation bargain. Rather, the parties will divide the surplus that moving to the efficient contract would produce. Now turn again to the time when the buyer chooses his investment level. The buyer will anticipate not receiving the full surplus that the efficient investment level would produce. Instead, the buyer will anticipate receiving that surplus *reduced* by the seller's share. As a consequence, the buyer will choose an inefficiently low investment level. This result apparently is an inescapable byproduct of the parties' writing an incomplete contract at time t_0.

Now assume that one of the parties could seek a midstream interpretation. If courts interpret contracts correctly on average, the "interpreted contract" would be closer to the efficient contract than the original contract. Thus, while the parties would still renegotiate away from the interpreted contract, renegotiation would be less significant because this contract is closer to the ex-post efficient contract. As a result, renegotiation would generate a smaller surplus, and therefore there would be *less surplus* for the buyer to yield in the renegotiation bargain. The buyer therefore would choose a higher—that is, a more efficient—investment level. The existence of a midstream-interpretation remedy thus could ameliorate what heretofore has been

thought an intractable investment inefficiency. We next develop this intuitive reasoning with a formal geometric presentation.[126]

a. Midstream Interpretation and Relation-Specific Investments

Our example extends the analysis regarding the efficiency of midstream interpretation in an investment economy. We first assume that midstream interpretation is unavailable. The buyer will invest the sum $\$I$ (i.e., configure her operating system to run one of the seller's widgets). The investment would be valuable only in the two states in which it would be efficient to trade a widget: ω_1 or ω_2.[127] In the third—ω_0—, trading no widget would be efficient. The optimal investment level should take into account that trade and therefore value-increasing investment sometimes would be wasted.[128] The investment would increase the buyer's value but at a decreasing rate;[129] and the example's three illustrative states are equiprobable.[130]

We first consider textual interpretation. Textualism rules out context so the buyer expects to renegotiate with positive probability. Because renegotiation requires the seller's consent, the buyer must share renegotiation surplus with the seller. The buyer's best response to this possibility is *strategically* to underinvest: $I_{text} < I_{eff}$.[131]

Figure 1 illustrates this result for the ex-post state ω_2. The vertical axis represents the seller's utility, the horizontal axis the buyer's utility.

126 A midstream interpretation would be unnecessary to induce efficient investment if parties expected the court to interpret their contract perfectly accurately ex post, but the remedy should be available despite this unlikely outcome. It would permit the parties to preserve their contract's continuation value. Ex-post interpretation occurs after a relationship has ended.

127 Notes 124–30 are intended for technical readers. The text's intuitive presentation should suffice otherwise. Regarding the statement in text, that is $v_{ij}'(I) > 0$, only when $i = j$, and $v_{ij}'(I) = 0$, when $i \neq j$.

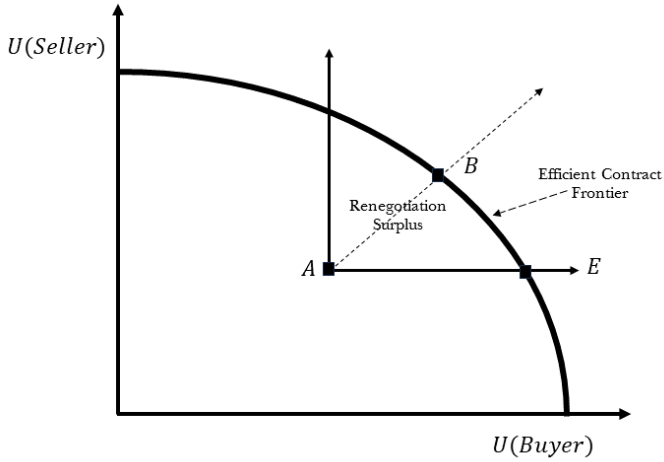
128 The first-order condition (FOC) with respect to I, $v_{11}'(I) + v_{22}'(I) = 3$, determines the efficient investment level, I_{eff}.

129 There are diminishing marginal returns to investment: $v_{ij}(I)$, with $i = j$, is concave in I.

130 Formally, this program can be written as $1/3(v_{11}(I) - c_{11}) + 1/3(v_{22}(I) - c_{22}) - I$.

131 Analytically, the buyer maximizes the following program: $1/3v_{11}(I) + 1/3\{v_{21} - (c_{22} - c_{21}) + [(v_{22}(I) - c_{22}) - (v_{21} - c_{21})]/2\} + 1/3v_{01} - I$, with respect to I, where $c_{22} - c_{21}$ is the increased production cost the buyer pays to the seller and $[(v_{22}(I) - c_{22}) - (v_{21} - c_{21})]/2$ is the renegotiation surplus going to the buyer in state ω_2. Note that if the remedy were specific performance, in state ω_0, the buyer could have been able (presumably) to obtain half the renegotiation surplus $(c_{01} - v_{01})/2$. The equilibrium underinvestment $I_{text} < I_{eff}$ is obtained by the FOC of the previous program; that is $v_{11}'(I) + 1/2v_{22}'(I) = 3$ and the concavity of v_{ij}.

FIGURE 1: RENEGOTIATION WITHOUT MIDSTREAM INTERPRETATION



After the buyer invests, the parties will be at point *A*, which is state-contingent inefficient (this point is below the efficient contract frontier). Any renegotiated contract would be bounded by the two arrows that originate at this point. The buyer would reject any contract that would put her to the left of the vertical arrow because she is better off at point *A*; and the seller would reject any contract that would put her below the horizontal arrow because she too would be better off at *A*. The efficient contract, which would have the seller produce w_2, is represented by point *E*. Under this contract, the buyer would receive the entire renegotiation surplus and so would invest efficiently. The seller, however, would not agree to renegotiate to a more efficient contract unless he shared in the surplus that such a contract would create. Renegotiation thus would put the parties on the efficient contract frontier (i.e., require the seller to deliver widget w_2), *but* the renegotiated contract would be represented by point *B*. This is the equilibrium contract because, we assume, the parties have equal bargaining power, and so each could command half the renegotiation gain. Anticipating that she will end up at point *B*, however, the buyer strategically underinvests at the level of $I_{text} < I_{eff}$.

Now suppose the buyer could request a midstream interpretation. She would believe that the court will accurately reform the contract (i.e., will interpret the contract to identify the efficient trade) with probability λ.[132] The accurate interpreted contract would require the seller to deliver w_2 in state ω_2 and nothing in ω_0. An inaccurate

132 Note that in state ω_2, λ corresponds to $1 - p_2$ of the previous sub-subsection II.B.2.b.

interpretation would require the parties to perform inefficiently, so that the seller would deliver widget w_1 (in both states ω_2 and ω_0). Because efficient renegotiation is possible, however, the buyer would reduce her strategic underinvestment to the level I_{ref}.[133]

To summarize, an analysis of a textualist interpretive rule in conjunction with midstream interpretation shows:

(i) The assumed contract's text is state-contingent inefficient in states ω_2 and ω_0. An inaccurate midstream interpretation (i.e., $\lambda = 0$) takes the text literally. The equilibrium (inefficient) investment is then equal to that induced under textual interpretation without midstream interpretation: $I_{ref} = I_{text} < I_{eff}$.

(ii) When the court perfectly applies context information (i.e., $\lambda = 1$), the equilibrium investment level under midstream interpretation is equivalent to the efficient level: $I_{ref} = I_{eff}$.

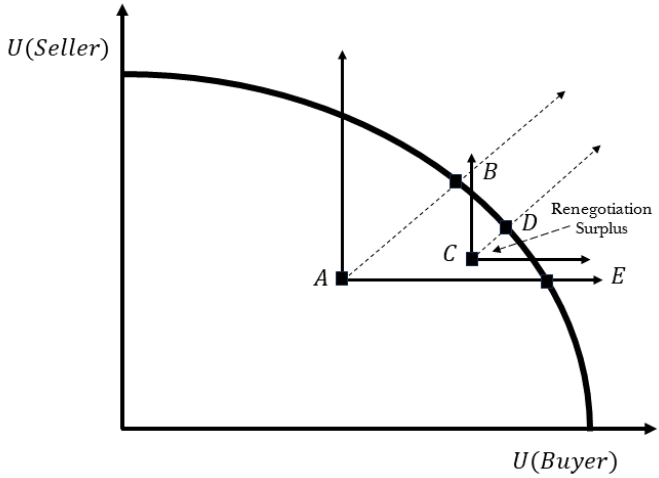
(iii) In the interval (0, 1) of λ—that is, under the realistic assumption that the court is partly accurate—underinvestment is reduced under midstream interpretation relative to textual interpretation: $I_{text} < I_{ref} < I_{eff}$.

Figure 2 illustrates result (iii).

As in Figure 1, A is the parties' initial default position (based on the contract's text), E is the efficient contract, and B is the renegotiated contract without midstream interpretation. Point C represents the contract that the court finds when it makes a midstream interpretation. This contract is more accurate than the parties' original contract because the court now accesses some context information. Both parties are better off at the contract point that C represents than they were at point A, but C also is below the efficient contract frontier. Beginning at point C, the parties thus will bargain to point D; the distance between C and D represents the "surplus" that renegotiation from point C creates. This surplus is smaller than that in Figure 1 where the default position was at A and the renegotiated position was at B. As a result, a risk-neutral buyer who expects the court to make a reasonably accurate midstream interpretation, under which the buyer will share less surplus with the seller, would increase her level of investment. The closer the interpreted contract is to E, the more efficient the buyer's investment is.

133 Under interim interpretation, the buyer optimizes the following program: $1/3 v_{11}(I) + 1/3\{\lambda(v_{22}(I)) + (1-\lambda)[v_{21} - (c_{22} - c_{21}) + [(v_{22}(I) - c_{22}) - (v_{21} - c_{21})]/2]\} + 1/3[\lambda K + (1-\lambda)v_{01}] - I$ with respect to I. This maximization program delivers the FOC: $v_{11}'(I) + [\lambda + ((1-\lambda)/2)]\, v_{22}'(I) = 3$. And by the concavity of the buyer's valuation function, it is immediate to see that $I_{text} < I_{ref}$ for $\lambda > 0$.

FIGURE 2: RENEGOTIATION WITH MIDSTREAM INTERPRETATION



b. Court Accuracy

Our assumption that courts interpret contracts correctly on average is plausible for two reasons. First, in an investment economy, the parties' relationship typically evolves over time. At t_0, the parties contract and at t_2 the seller performs. If nothing happens between t_0 and t_2, as usually is the case for simple exchange contracts, the court will be less informed than the parties. By contrast, parties to an investment contract sometimes develop information relevant to their project that did not exist at t_0. In addition, as time passes, the states of the world in which it would be efficient to perform the contract become clearer. Therefore, a court asked to make a midstream interpretation often will be better informed than the parties were when they contracted.[134] The informed court could modify the original contract to direct a more efficient outcome. Second, parties have an incentive, when writing the contract, to facilitate the ability of a court to discern their intentions. This factor is especially important when parties have access to expert

134 Put differently: (a) parties at t_0 are limited in what they can contract over because of informational constraints; (b) the court at t_1 can improve the original contractual allocation; (c) parties at t_2 can improve court allocation at t_1, where (c) captures the effect of Coasean bargaining after midstream interpretation. This explanation supposes that contextual information is verifiable. If it is not, the court might not do better than the parties at t_2, especially because parties might strategically misreport their beliefs. Here, we suggest that the availability of an action for midstream interpretation could facilitate the adoption by courts of mechanisms identified by the theory of incentives to solve the problem of ex-post unverifiability. *See* Schwartz & Sepe, *supra* note 3, at 692–97.

courts,[135] such as the Delaware Court of Chancery or the Commercial Division of the New York Supreme Court.[136]

To summarize, parties to traditional-economy contracts often are asymmetrically informed about their counterparty's type and about the court's type. Today's contract law offers no solution to either transaction cost problem. A midstream-interpretation remedy responds to both. Parties to a midstream interpretation action will be compelled to reveal information about their own types and the court will reveal information about its type in the course of making an interpretation. The remedy thus facilitates the parties' ability to adjust both to changing circumstances and adjust to the information they create in the course of their transaction. When transaction costs are high, traditional wisdom has it, economic agents integrate vertically. Midstream interpretation would facilitate the creation of a middle way by offering parties a path materially to reduce both types of asymmetric information.

IV. MIDSTREAM INTERPRETATION AS A MEDIATION DEVICE

Parties sometimes make relationship-specific investments to explore a possible project before they can write an enforceable contract. When those investments are sequenced—*A* moves first and then *B*—, there is a risk of holdup.[137] Two additional complexities attend modern relational contracts: the lack of prior context and parties' asymmetric information about their counterparty's type.

Regarding the first complexity, traditional interpretation requires the court to recover the context that existed when the parties contracted. The court, when interpreting a new relational contract, must also identify the context the parties created in the course of performance. Regarding the second complexity, parties to relational contracts face endogenous and exogenous asymmetric information.[138] Contract law cannot respond effectively to these complexities without

135 *Cf.* Bernstein, *Private Commercial Law*, *supra* note 29, at 1735; Bernstein, *Merchant Law*, *supra* note 29, at 1769–70 (arguing that commercial arbitrators, who are experts by definition, choose literalism frequently, more than courts, which is consistent with our defense of textualism and, indirectly, with our claim that combining expertise with a midstream-interpretation rule would further add to efficiency).

136 *See* William W. Bratton & Simone M. Sepe, *Corporate Law and the Myth of Efficient Market Control*, 105 CORNELL L. REV. 675, 729–30 (2020) (defending the importance of having a court like Delaware where facts are not determined by the jury but by the judge (the chancellor)).

137 This is possible in new-economy collaborations, where parties are routinely required to make substantial investments at early stages. *See* Schwartz & Sepe, *supra* note 12, at 768–69, 779.

138 *See supra* subsection I.B.2.

addressing the fundamental theoretical problem this Article addresses: asymmetric information about court types.

A. Two Scenarios

We introduce the complexities attending the interpretation of modern relational contracts with two scenarios that describe informally how companies attempt to collaborate to develop new products. The first scenario uses the empirical evidence about such attempts.[139] In brief, many collaborations succeed, producing a variety of innovative goods.[140] However, experts estimate that up to fifty percent of multifirm collaborations never reach the final development stage.[141] Our first scenario illustrates a typical failure. Our second hypothetical scenario shows how the remedy we develop to reduce the probability of failure—midstream contract interpretation—would have saved some possibly profitable collaborations from dissolving prematurely. We next generalize the argument beyond the specifics of the example introduced in subsection 1 below.

1. Failure

Company *D* makes internal-combustion-powered drones for commercial use.[142] The company wanted to extend its footprint in this

139 This evidence concerns a variety of arrangements, taking different organizational forms: joint ventures, strategic alliances, and outsourcing of supply chains for goods and services. *See, e.g.*, Donald Gerwin & J. Stephen Ferris, *Organizing New Product Development Projects in Strategic Alliances*, 15 ORG. SCI. 22 (2004); Gene M. Grossman & Elhanan Helpman, *Outsourcing in a Global Economy*, 72 REV. ECON. STUD. 135 (2005); Tracy R. Lewis & Alan Schwartz, *Pay for Play: A Theory of Hybrid Relationships*, 17 AM. L. & ECON. REV. 462 (2015). Outsourcing, in particular, has grown exponentially in recent times, with the global market for outsourced services having more than doubled, from around $45 billion in 2000 to over $92 billion in 2019. *See, e.g.*, *Global Market Size of Outsourced Services from 2000 to 2019*, STATISTA (July 27, 2022), https://www.statista.com/statistics/189788/global-outsourcing-market-size [https://perma.cc/JL69-2QZE].

140 *See, e.g.*, BENJAMIN GOMES-CASSERES, REMIX STRATEGY: THE THREE LAWS OF BUSINESS COMBINATIONS (2015); Mary C. Lacity & Leslie P. Willcocks, *Outsourcing Business Processes for Innovation*, MIT SLOAN MGMT. REV., Spring 2013, at 63.

141 Informal expert opinion holds that between twenty-five and fifty percent of outsourcing agreements fail within two years. *See* Matthew Jennejohn, *The Private Order of Innovation Networks*, 68 STAN. L. REV. 281, 288 (2016) ("A number of studies have found that a majority of alliances fail."); *cf.* Rahil Jogani, Aditya Pande & Vikrant Shirdade, *Five Ways to Unlock Win–Win Value from IT-Services Sourcing Relationships*, MCKINSEY DIGIT. (Sept. 15, 2017), https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/five-ways-to-unlock-win-win-value-from-it-services-sourcing-relationships [https://perma.cc/Y38P-YR86].

142 While this example is meant for illustrative purposes, it is worth emphasizing that it rests on a large body of literature concerning the difficulties of drone innovation. *See, e.g.*, Rico Merkert & James Bushell, *Managing the Drone Revolution: A Systematic Literature*

market with drones that used batteries rather than gas engines. Battery-powered drones may have a greater range and would need refueling less frequently than traditional drones. Company *B* made a variety of batteries for commercial use. Its comparative advantage was making small batteries that generated great power for their size. The two companies had never collaborated before but knew each other by reputation. Company *D* approached *B*, in late 2019, with an idea to make long-range battery powered drones that would have commercial and possible military uses.

The companies held exploratory discussions in early 2020 and agreed to begin a collaboration. *B*'s primary responsibility was to do R&D to see whether it could develop a battery that would be suitable for relatively large drones. *D*'s main job was to research new drone designs that would be battery compatible, and to explore potential markets. The parties ultimately hoped to develop a series of long-range, lightweight drones that could carry powerful cameras. The first two years of their collaboration were mainly experimental. The parties made prototype batteries and aircraft but their project had yet to produce a testable drone.

The parties did not have a contract under which company *B* would market its batteries to company *D*. No one knew at the start what type of battery the new drones would need, particularly because a workable new drone did not exist. Rather, the companies proceeded under a written "framework arrangement" that specified the parties' tasks, required each of them to make periodic progress reports to the other, allowed employees of each company to visit the factory of the other, and had a nonbinding dispute resolution procedure.[143] As to it, employees at each level were to work out difficulties with employees at a similar level in the other firm. Ultimately, the CEOs would meet if necessary. There was no requirement that the parties agree to any particular resolution, and no specified sanctions if they could not resolve a dispute.

By the beginning of the third year, company *D* was beginning to have doubts about the project. Its main concern was whether company *B* could make batteries with sufficient power to run the drones that *D* thought it could develop and market.[144] Cobalt is the principal raw

Review into the Current Use of Airborne Drones and Future Strategic Directions for Their Effective Control, 89 J. AIR TRANSP. MGMT. art. no. 101929 (2020); *see also* Mary M. Crossan & Marina Apaydin, *A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature*, 47 J. MGMT. STUD. 1154 (2010).

143 For a description of the features characterizing framework agreements in new-economy collaborations, see Schwartz & Sepe, *supra* note 12, at 755, 765–77.

144 This is a common and crucial concern in drone innovation. *See, e.g.*, Okan Dukkanci, Bahar Y. Kara & Tolga Bektaş, *Minimizing Energy and Cost in Range-Limited Drone*

material for powerful batteries. As is well known, the main cobalt deposits are in the Republic of the Congo, and Chinese companies had locked up supply contracts for these deposits. The company *D* chief operating officer believed that there were insufficient other sources of cobalt supply for company *B* to meet its likely obligations.

Company *B* was having concerns of its own. Every drone design *D* showed it was much bigger, and required more battery power, than the drones *D* exhibited at the start. Also, *D* began restricting access to parts of its factory. The *B* engineers believed that company *D* had not solved the design problems that would make their joint project viable.

The parties ultimately could not agree to continue the project. Company *B* wanted to move to the next stage, at which it would help launch a prototype with a preliminary drone *D* had already demonstrated. *B* wanted to exhibit its progress with new batteries. *B* also wanted *D*'s factory visit restrictions loosened. *D*, on the other hand, would not move until *B* had showed *D* how *B* would solve the cobalt supply problem. Finally, both CEOs agreed to terminate the project. The ending was not amicable, however. Both companies by then had made major investments, *B* by designing new battery prototypes and *D* by designing new drone prototypes.

Both companies consulted major law firms to consider litigation. The lawyers, however, were discouraging.[145] The parties' loose framework agreement did not support a clear case for the reimbursement of R&D expenses. There also were two additional problems. First, under contract law a party could recover reliance expenses only if the promisor had made an enforceable promise. Neither party had promised to supply *X* number of battery types or *Y* number of drone types to the other; that is, neither party had made an enforceable supply or purchase promise. In addition, the parties had not observed the other's actions; hence, proving that a party had shirked would be very difficult. Finally, the lawyers were clear that neither party had a right to consequential damages. Reprising her law school contracts class, the lawyer representing the *D* firm explained that while a buyer—company *D*—

Deliveries with Speed Optimization, 125 TRANSP. RSCH. PART C art. no. 102985 (2021); Insu Hong, Michael Kuby & Alan T. Murray, *A Range-Restricted Recharging Station Coverage Model for Drone Delivery Service Planning*, 90 TRANSP. RSCH. PART C 198 (2018).

145 This narrative illustrates why parties to modern collaborations seldom sue. *See* Schwartz & Sepe, *supra* note 12, at 753 ("Few cases exist because contract law does not offer solutions to the problems of opportunism, exploitation, and differences of belief regarding project success that attend joint-development arrangements. As a result, an important segment of the U.S. economy functions today without a contract law."). For a few notable exceptions, see *Eli Lilly & Co. v. Emisphere Technologies, Inc.*, 408 F. Supp. 2d 668 (S.D. Ind. 2006); and *Medinol Ltd. v. Boston Scientific Corp.*, 346 F. Supp. 2d 575 (S.D.N.Y. 2004) (both concerning cases of intellectual property expropriation in the context of a joint collaboration).

could recover the difference between the value that a successful drone battery would have for it and the price, the parties had not agreed on a final battery type; hence, *D* could not establish a value. For the same reason, *D* could not approximate a price. Similarly, the senior lawyer for company *B* pointed out that a seller could recover the difference between the price of batteries and their cost, but the parties had never agreed on the number, type, or price of batteries. Both lawyers thought that a sympathetic or creative court might extend current doctrine to help one or the other party, but the lawyers differed in their predictions regarding whether such a judge existed in a relevant jurisdiction, and just how much the judge would be willing to do. The parties therefore unhappily ate their losses, which were in the millions.

There was a commercially viable deal, however. Northern Ontario also had major cobalt deposits but these were on the lands of several First Nation Tribes. Company *B* had a contact—a Toronto development firm—whom many tribes trusted. The contact brokered a supply contract with *B* and several tribes for cobalt. Both the contact and the tribes requested secrecy in order to see how this exploratory deal worked out, and to maintain a monopoly position. Thus, while *B* had access to an almost unlimited supply of cobalt, it could not tell this to anyone when disclosure would have been helpful. On the other hand, company *D* had developed an innovative drone type, which it was planning to patent, but patenting was then premature. Had company *B* found out about the new design, *B* could have tipped off other possible drone makers to whom it could sell the new cobalt battery. This possible opportunity would have much strengthened its bargaining power against company *D*. This was why company *D* began restricting access to its factory and seemed secretive. Because both companies had good reasons to keep information favorable to a deal private, the parties never could get on the same page and their collaboration failed.

2. Success

When company *B* learned that company *D* was about to terminate the parties' framework agreement, company *B* brought a lawsuit under a new rule that its jurisdiction had just adopted. The rule permitted a company to seek a "midstream contract interpretation" prior to breach. Using this rule, company *B* alleged that company *D* had no reason to end the arrangement because *B* could supply as much cobalt for batteries as *D* could ever want. *B* also agreed to disclose its source so long as the court records in the case were sealed. Company *B* also alleged that its batteries could support at least two of the drone prototypes company *D* had already disclosed. And *B* claimed, in the legal phrase "on information and belief," that *D* was discussing battery supply with a Chinese company that had an African concession.

Company *B*'s midstream interpretation suit sought two remedies: an order requiring company *D* to comply with its framework agreement obligation to let company *B* employees visit *D*'s plant at reasonable hours; and an order reforming the framework agreement to reflect company *B*'s ability to supply cobalt batteries for any conceivably effective drones. Company *D*'s answer to *B*'s complaint responded that it would disclose its current drone design, again supposing the court records were sealed. It also asked for discovery so it could test *B*'s representation of a large cobalt supply. *D* agreed to restore visits to its factory after discovery. Unsurprisingly, *D* supplied its own version of a revised framework agreement.

At the first major case conference, the judge, a former prominent business lawyer,[146] agreed to impose complete secrecy about the ultimate facts on the parties and asked the parties to state their positions informally. The judge also seemed receptive to the idea of creating a reformed framework agreement that would guide the parties in going forward. After a full day of meetings, company *D* understood that battery supply would not be a problem, and company *B* understood that *D* could and would make battery-compatible drones. Armed with this understanding, the parties voluntarily renegotiated their framework agreement and went back to work. The result was a new battery-powered drone with a variety of commercial uses.

As should be clear, today an action for midstream contract interpretation does not exist. Parties in the position of companies *B* and *D* often work out their difficulties voluntarily, but often do not,[147] especially as here when the parties had not dealt together before. We show below that an action for midstream contract interpretation would help solve the problem the scenarios describe and similar commercial problems. In today's economy, parties to collaborations learn much after they begin, particularly because the point of a collaboration is to develop new knowledge. Midstream interpretation would permit parties to leverage this information to keep possibly profitable deals on track.

B. Modern Relational Contracts and Asymmetric Information

There were two causes of Scenario A failure. Each party had private information—about a source of supply, about an effective design—that the party preferred to keep confidential. Asymmetric information is the main reason potentially valuable arrangements sometimes do not form and sometimes end prematurely.[148] Second,

146 *See supra* notes 132–33 and accompanying text (explaining why experts are better positioned to deliver an anticipatory interpretation of the parties' contract).

147 *See supra* note 141.

148 *See supra* note 44.

the parties' private information about their own types exacerbated the parties' problem of learning the court's type. Because neither party had a legal remedy against the other, neither party could get a judge to look at its situation.[149] And even if they could solve this problem—attempt to sue for costs incurred, say—predicting what any judge would do would be difficult given how differently parties saw their situations.

The scenarios thus help us better to grasp the difference between how the court type problem presents for traditional contracts and how it presents for modern relational contracts. As we have seen, in the former set of contracts, heterogeneity in the parties' beliefs on court interpretation depends on the court's private information and idiosyncratic factors that are specific to each party (including their previous litigation experience, possibly different (intangible) information about a court's interpretive behavior, and so on).[150] The combination of these factors could cause the parties' beliefs regarding court interpretation to diverge less or more, making efficient renegotiation less or more likely.

In modern relational contexts, by contrast, the parties will *commonly* have divergent beliefs on the court type. To stylize the situation captured by the above scenarios, in these contexts party A (e.g., company D) to a collaborative arrangement would believe, say, that a successful product would have characteristics α and β while party B (e.g., company B) would believe, say, that a successful product would have characteristics β and σ. Thus, party A would attempt to predict how a court would interpret a contract to produce an $\alpha\beta$ product, while party B would attempt to predict how the court would interpret a contract to produce a $\beta\sigma$ product. Necessarily, under these beliefs on their respective types, the parties will differ on the court type that would adjudicate their dispute.[151] Because asymmetric information about party types—are we $\alpha\beta$ or $\beta\sigma$ co-venturing types?—is common in modern relational contracts, asymmetric information about court types also is common.

149 While mediation was possible, mediators have no legal power to compel a party to do anything.

150 *See supra* note 73.

151 Regarding the theory underlying the text's simple example, see Jean-François Mertens & Shmuel Zamir, *Formulation of Bayesian Analysis for Games with Incomplete Information*, 14 INT'L J. GAME THEORY 1 (1985) (where they constructed a universal space of types in which, subject to specified consistency conditions, each type corresponds to the infinite hierarchy of his probabilistic beliefs about others' probabilistic beliefs). Under this representation, it is impossible for one type to not know the other's type, but for the two types to agree on how a third type would evaluate them.

C. Midstream Interpretation and Information Revelation

The court's task for collaborative relationships is to facilitate a possible path forward by inducing the parties to reveal private information on their types. Revelation may occur through forced disclosure of information (as in the above illustration), which the court can induce the parties to provide. Alternatively, when information is not verifiable, midstream interpretation could involve a mediation process under which the court proposes to the parties a forward-looking assessment of their arrangement, thereby removing uncertainty about the parties' rights and facilitating the voluntary disclosure of information.

To better illustrate how midstream interpretation would function for modern relational contracts, we return to the illustration we introduced in Part I, focusing now on a project for the development of software. The buyer needs an innovative software program for the new projects she is considering. The details of such a program depend on several factors, including the setup for the buyer and the specific functions the software is supposed to perform. There are several possible setups $x_0, x_1, \ldots, x_I$ that the buyer could use given various possible demands for the buyer's new products. Each version of software is a "prototype." Prototypes usually are multiattribute: cost, capacity, speed, safety, and, importantly, fit with the buyer's technology for each element of the possible setups. The buyer discloses a subset of information regarding each setup. As a result, the seller cannot fully know the effect different demands for the buyer's product would have on the buyer's valuation and the specific attributes the buyer may need. Let each setup have n attributes, with the seller learning $m < n$ of them at the start.[152] Then $n - m = \Delta$ attributes would remain the buyer's private information.

It would be technically feasible for the seller to produce software that could perform various functions for manufacturers in the buyer's industry. The cost of a software type is determined by the functions it will perform. There are possible software types $f_0, f_1, \ldots, f_J$. The seller also communicates a subset of information about the functions of each type. These bits of information are denoted y.[153] At t_0, the buyer thus knows $z < y$ bits of relevant information. Thus, z may include the functions of past software the seller has produced, input factors, production times, but may not include the seller's labor or supplier costs.

152 Technically, the buyer's information takes the form of a matrix with $I + 1$ columns and n rows, where the columns are the number of possible setups and the rows are the numbers of attributes of the setups.

153 Similarly, the seller's information takes the form of a matrix with $J + 1$ columns and y rows, where the columns are the number of the possible set of functions for each kind of software and y is the number of specific functions for each kind of software.

Similarly, z will not include information about the cost of inputs used by the seller to produce various software functions. We let $y - z = \Gamma$ functions remain the seller's private information.

Although the buyer's possible setups and the seller's possible software functions are common knowledge, asymmetric information remains (i.e., Δ and Γ are positive for the seller and the buyer, respectively). The parties will begin the project if there is at least one possible software type whose functions match at least one buyer setup.[154]

The implementation stage begins at t_1. Before then, both parties engage in negotiations, make initial investments in possible performance, and communicate to each other. The parties' private information thus shrinks between t_0 and t_1. The parties can accurately value a possible project only when they have full information regarding the buyer's possible setups and the seller's possible software functions.[155] We consider three possibilities, corresponding to the three states of the world we discussed in prior illustrations.[156] Each state corresponds to a case where the parties' private information is revealing to a different extent and therefore would induce a different commercial match.[157] In considering these cases, for simplicity we also assume that $\Gamma = 0$, which means that the seller has credibly revealed its private information to the buyer.

The first two cases correspond to $\Delta = 0$ and collaboration is valuable,[158] and $\Delta = 0$ but collaboration is not valuable.[159] Under the first case, the fully informed parties would trade without the need for court intervention.[160] In the second, they would voluntarily rescind the

154 That is software $w_0, w_1, \ldots, w_J$ whose functions $f_0, f_1, \ldots, f_J$ match the setup of the buyer $x_0, x_1, \ldots, x_I$.

155 It may seem natural to assume that the sets of setups and the software functions shrink as a result, but this is not necessarily the case. For example, the seller may realize it can produce a multipurpose software type that could satisfy buyers with operating systems that differ from the buyers' own system, thereby introducing an opportunity cost into the seller's production function.

156 *See supra* text accompanying notes 52–54.

157 In the base illustration, the three states of the world, ω_0, ω_1, and ω_2, were exogenous. Now the states of the world are determined by the voluntary or forced revelation of the parties' private information, where each information bit could induce a different match. In this sense, uncertainty here is endogenous (though the source of the parties' private information may be endogenous or exogenous).

158 Under our general description, this case is equivalent to the materialization of state ω_1. Because we assume that $\Gamma = 0$, when $\Delta = 0$, there is no private information.

159 Under our general description, this case is equivalent to the materialization of state ω_0.

160 The seller has learned all the relevant information about the buyer's setups and has come to believe that the buyer would want to buy software for an x_1 setup, which the seller could produce at a price acceptable to the buyer. The buyer also finds this transaction profitable and asks the seller to produce that software. (This corresponds to the case of the

contract.[161] Thus, a midstream interpretation could help when $\Delta > 0$—the buyer retains private information—so that the parties have divergent beliefs on the value of their contract.[162] The buyer may be reluctant to disclose fully because some information could be generic: the seller could use the information to deal with other buyers who could be profitable partners for the seller; and so forth.

Both parties would infer that the only viable software for the buyer is w_2, which has functions f_2, and would satisfy the buyer's setup x_2. However, when $\Delta > 0$ the seller knows too little about the buyer's possible setups. He could be concerned about setup costs, fluctuations in the buyer's demand, the buyer's intensity of use in conjunction with other applications, the seller's ability to monitor use, possible warranty or products liability claims concerning the production of goods that the buyer manufactures employing the software, or other factors. As a result, the seller believes that he could not profitably produce software w_2 at a price the buyer would pay.

The buyer, on the other hand, has come to believe that the seller could produce w_2 at a price, and under other terms, that would be profitable for her.[163] The buyer thus wants the seller to continue by producing and installing w_2 but the seller refuses.[164] For simplicity, we also assume that the buyer is correct; that is, if private information became public (i.e., $\Delta = 0$), the parties would voluntarily proceed to the implementation stage, in which the seller produces software w_2.

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buyer expecting a utility equal to v_{11}. *See supra* note 49.) The seller accepts. (This corresponds to the case of the seller expecting a cost equal to c_{11}. *See supra* note 49.) Similar to the base illustration in Section II.A, the contract is self-enforcing. The parties have no conflict of interest; they have identified the software to be produced at a price convenient for both. *See supra* text accompanying note 52.

161 In this case, after the seller has learned all the relevant information about the buyer's setups, he comes to realize that the suitable setup for the buyer is x_0 requiring software with functions f_0. Both the seller and the buyer, however, agree this is not a convenient match. For example, the seller realizes that he could not produce software with the required functions that could satisfy the buyer's x_0 setup at an acceptable price. Here, the parties will voluntarily break up (i.e., rescind the contract), which is equivalent to saying that that they would agree to produce w_0 (i.e., the null software). This corresponds to the case of the buyer and seller expecting a utility and a cost respectively equal to v_{11} and c_{11}. *See supra* note 49.

162 We can assume, under our general description, this case is equivalent to the materialization of state ω_2.

163 In the notation of our base case, this may correspond to the buyer's utility equal to v_{22}, with a positive continuation value $V_B > 0$. *See supra* note 53.

164 Put a little more deeply, the seller faces an adverse selection problem. The buyer wants the seller to produce software not only in favorable states but also in states where production would generate too little surplus to fully compensate the seller's costs. When the buyer demands continuation, the seller does not know enough—Δ remains large—to know which case is which.

In today's legal world, two things could happen when the parties disagree over the efficient path forward. As our introductory scenario showed, each would be inefficient. The parties could break up or litigate. For example, a party could sue its counterparty for violation of the duty of good faith, interpreting the other party's actions negatively.[165] Based on his first-order belief on the value of the contract, the seller will expect the court to acknowledge that the collaboration is not valuable. Conversely, based on her own first-order belief on the value of the collaboration, the buyer will expect the court to acknowledge that the collaboration is valuable.

Now consider how midstream interpretation would work. Let the buyer request a midstream interpretation to affirm her view that there is an efficient path forward. The buyer probably would have to disclose additional private information because the seller will demand discovery and the court itself, in a hearing, would ask questions. In fact, it is reasonable to assume that both parties would disclose more private information during the midstream interpretation process than they would have disclosed in the remedy's absence. To the extent that the buyer's private information is verifiable, Δ—the informational asymmetry between the buyer and the seller—will shrink. Because we have assumed that continuance is efficient, the now informed seller also would realize that continuance would be in his best interest. In this case, midstream interpretation functions as an *information-forcing device*. The parties would efficiently move from case (iii)—one of them incorrectly believes a breakup would be best—to case (i)—both correctly believe that continuation would be best.[166]

When information is not verifiable, however, forced disclosure may give parties incentives to strategically manipulate facts. Thus, the seller could believe that the buyer would strategically manipulate disclosure to induce the court to read the contract as the buyer prefers.[167] On her part, the buyer could fear that the seller could strategically use the disclosed information at the buyer's expense (e.g., to enter into deals with the buyer's competitors). As a result, either the seller would not trust the information the buyer disclosed or the buyer would lack an incentive to reveal truthfully. The court's function therefore would

165 Another example is a change in the risk profile of the relationship determined by a change in the external world, where each party believes that the other should bear the cost of the increased risk. For example, the seller may believe that the increase in the cost of inputs due to the spread of a pandemic should be borne by the buyer and vice versa.

166 *See supra* text accompanying notes 155–59.

167 In the economic phrase, the seller thinks the buyer would engage in "cheap talk." *See generally* Robert Forsythe, Russell Lundholm & Thomas Rietz, *Cheap Talk, Fraud, and Adverse Selection in Financial Markets: Some Experimental Evidence*, 12 REV. FIN. STUD. 481, 486–87 (1999).

switch from an information-forcing device to a mediation device that can induce truthful revelation. Midstream interpretation becomes a means for the court to propose to the parties a forward-looking assessment of their arrangement that removes uncertainty on the parties' future rights and therefore facilitates bargaining.[168] For example, the court could construe the contract to reassure the buyer that the seller will not be able to exploit the disclosed information (e.g., insert an implied noncompetition duty).[169] When the court can make such modifications, the parties' asymmetric information regarding their legal rights (i.e., the court type problem) would vanish. If the seller knows the court's proposed arrangement, this would also alleviate the seller's concern about the buyer's possible opportunism.

To be sure, the court's mediation efforts may fail, but without the effort an inefficient outcome would be more likely. Finally, we emphasize that midstream interpretation will likely be occurring off the equilibrium path. Once the parties realize that the court can induce information disclosure—either through mandated discovery or by implementing a "mechanism" to induce disclosure—the parties may prefer to control disclosure themselves, which would make midstream interpretation a valuable tool for efficient contract design in collaborative contracts.

CONCLUSION

In a standard transaction, parties contract at t_0, something happens at t_1 that affects a party's payoff under the contract, or does not happen, and the seller tenders at t_2, or does not tender. This Article considers the case when something happens. In the law and economics and contract theory literatures, if something happens parties are assumed to renegotiate to the ex-post efficient state: that is, they modify their contract so that it directs a trade under more efficient terms, or the parties agree not to trade. Renegotiation is possible because uncertainty supposedly resolves at t_1.

The assumption that uncertainty *always* resolves is unrealistic. Rather, renegotiation can fail for two reasons. First, parties retain private information about their types. For example, under the theory of

168 A mediator makes a proposition that the parties may accept or reject. But a mediator's interpretation is not conclusive. Here, instead, because the mediation comes from the court-final adjudicator, there no longer is any residual uncertainty on the allocation of rights that is specified in the mediation proposal. This also explains why midstream interpretation is not a remedy that can be delegated to private adjudicators; their mediation would not be final.

169 *Cf.* Forsythe et al., *supra* note 167, at 487 (arguing that an antifraud rule punishing sellers who make false statements as to the quality of their products constitutes a way to give the "seller a means to credibly communicate its quality").

efficient breach, if tender of the contract goods would be inefficient, the seller will exit on paying the buyer its expectation plus a share of the exit rent. This bargain would occur, however, only if the seller knew the buyer's valuation, and the buyer knew the seller's opportunity cost of performance. The theory does not apply when asymmetric information about these parameters exists; parties then may behave strategically rather than renegotiate truthfully.

Renegotiation also can fail for a reason we introduce into the literature. The parties may not know the court's "type": that is, which facts a court will find salient, which legal doctrines it will regard as relevant, and how the court is likely to apply the law to the facts. When parties' second-order beliefs differ—they have different views regarding the court's probable type—parties may not renegotiate to the expost efficient result, even when they are informed about each other's type.[170] A possible court type, for example, may admit certain payoff-relevant context information while another possible court type would exclude it. If parties disagree about which court type they face, even parties informed about each other may disagree about their possible litigation payoffs.

When parties litigate today, the court interprets the contract and then enforces the "interpreted contract." It is that contract that determines which party was in breach and thus must compensate the other. Interpretation thus is *not productive*: whether the parties' contract could have been efficiently modified no longer is germane.

This analysis is relevant to the major divide in contract interpretation practice today. A majority of courts are "textualist interpreters": that is, they base interpretations largely on the contract's text, admitting extrinsic evidence only when the contract contains a serious ambiguity. A significant judicial minority are "contextualist interpreters": that is, they base interpretations on the contract and on whatever extrinsic evidence is relevant and material. The wider the court's evidentiary base, the more discretion in interpretation the court has. In turn, the more discretion a court has, the more difficult it is for parties to identify the court's type. This result permits us to uncover an additional virtue of textualist interpretation: confining the courts' interpretive space makes their types more predictable. Efficient renegotiations thus are more likely to occur in textualist jurisdictions.

Considerable uncertainty over court types remains under textualism, however, and we suggest a remedy for it: midstream interpretation. A party should be able to obtain from the court, at t_{1+}, an opinion interpreting their contract. The interpretation would not require

170 *See supra* note 8 (discussing the difference between first-order and second-order beliefs).

either party to do anything but would bind if the parties later litigate. Midstream interpretation could travel under two familiar flags: a declaratory judgment action or an updated action for reformation.[171]

The availability of a midstream-interpretation remedy would have three benefits. First, a midstream interpretation would resolve uncertainty about the court's type, thereby eliminating one major cause of renegotiation failure.[172] Second, midstream interpretation would serve an information-forcing function.[173] A party would know that it would have to disclose private information about its type during the course of the interpretation proceeding in order to persuade the court to its view of what the contract directs. But anticipating compelled disclosure, parties often would voluntarily disclose; private disclosure is less costly than trial-produced disclosure. The increased information that the midstream remedy would induce, in turn, would mitigate the other cause of renegotiation failure: asymmetric information about party types. And of significance, the information that comes to light in, or in anticipation of, a midstream interpretation action—about court and party types—would be *productive*. It would permit parties to continue efficient transactions and efficiently terminate the others. Third, midstream interpretation would reduce the underinvestment problem that sequenced sunk costs investments create by reducing the payoff to renegotiation, thereby reducing the amount of surplus the investing party would have to share and so increasing its incentive to invest efficiently.

Midstream interpretation, we also show, would help parties resolve disputes under modern relational contracts. These are characterized by high uncertainty and today often break up in consequence of parties coming to have different beliefs about whether their relationship should continue or not. The court's role regarding such contracts, however, would differ from its role in the traditional case. The relevant question would be whether parties should reach the final contract stage. The court's role thus should shift from adjudication—fixing contract content—to mediation—indicating an efficient path forward, if one exists.[174] In either case, though, midstream interpretation would reduce the likelihood of inefficient breakups.

Our analysis also illuminates two additional important contract law disputes. The first is that specialized courts, such as the Delaware Court of Chancery or the Commercial Division of the New York Supreme Court, are useful. We uncover an additional virtue of such

171 *See supra* Section III.A.

172 *See supra* Part III.

173 *See supra* Part IV.

174 *See supra* text accompanying notes 164–65.

courts. Because they have few members and decide similar cases over time, parties are more likely to learn the type of specialized court they may face than they are to learn the type of generalist court. Therefore, there probably are fewer renegotiation failures when parties litigate before specialized courts. The second dispute concerns whether contract law should be constituted primarily of rules or standards. A court has more adjudicative discretion under a standard than under a rule. As a result, parties are more likely to disagree over a court's type when courts routinely use standards. Rules thus are more likely to induce efficient renegotiations.

We suggest two directions for future research. First, we analyze midstream interpretation supposing that the parties' contract did not take the availability of the remedy into account. Parties, however, may write different contracts when they know that one of them later could trigger a midstream interpretation. Scholars should thus explore the ex-ante implications of midstream interpretation, consistent with the broader claim we advance elsewhere that freedom of contract should extend to the choice of interpretation and remedy rules—including equitable remedies like reformation[175]—rather than be limited to a contract's substantive terms.[176]

Second, we assume that parties are risk neutral.[177] When a small startup partners with a large company, however, the startup likely will act as if it is risk averse while the company will remain risk neutral. The company probably is diversified while startups usually commit most of their resources to the instant venture. Risk-averse parties thus are likely to be particularly concerned about whether a deal will complete and on what terms. Because such asymmetric commitments create asymmetries in bargaining power, the startup could be willing to trade less favorable terms (technically, accept a "certainty equivalent")[178] for marketing a final product in return for an increased probability that the larger company will complete the deal. Anticipating having to pay a material-risk premium, however, some startups may fail to form. A

175 *See supra* text accompanying notes 103–04.

176 *See* Schwartz & Sepe, *supra* note 25.

177 This is the standard assumption when analyzing the behavior of sophisticated commercial parties. *See* Schwartz & Scott, *supra* note 10, at 550 n.16. As noted by Alan Schwartz and Robert Scott, it is only when a correct interpretation is particularly important to a substantial firm, that the firm will act as if it were risk averse: that is, be willing to incur additional costs to reduce uncertainty. *See* Schwartz & Scott, *supra* note 1, at 947–48.

178 This means that the risk-averse party could be willing to accept less money from the risk-neutral party than its bargaining power alone could command in return for a reduction in uncertainty. *See* LAFFONT, *supra* note 44, at 19. This preference permits the large risk-neutral party to realize what economists call an "uncertainty rent." The uncertainty rent the risk-neutral party can extract from the risk-averse party exclusively depends on the fact that the parties discount uncertainty (i.e., risk) differently.

startup could mitigate this risk by getting a midstream interpretation.[179] This would reduce uncertainty about future litigation and hence improve the startup's bargaining power.[180] Thus, scholars should explore the possibility that midstream interpretation could encourage innovation as well as serve an equitable function.[181]

We conclude by stressing that an action for midstream interpretation could play a constructive role in a wide variety of legal areas because there is a common commercial need: to facilitate party ability to respond to changing circumstances by renegotiating to the ex-post efficient outcome. Midstream interpretation would be a novel but powerful method for meeting this need.

179 To achieve this goal, however, midstream interpretation would need to be slightly modified in this context. This is because if the risk-averse party anticipates the likelihood of an unfavorable midstream interpretation vis-à-vis the risk-neutral party, she may lack the incentive to request a midstream interpretation initially and, instead, prefer to accept the lower certainty equivalent. A tentative solution to this problem would be to grant the risk-averse party a private right to ask the court for midstream interpretation, under which the risk-neutral party would not be part of the midstream-interpretation process.

180 It is worth emphasizing that the risk-neutral party would also have the right to ask for private midstream interpretation, and both parties, of course, would retain the right to request (simultaneously) an interpretation after breach. Therefore, at the equilibrium, the risk-averse party would not have an incentive to report untruthfully.

181 When parties have heterogenous risk preferences, the coordination function served by the court under midstream interpretation has a distributive implication: the court can protect the weaker, risk-averse party from exploitation from the stronger, risk-neutral party. More broadly, our intuition is that midstream interpretation would be a viable mechanism to address distributive concerns arising from heterogenous risk preferences as long as the legal claims of risk-averse parties are strong (i.e., the risk-averse party has a good probability of winning the case). This is because risk-averse parties will have a stronger intrinsic incentive to litigate fully when their case is strong (similar to the incentives of innocent parties in criminal trials). *Cf.* Daniel L. Rubinfeld & David E.M. Sappington, *Efficient Awards and Standards of Proof in Judicial Proceedings*, 18 RAND J. ECON. 308, 310 (1987).