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AMBIGUITY ABOUT AMBIGUITY:

AN EMPIRICAL INQUIRY INTO LEGAL INTERPRETATION

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ABSTRACT

Most scholarship on statutory interpretation discusses what courts should do with ambiguous statutes. This paper investigates the crucial and analytically prior question of what ambiguity in law is. Does a claim that a text is ambiguous mean the judge is uncertain about its meaning? Or is it a claim that ordinary readers of English, as a group, would disagree about what the text means? This distinction is of considerable theoretical interest. It also turns out to be highly consequential as a practical matter.

To demonstrate, we developed a survey instrument for exploring determinations of ambiguity and administered it to nearly 1,000 law students. We find that asking respondents whether a statute is "ambiguous" in their own minds produces answers that are strongly biased by their policy preferences. But asking respondents whether the text would likely be read the same way by ordinary readers of English does not produce answers biased in this way. This discrepancy leads to important questions about which of those two ways of thinking about ambiguity is more legally relevant. It also has potential implications for how cases are decided and for how law is taught.

1. INTRODUCTION

Determinations of ambiguity are the linchpin of statutory interpretation. The existence of ambiguity creates the need for interpretation in 1

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the first place, of course, but it does much else besides. For example, courts often treat ambiguity as a kind of gateway consideration when they interpret a statute. If the statute is ambiguous, the judge might then become interested in sources of guidance, such as legislative history, that wouldn't otherwise be considered.[4] Or ambiguity might cause a judge to defer to an agency's view of the statute, as under the *Chevron* doctrine.[5] Or ambiguity might cause a judge to resort to a canon of construction such as the rule of lenity,[6] or the doctrine that courts should prefer interpretations of ambiguous statutes that avoid difficult constitutional issues,[7] or the rule that ambiguous statutes will be interpreted to avoid conflict with foreign law,[8] or many others. Ambiguity also serves as an occasion for judges to consult their own views of policy, whether openly, quietly, or unconsciously.[9]

2 Most of the literature on legal interpretation talks about the points just mentioned: what judges should do after they find ambiguity. In this Article

4 *See*, *e.g.*, *Ratzlaf v. United States*, 510 U.S. 135, 148 (1994) ("we do not resort to legislative history to cloud a statutory text that is clear"); *Barnhill v. Johnson*, 503 U.S. 393 (1992); *Schwegmann Brothers v. Calvert Distillers Corp.*, 341 U.S. 384, 395 (1951) (Jackson, J. concurring) ("Resort to legislative history is only justified where the face of the [statute] is inescapably ambiguous."). The principle is hoary; *see United States v. Fisher*, 2 Cranch 358, 399, 2 L.Ed. 304 (1805) ("Where a law is plain and unambiguous, whether it be expressed in general or limited terms, the legislature should be intended to mean what they have plainly expressed, and consequently no room is left for construction.").

5 *See Chevron U.S.A. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984) ("if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute"). *See also* Thomas J. Miles and Cass R. Sunstein, *Do Judges Make Regulatory Policy? An Empirical Investigation of* Chevron, 73 University of Chicago Law Review. 823, n. 26 (2006) (finding that most invalidations of agency action involve disputes about whether a statute is ambiguous).

6 *See McNally v. United States*, 483 U.S. 350 (1987); for more discussion and sources, *see infra* text accompanying note 40.

7 *See Kent v. Dulles*, 357 U.S 116, 130 (1958).

8 The so-called "Charming Betsy" canon; *see Murray v. Schooner Charming Betsy*, 6 U.S. (2 Cranch) 64 (1804).

9 *See* Cass R. Sunstein, "Beyond Marbury: The Executive's Power to Say What the Law Is," 115 *Yale Law Journal* 2580, 2587 (2006) (discussing role of policy judgments in interpreting ambiguous statutes); Richard A. Posner, "Pragmatic Adjudication," in *The Revival of Pragmatism: New Essays on Social Thought, Law, and Culture* 235, 250–251 (Morris Dickstein ed., 1998) (arguing that judicial policy judgments are inevitable when statutes are ambiguous); Ward Farnsworth, "Signatures of Ideology: The Case of the Supreme Court's Criminal Docket," 104 *Michigan Law Review* 67, 84–87 (discussing implicit policy judgments in cases where both sides have plausible textual arguments).

we propose to take a different approach in two respects. First, our concern is with anterior questions, starting with what ambiguity *is*; for the word itself is ambiguous. To say a statute is ambiguous could be a claim that ordinary readers of English would disagree about its meaning, which we will call an external judgment. Or it could be a private conclusion that, regardless of what others might think, the reader is unsure how best to read the text—which we will call an internal judgment. This ambiguity about ambiguity is latent; courts generally talk about whether a statute is ambiguous without making clear whether they are making internal or external judgments. One question posed in this Article is whether the choice between those perspectives makes any difference, or whether the conclusions produced by the two kinds of judgments would likely be the same. Another question addressed here is whether the policy preferences that interpreters hold affect the probability that they will find a text ambiguous in either of the senses just sketched.

This Article also takes a different approach to legal interpretation in a second respect: it examines the activity empirically. The literature on interpretation of legal texts—statutes, regulations, contracts—is very extensive, but the discussion usually is theoretical; the subject has not received experimental attention, so we know very little about how legal texts are actually read and understood by different sorts of people. The questions raised in this Article present an excellent opportunity to redress this imbalance and introduce empirical study into the field of legal interpretation. This we have done by use of a sophisticated survey instrument that presents respondents with a series of simple but potentially ambiguous statutes to interpret. The survey invites its takers to make judgments of various kinds about how the texts of the statutes apply to fact patterns from real cases. Different versions of the survey include many variations both large and subtle; these variations enable us to determine whether different ways of thinking and talking about ambiguity produce different opinions about its presence or absence, and to see what relationship those judgments have to the underlying policy preferences of those making them. We have administered the survey to nearly a thousand law students, some at the start of their legal education and others further along in it. This mix of respondents allows us to compare the interpretive behavior of literate but untutored readers to those who have had some formal training in legal method.

4 We find that judgments made about ambiguity from the internal and external perspectives are quite different, and that making either judgment *well* involves serious and underappreciated challenges. When respondents with strong policy preferences make internal judgments about ambiguity, they tend to say that the statute is unambiguous, or that only one reading of it is plausible; in other words, when they say whether they themselves find the statute clear, their preferences appear to bias their judgments. When they make external judgments—i.e., about whether ordinary readers would agree about the statute's meaning—the good news is that there is little correlation between those judgments and their policy preferences. The bad news is that external judgments are often hard to make accurately. But internal judgments are even harder to make accurately, at least along dimensions that are possible to measure. So in these results we find support for the idea that in at least some circumstances, judgments of ambiguity are best made by estimating how clear a statutory text would be to an ordinary reader of English. And we find, finally, that neither the interpretive judgments made by our respondents nor their vulnerability to infection by policy preferences are significantly affected by a year of law school.

2. METHODOLOGY AND RESULTS

5 We proceeded by administering survey instruments to roughly 900 law students—some at the start of their first year and some at the end of it, at Boston University, the University of Chicago, and the University of Virginia. The surveys were filled out anonymously, and participation was not required. The specific purpose of the survey was not explained; the students were simply told that it was part of a study of the interpretation of legal texts.

6 Each page of the survey presented the taker of it with a statute, described some facts to which the statute might apply, and set out contrasting positions on the question taken by the parties to the case in which the facts arose. The survey then asked, in one form or another, how clear the statute was in the setting described; some respondents were asked for internal judgements, and others for external. All respondents were then also asked which reading of the statute they preferred as a matter of policy. The statutes and facts used in the survey were taken from real Supreme Court cases involving federal criminal law.

The surveys contained 11 different statutory cases. Here we review three of these cases in detail. The results are representative of those for the remaining eight, which we report in the appendix. 7

Example–LSD case. Here is one fact pattern[10] from the survey: 8

> A federal statute, 21 U.S.C. § 841(b), provides for a mandatory minimum sentence of five years for anyone who distributes more than one gram of a "mixture or substance containing a detectable amount of lysergic acid diethylamide (LSD)." The defendant was caught distributing LSD that had been dissolved and sprayed onto blotter paper. The weight of the LSD alone was 50 milligrams, well below the statutory threshold. But if the weight of the blotter paper was included, the total weight was five grams, well above the statutory threshold.
>
> The question is whether, under § 841(b), the blotter paper should be included in deciding, for purposes of sentencing, the weight of the LSD the defendant distributed. Under the defendant's reading of the statute, the blotter paper should not be included in deciding the weight. Under the government's reading, it should be included in deciding the weight.

The respondents were then asked a question about the statute's clarity; different respondents were asked different versions of the question. Some were asked whether the statute was ambiguous as applied (we will refer to this as the "ambiguous" question): 9

> Do you think the statute, as applied to these facts, is ambiguous?
> A. Completely ambiguous: it is impossible to say which reading is better.
> B. Moderately ambiguous: either reading is reasonable, but one is slightly better.
> C. Moderately clear: there is some room for doubt, but one reading is decidedly better.
> D. Completely clear: one of the readings is obviously right.

Some were asked whether two readings were plausible (the "plausible" question): 10

> Do you think that the readings offered by both sides are plausible?
> A. Absolutely: each side's reading is entirely plausible, and it is impossible to say which reading is better.

10 Based on *Chapman v. United States*, 500 U.S. 453 (1991). The Court held, 7-2, that the weight of the blotter paper should be included in determining the defendant's sentence.

B. Probably: each side's reading seems plausible, but one is slightly better.
C. Probably not: one could strain to find multiple plausible readings, but one reading is decidedly better.
D. No: the text has only one plausible reading.

11 And some were asked whether ordinary readers would disagree about the correct reading (the "ordinary readers" question):

> Do you think ordinary readers of English would disagree about which side's reading of the statute is better?
> A. Yes: there would be widespread disagreement about which side's reading was better.
> B. Probably: there would probably be a good deal of disagreement about which side's reading was better.
> C. Probably not: there would be some disagreement, though most people would agree about which side's reading was better.
> D. No: everyone would agree about which side's reading was better.

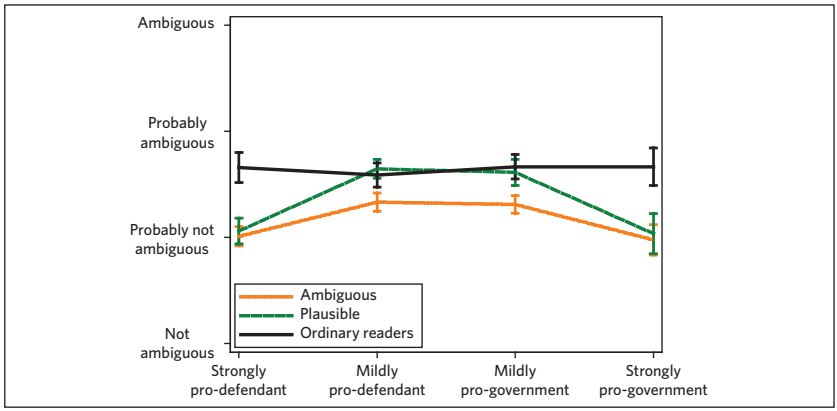
12 All respondents were also asked which litigant should win as a matter of policy:

> Setting aside what the statute says, which outcome do you prefer as a matter of policy?
> A. Strongly prefer that the defendant win
> B. Mildly prefer that the defendant win
> C. Mildly prefer that the government win
> D. Strongly prefer that the government win

13 Figure 1 shows how the responses to the three different questions about ambiguity related to the policy preferences the respondents stated. The *x*-axis tracks respondents with different policy preferences over the outcome of the case (strongly prefer the defendant wins to strongly prefer the government wins). The *y*-axis tracks ambiguity ratings (from not ambiguous to ambiguous).

14 The curved bottom line shows the pattern of results when the respondents were asked whether the statute was ambiguous as applied to the facts. The curved middle line shows the pattern when the respondents were asked whether both sides' readings were plausible. The top line—the relatively straight one—shows their responses when asked whether ordinary readers

Figure 1. How policy preferences affect answers to three kinds of questions about ambiguity in the LSD case (example 1). The lines show mean ambiguity ratings. The whiskers report standard errors of the means.



of English would disagree on how the statute should be read. The level of the top line relative to the level of the curved lines suggests that how one is asked about the existence of ambiguity affects judgments about whether it exists. In particular, asking respondents whether ordinary readers would agree about the meaning of a statutory text is more likely to elicit a finding of ambiguity than asking respondents whether they themselves regard it ambiguous. Moreover, the curves of the bottom two lines—the way they "frown"—shows that policy preferences are entwined with them: the more strongly respondents feel about the case as a matter of policy (whether the preference is for the government or defendant to prevail) the less ambiguous they are likely to say the statute is. But policy preferences are not likewise entwined with judgments about how likely ordinary readers would be to agree on the statute's meaning.

Example 2–Child pornography case. Here is another of the survey questions:[11] 15

11 Adapted from *United States v. X-Citement Video, Inc.*, 513 U.S. 64 (1994). The Court held, 7-2, that the government had to prove that the defendant knew that the films he sold included sexually explicit acts by minors. We presented the case to our respondents in a form a bit different, and a bit simpler, than the form it took in the Supreme Court. In the actual *X-Citement Video* case, it was the defendant who argued that the scienter requirement did not reach the age of the performers in the movies—because he claimed this made the statute unconstitutional. Since we did not wish to engage the constitutional question, we wrote the survey question to suggest that the defendant argued for a reading of the statute that made it harder to get a conviction under it. For more discussion, *see infra*.

A federal statute, 18 U.S.C. § 2252, reads in part as follows:

"a. Any person who—

1. knowingly transports or ships in interstate or foreign commerce by any means including by computer or mails, any visual depiction, if—

A. the producing of such visual depiction involves the use of a minor engaging in sexually explicit conduct; and

B. such visual depiction is of such conduct; shall be punished as provided in subsection (b) of this section."

The defendant was accused of violating the statute by selling pornographic videotapes that included footage of a woman who was under the age of 18, and thus was a minor. He defended on the ground that when he sold the tape, he did not know the person on the tape was a minor.

The question is whether the word "knowingly" in section (1) applies to the phrase "the use of a minor" in section (1)(a). The defendant's reading is that "knowingly" does modify "the use of a minor." The government's reading is that "knowingly" does not modify "the use of a minor."

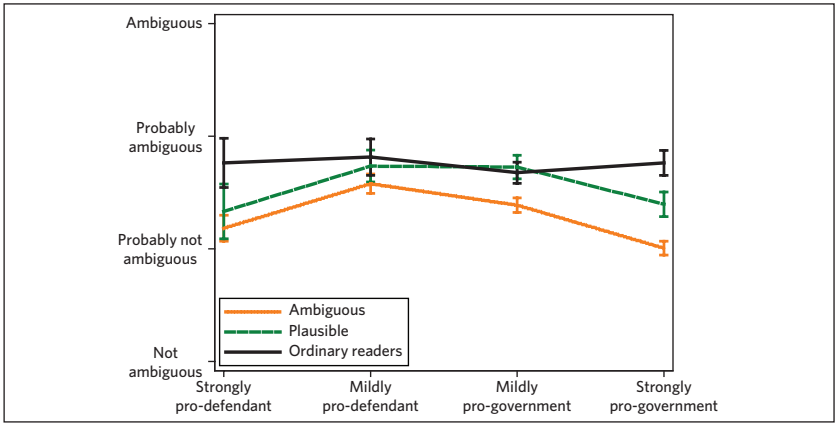
16 Again the respondents were asked to assess the ambiguity of the statute as applied to the facts, and again the question was put to them in different ways. Some were asked whether the statute was ambiguous, some were asked whether both proposed readings seemed plausible, and some were asked whether they thought ordinary readers of English would disagree about which was the better reading of the text. All respondents were also asked which result they preferred as a matter of policy. The results, which are depicted in Figure 2, were similar to the results shown above.

17 *Example 3–False statement case*. A third question[12] read as follows:

The federal "false statements" statute, 18 U.S.C. § 1001, says:
"Whoever knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious, or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious, or fraudulent statement or entry, if the matter lies within the jurisdiction of any department or agency of the United States, shall be fined not more than $10,000 or imprisoned not more than five years, or both."

12 Based on *United States v. Yermian*, 468 U.S. 63 (1984). The Court held for the government, 5-4, that knowledge of the federal agency's jurisdiction on Yermian's part was not needed to support his conviction. For more discussion, *see infra*.

Figure 2. How policy preferences affect answers to three kinds of questions about ambiguity in the child pornography case (example 2). The lines show mean ambiguity ratings. The whiskers report standard errors of the means.



> The defendant worked for a company that had a contract with the Department of Defense. The company asked him to fill out a questionnaire to obtain a security clearance. He did so. His company mailed the questionnaire to the Department of Defense. The Department discovered that the defendant's answers contained false statements. He was charged with violating the statute quoted above. His defense was that he had not realized that his questionnaire would be forwarded to the government.
>
> The question is whether the statute requires proof that a defendant knew the matter in question was within the jurisdiction of a government agency. The defendant's reading is that the statute does require such proof. The government's reading is that it does not require such proof.

Respondents were asked the usual questions in the usual ways, and with the now-usual results, depicted in Figure 3. 18

We confirmed the graphical results for the cases above with linear regression analysis and non-parametric Wilcoxon Rank-Sum tests. Specifically, we regressed ambiguity ratings (on a scale of 1–4, where 1 indicates a response of "Not Ambiguous" and 4 indicates "Ambiguous") on indicators for each of the four questions interacted with indicators for different policy preferences. (Main effects for questions and policy preferences are omitted.) We did this separately for each case and then for all cases combined. The results are presented in Table 1. The coefficient estimates provide a measure to compare the level of ambiguity ratings across questions and policy 19

Figure 3. How policy preferences affect answers to three kinds of questions about ambiguity in the false statement case (example 3). The lines present mean ambiguity ratings. The whiskers report standard errors of the means.

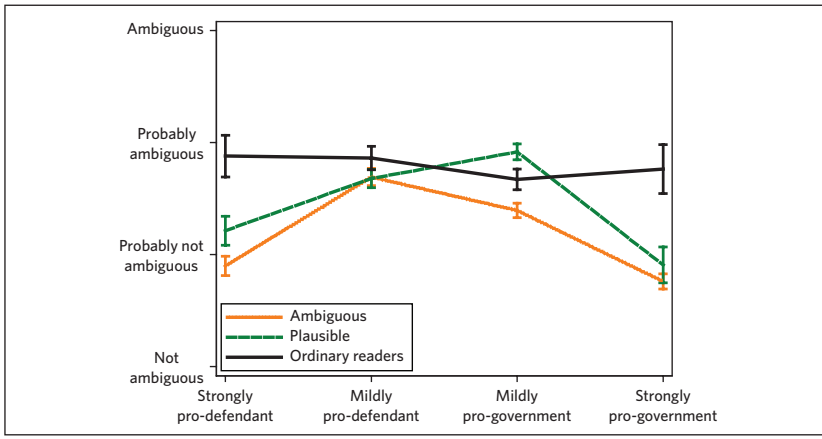


Table 1. Regression of ambiguity rating on policy preferences by question and case.

Question	Policy Preference	All Cases	LSD	Child Pornography	False Statement
Ambiguous	Strongly Pro-D	2.023***	2.011***	2.184***	1.930***
		(0.056)	(0.088)	(0.118)	(0.091)
	Mildly Pro-D	2.548***	2.333***	2.579***	2.693***
		(0.046)	(0.086)	(0.085)	(0.068)
	Mildly Pro-G	2.373***	2.311***	2.389***	2.395***
		(0.041)	(0.090)	(0.066)	(0.063)
	Strongly Pro-G	1.914***	1.977***	2.007***	1.761***
		(0.047)	(0.129)	(0.068)	(0.074)
Plausible	Strongly Pro-D	2.182***	2.061***	2.333***	2.276***
		(0.082)	(0.122)	(0.181)	(0.143)
	Mildly Pro-D	2.678***	2.647***	2.735***	2.680***
		(0.062)	(0.104)	(0.142)	(0.089)
	Mildly Pro-G	2.756***	2.614***	2.727***	2.887***
		(0.062)	(0.129)	(0.102)	(0.098)
	Strongly Pro-G	2.237***	2.037***	2.397***	2.000***
		(0.075)	(0.164)	(0.101)	(0.160)
Ord. Readers	Strongly Pro-D	2.742***	2.660***	2.765***	2.880***
		(0.087)	(0.124)	(0.201)	(0.154)

Table 1. Continued

Question	Policy Preference	All Cases	LSD	Child Pornography	False Statement
	Mildly Pro-D	2.745***	2.589***	2.815***	2.862***
		(0.069)	(0.114)	(0.160)	(0.101)
	Mildly Pro-G	2.673***	2.667***	2.676***	2.672***
		(0.063)	(0.132)	(0.101)	(0.098)
	Strongly Pro-G	2.737***	2.667***	2.765***	2.765***
		(0.084)	(0.164)	(0.116)	(0.186)
Purpose	Strongly Pro-D	2.217***		2.217***	
		(0.171)		(0.173)	
	Mildly Pro-D	2.684***		2.684***	
		(0.188)		(0.190)	
	Mildly Pro-G	2.615***		2.615***	
		(0.227)		(0.230)	
	Strongly Pro-G	2.667***		2.667***	
		(0.334)		(0.339)	
Obs.		2,356	688	864	804
Adj. R-squared		0.898	0.885	0.898	0.912

Notes: Dependent variable is ambiguity rating (1 = not ambiguous, 4 = completely ambiguous). Pro-D means pro-defendant and pro-G means pro-government. Standard errors are reported below coefficient estimates. ***/**/* indicates statistical significance at 10/5/1% level.

preferences when those ratings are treated as a cardinal measure of judgment about ambiguity.

In order to determine whether ambiguity ratings across questions and policy preferences are statistically significant, we compared ambiguity ratings using a Wilcoxon Rank Sum test. This test asks whether the ambiguity ratings from one policy preference group (question) is drawn from the same distribution as the ratings from another policy preference group (question). The advantage of such a test over a test based on linear regression results is that it is robust to monotonic transformations of the ambiguity rating variable. In other words, it does not require assuming those ratings have a cardinal value, *e.g.*, that the gap between ambiguous and not ambiguous is exactly 4 times the gap between ambiguous and somewhat ambiguous. The results are presented across two panels of Table 2. Panel A examines one question at a time and compares

20

Table 2. Statistical significance of differences in ambiguity ratings across policy preference groups and across questions.

Panel A: Comparing groups with different policy preferences						
Question	**Strongly Pro-D v.**			**Mildly Pro-D v.**		**Mildly Pro-G v. Strongly Pro-G**
	Mildly Pro-D	**Mildly Pro-G**	**Strongly Pro-G**	**Mildly Pro-G**	**Strongly Pro-G**	
Ambiguous	0.000	0.000	0.137	0.013	0.000	0.000
Plausible	0.000	0.000	0.685	0.334	0.000	0.000
Ord. Readers	0.994	0.476	0.882	0.338	0.810	0.595
Purpose	0.109	0.249	0.270	0.778	0.973	0.818
Panel B: Comparing responses to different questions						
Policy Preference	**Ambiguous v.**			**Plausible v.**		**Ord. Readers v. Purpose**
	Plausible	**Ord. Readers**	**Purpose**	**Ord. Readers**	**Purpose**	
Strongly Pro-D	0.156	0.000	0.346	0.000	0.887	0.019
Mildly Pro-D	0.081	0.027	0.523	0.481	0.965	0.803
Mildly Pro-G	0.000	0.000	0.459	0.202	0.460	0.720
Strongly Pro-G	0.001	0.000	0.041	0.000	0.256	0.982

Notes: Cells contain *p*-values from Wilcoxon Rank Sum test comparing the indicated groups or categories. Pro-D means pro-defendant and pro-G means pro-government.

ambiguity ratings across policy preference groups. This is equivalent to determining the significance of horizontal movements along any given line in Figures 1–3.[13] The second table holds constant policy preference and compares ambiguity ratings across questions. This is equivalent to determining the significance of purely vertical movements across lines in Figures 1–3.[14]

21 Consistent with Figures 1–3, the regression analysis in Table 1 combined with the equivalence-of-distribution tests in Table 2 reveal, first, that respondents asked whether ordinary readers would agree about

13 For example, the difference between ambiguity ratings of strongly pro-defendant and strongly pro-government respondents on the ordinary readers question has a *p*-value of 0.882.

14 For example, the difference between ambiguity ratings in response to the ambiguity and to the ordinary readers questions among strongly pro-defendant respondents has a *p*-value of <0.001.

the meaning of a statute ambiguous are significantly more likely to find ambiguity (*see* Panel B).[15] Second, respondents with moderate views are significantly more likely to find ambiguity than those with extreme views when asked whether a statute is ambiguous as applied or whether different interpretations are plausible (see Panel A). When asked whether ordinary readers would agree about a statute's meaning, respondents with different policy views did not have different views of ambiguity that were at all significant.

Before interpreting these findings, we should address three potential limitations of our survey. First, there is some possible ambiguity in the way the survey questions themselves were phrased. For example, the multiple choice options following the questions ask subjects about which reading is "better" without qualifying that "better" should be judged from the perspective of legal interpretation. It is possible that some respondents judged readings "better" from, say, a policy perspective rather than as a matter of text. This seems unlikely, as the fact patterns leading up to the answer choices present the dispute as one about textual meaning; and those questions about which reading is "better" were always followed by others that told the respondent to then set aside the text and just consider which they prefer as a matter of policy. But the most important point is that even if this ambiguity did cause any confusion, the confusion was common to all of the questions: the multiple choice answers to all of the ambiguity-related questions use the same "better" phrasing,[16] so we can comfortably make comparisons between the answers that those questions tended to produce. The problem might persist if the word "better" created measurement error *and* the measurement error were itself correlated with subjects' policy preferences or with the type of ambiguity-related question asked. But we see no reason to imagine that either is so. 22

Second, it might seem inappropriate to interpret the correlation between policy preference and judgments of ambiguity as meaning that the 23

15 While it is reasonable to compare the relative ambiguity ratings across respondents and across questions, one should be cautious about drawing conclusions about the absolute level of ambiguity of the statutes in our surveys. Because the survey questions present opposing arguments about the proper legal interpretation of the statutes, for example, respondents may find more ambiguity here than would have been found by others who were not recently confronted with those opposing arguments.

16 The only asymmetry in the use of "better" across questions is that the ambiguous-as-applied and the plausible-reading questions do not use the term "better" in option D, which offers the extreme answer of no ambiguity or only one plausible reading, respectively.

former *cause* the latter.[17] Perhaps a respondent's ambiguity rating somehow causes his or her policy preference. But there are two good reasons for doubting that reverse causality is a problem. First, the "policy preference" question asks respondents to set aside the text of the statute when reporting their policy preference. In other words, respondents are asked what their policy preference would be without the influence of their ambiguity rating; so if respondents were following instructions, their views about the ambiguity of a statute would not have influenced their reported policy preference. Second, the distribution of respondents' reported policy preferences are inconsistent with reverse causality. Reverse causality implies that if two questions elicit different ambiguity ratings, then those questions should also elicit different policy preferences, since the ambiguity ratings *produce* the policy preferences. But the data are otherwise For example, Tables 1 and 2 suggest that the "ordinary readers" question elicits higher ambiguity ratings, on average, than other questions. Reverse causality implies that the ordinary readers question should also therefore elicit different policy preferences than other questions. We test this by comparing the distribution of policy preferences across the ordinary readers and other questions using the Wilcoxon rank sum test. Table 3 presents the results. Each cell reports the p-value of a pairwise comparison of questions for a given case. Preference distributions across the ordinary readers question and the other questions do not significantly differ except when respondents who are asked the "ordinary readers" question are compared to respondents asked the "ambiguous as applied" question after the false statement case ($p = 0.015$). Even in that instance, it is unlikely there is reverse causality; for while the ambiguity ratings elicited by the "plausible" question and the "ordinary readers" question differ, the preference distributions of respondents asked these two questions do not ($p = 0.773$).

17 While we believe that causation does likely run from policy preference to ambiguity rating, we are agnostic about the specific causal mechanism at work. It is possible that respondents' strong policy preferences directly lead them to rate statutory text as unambiguous so that their legal interpretations conform to their wishes about the outcomes. Alternatively, it is possible that respondents' strong policy preferences lead them to place more weight on one side's legal arguments about the correct interpretation of a statute, which indirectly causes them to rate statutes as unambiguous—though our questions generally stated positions without much discussion of the arguments behind them. Our discussion of the implications of the survey does not hinge on any particular mechanism of causation, and indeed—as noted in the text—it does not generally depend on a finding of causation at all.

Table 3. Statistical significance of differences in policy preferences across questions, by topic.

Case	Comparing policy preferences across questions		
	Ambiguous v. Plausible	Ambiguous v. Ord. Readers	Plausible v. Ord. Readers
LSD	0.949	0.778	0.849
Child pornography	0.482	0.757	0.731
False statement	0.005	0.015	0.773

Notes: Cells contain *p*-values from Wilcoxon Rank Sum test comparing the indicated categories.

Even if there is no reverse causality, perhaps there is something else, such as ambiguity aversion, which causes respondents both to judge statutory texts to be clear *and* to have strong policy preferences about them. While we are skeptical of ambiguity aversion as a common cause, and struggle to identify some other plausible common cause, spurious correlation is difficult to rule out. In any event, the correlation between policy preference and ambiguity rating—spurious or not—disappears when respondents are asked whether ordinary readers would disagree about the reading of a statute. Because our analysis below relies only on ruling out reverse causality, spurious correlation does not undermine the conclusions we draw from our survey results. 24

Third, most of our survey questions, including the three questions described above and some others that we do not report, concern criminal cases. If respondents judge ambiguity in statutes concerning civil matters differently than they judge ambiguity in criminal matters, then one must be wary of extrapolating our results to civil cases—though our limited examination of statutes that do involve civil rights have produced similar results. 25

3. INTERPRETATION AND IMPLICATIONS

Let us begin with a summary of the most straightforward findings suggested by the data. First, different ways of asking about ambiguity produce different conclusions about its existence. To ask whether a text is ambiguous, whether it can plausibly be read more than one way, and whether most people would agree about its meaning could all reasonably be thought to amount to the same basic question. But those questions are not answered the same way by people to whom they are put—whether they just arrived at law school or have been there a year (this made no difference to the 26

results).[18] So the first implication of these results is that discussions of ambiguity in legal interpretation should be more precise about what sense of ambiguity they have in mind. When courts and commentators discuss into the ambiguity of a legal text, they use different formulations that may somewhat resemble all of these possibilities.[19] The choice between them is not usually made explicit or discussed carefully, perhaps because it has not been clear that it makes much difference.

27 Second, simple judgments of ambiguity create a substantial risk of bias from policy preferences that the makers of the judgments hold. When respondents are asked how ambiguous a statute seems or whether two proposed readings of it are plausible, their judgments about the answers tend to follow the strength of their preferences about the outcome as a matter of policy: the more strongly they prefer one reading over the other, the more likely they are to say that the statute is unambiguous or that only one reading of the text is plausible. In the LSD case for example, when asked for internal judgments respondents with strong policy preferences are 11–21% more likely to say the statute is clear than respondents with weak policy preferences. So simple judgments about ambiguity are entwined with policy preferences, and we suggest that there may well be a causal relationship between them. The person who has a strong view about who ought to win a case (for reasons apart from the text) has trouble seeing the plausibility of other ways of reading the statute involved.

28 A natural question that follows is whether there is a way to circumvent the bias that seems to beset simple judgments of ambiguity. An affirmative answer is suggested by a closer look at the results produced by those different ways of asking about ambiguity just mentioned. When respondents are asked whether ordinary readers of English would be likely to agree on the best reading of the statute in that case, their judgments are unaffected by their policy preferences; respondents who strongly prefer one reading over another as a matter of policy are as likely as respondents with weak policy preferences to say that ordinary readers of English would disagree about which is better. To change slightly the focus of the comparison: In the LSD case, respondents with strong policy preferences are, on average, 30% more likely to say a statute is ambiguous or probably ambiguous when asked for

18 *See* discussion *infra* and data in the appendix.

19 For a survey of examples, *see* Lawrence M. Solan, "Pernicious Ambiguity in Contracts and Statutes," 79 Chicago-Kent Law Review 859, 866–876 (2004).

an external judgment than when asked for an internal one. All respondents considering that case are 55% likely to say the statute is ambiguous when asked for an external judgment; in other words their likelihood of so concluding does not change with the strength of their policy preferences.

29 If we assume that a respondent's policy preference is in some way a reflection of personal views, then asking people whether a statute is ambiguous, or whether two different readings of it are plausible, evidently causes them to consult their own views of how they would like the statute to be read. We hypothesize that those two questions amount, in the experience of people who are asked them, to inquiries into how strongly they themselves feel sure that one reading is better than another, and those judgments are easily contaminated by the respondents' preferences—as a matter of policy—for a particular outcome. Asking respondents whether ordinary readers of English would agree about the best reading, however, forces them to change their frame of reference. They no longer are asking themselves which reading they prefer, or how sure they feel that one of them is right. They are forced to look outside themselves, so to speak, and to consider what others would likely say. The outward investigation is merely hypothetical—a thought experiment; but it's a consequential thought experiment, because it reduces the bias otherwise exerted by the respondent's policy preferences. We therefore suggest that the external question about whether ordinary readers would agree on the meaning of a text is a useful, though informal, "debiasing" heuristic.[20]

30 It would be exciting to translate these findings into implications for how judges should interpret statutes, but that has to be done with caution. Judges obviously have experience and training, and also time and materials at their disposal, that the takers of these surveys don't; nor does any judge's method quite line up with the questions we asked of our respondents. But there may still be at least some cautionary implications for the judicial process, and other implications as well—for lawyers, for example, and for those who teach them. The rest of this section pursues these more difficult questions about the implications of our results.

3.1. The significance of impressionistic judgments of clarity

31 First we should take stock of some differences and similarities between the positions of our respondents and the position of a judge deciding a statutory

20 *See* generally Christine Jolls and Cass R. Sunstein, "Debiasing Through Law," 35 *Journal of Legislative Studies*. 199 (2006).

dispute. There are no rules or clear agreements among judges about just how to decide whether a text is ambiguous. Some students of interpretation do regard textualism as an inquiry into what "ordinary readers" would think the words of a statute mean,[21] but everyone agrees there is more even to this judgment than reading the text itself;[22] one has to consider the context—but judges and scholars disagree about what features of context should be admitted into this inquiry.[23] Those disagreements usually arise in disputes about *what* a statute means, not about whether it is ambiguous, but they can come up in the latter area as well. On a textualist view the relevant context is semantic, consisting of sources of lexicographical guidance and the other laws also on the books.[24] Thus Justice Scalia's suggestion that a textualist seeks to find in a statute "a sort of 'objectified' intent—the intent that a reasonable person would gather from the text of the law, placed alongside the remainder of the *corpus juris*."[25]

32 The takers of our surveys may well be reasonable people, but naturally they do not have all the materials that a good textualist would want them to have: they are missing the rest of the *corpus juris*. Probably a reasonable and conservative view is that these studies consider just one aspect of decisions about ambiguity: the judgment about the surface of the text. Clearly there are other points that judges consider in deciding whether a text is ambiguous, so the significance of the surface and its apparent clarity shouldn't be overestimated. But it shouldn't be underestimated, either. Impressionistic judgments about the clarity of a text play an important and sometimes decisive role in litigation over statutes. Consider the *X-Citement Video* case, which formed the basis of one of the survey questions shown above. As the question indicated, the issue in the case was whether the scienter

21 *See*, *e.g.*, Thomas W. Merrill, "Textualism and the Future of the Chevron Doctrine," 72 *Washington University Law Quarterly*. 351, 352 (1994); Jonathan Molot, "Ambivalence About Formalism," 93 *Virginia Law Review* 1, 13 (2007); *see* also *F.T.C. v. Standard Oil Co. of California*, 449 U.S. 232, 248 n. 4 (1980) (Scalia, J.).

22 *See*, *e.g.*, *See* John F. Manning, "What Divides Textualists from Purposivists?" 106 *Columbia Law Review* 70, 92 (textualists "believe that a statute may have a clear semantic meaning, even if that meaning is not plain to the ordinary reader without further examination").

23 *See id.* At 92–93 (2006) (discussing distinction between semantic context and policy context of a statutory text); Caleb Nelson, "What Is Textualism? 91 *Virginia Law Review* 347 (2005); William N Eskridge, "The New Textualism," 37 *U.C.L.A. Law Review* 621, 668–670 (1990).

24 *See* Manning, *supra* note 19.

25 Antonin Scalia, A Matter of Interpretation 17 (1998); *see* also Nelson, *supra* note 20, at 353–357.

requirement in the statute extended to the use of underage performers in the movies the defendant sold, or whether the word "knowingly" only applied to the defendant's shipment of the films through the mail. The majority held that the statute required a showing that the defendant knew the movies included minors. The Court's decision relied largely on the canons of construction "that some form of scienter is to be implied in a criminal statute even if not expressed, and that a statute is to be construed where fairly possible so as to avoid substantial constitutional questions."[26] Justice Scalia, however, did not think this reading was "fairly possible":

> [I]t could not be clearer that [the scienter requirement] applies only to the transportation or shipment of visual depiction in interstate or foreign commerce. There is no doubt. There is no ambiguity. There is no possible "less natural" but nonetheless permissible reading.[27]

Notice that the dispute between the majority and the dissent here really is not about textualism or other theories of statutory interpretation. It is a feud at an earlier threshold of analysis; it is about whether the language of the statute will admit of more than one reading. For making *that* determination, no theory helps; it is simply a judgment about the clarity of the English and whether it is reasonable to read it more than one way. It may be that holders of some theories are more likely to answer that question one way rather than another,[28] but the theories themselves are incapable of generating answers. 33

Another example is furnished by *United States v. Yermian*,[29] which likewise was the subject of one of the survey questions described above. The question here was similar to the last one: whether the scienter requirement of the statute required a showing that the defendant knew his false statement came in a matter within the jurisdiction of a federal agency. The majority held for the government this time, finding that the statute "unambiguously dispenses with any requirement that the Government also prove that those statements were made with actual knowledge of federal agency 34

26 *United States v. X-Citement Video, Inc.*, *supra*, 513 U.S. at 69.

27 *Id*. at 82 (Scalia, J., dissenting).

28 *See* Antonin Scalia, "Judicial Deference to Administrative Interpretations of Law," 1989 *Duke Law Journal* 511, 521 (suggesting that "one who abhors a 'plain meaning"' rule, and is willing to permit the apparent meaning of a statute to be impeached by the legislative history, will more frequently find agency-liberating ambiguity, and will discern a much broader range of 'reasonable' interpretation that the agency may adopt and to which the courts must pay deference").

29 468 U.S. 63 (1984).

jurisdiction."[30] The dissenters, in an opinion by Chief Justice Rehnquist, argued that the rule of lenity applied because the statute was ambiguous:

> Although there is no errorless test for identifying or recognizing plain or unambiguous language in a statute, the Court's reasoning here amounts to little more than simply pointing to the ambiguous phrases and proclaiming them clear. In my view, it is quite impossible to tell which phrases the terms 'knowingly and willfully' modify, and the magic wand of ipse dixit does nothing to resolve that ambiguity.[31]

35 Rehnquist was right about at least this much: the majority's view that the statute was "unambiguous" was no more than a proclamation—and this in two senses worth noting distinctly. First, perhaps a proclamation was all that the majority's judgment about ambiguity *could* have been, since, as the dissent states, there is "no errorless test" (indeed, there is no strictly *legal* test at all) for deciding whether a text is clear. Again, there are theories that say what to do *when* a statute is ambiguous, but there are no theories that help determine *whether* a statute is ambiguous, as by offering metrics for measuring its clarity or standards that the clarity must meet. Judges sometimes do have different ideas about, what to consult while making such determinations; everyone likes dictionaries[32] but some judges will look at legislative history while others avoid it.[33] But in the end, after consulting whatever there is to be consulted, the decision that words are or are not ambiguous simply belongs to the maker of the judgment without help from a legal standard. The "magic wand of ipse dixit" is the standard tool for deciding such matters, whether for a judge or for respondents to our surveys.

36 The Court's view in *Yermian* was a "proclamation" without argument in another, narrower sense as well. It relied heavily on simple judicial reactions to the clarity of the text. The court's opinion, like all Supreme Court

30 *Id.* at 69.

31 *Id.* at 76–77 (Rehnquist, C.J., dissenting).

32 *See* Lawrence Solan, "The New Textualists' New Text," 38 *Loyola of Los Angeles Law. Review* 2027, 2055 (2005) ("Without question, the biggest change in the search for word meaning in the past twenty years is the almost obsessive attention courts now pay to dictionaries"); Samuel A. Thumma & Jeffrey L. Kirchmeier, "The Lexicon Has Become a Fortress: The United States Supreme Court's Use of Dictionaries," 47 *Buffalo Law Rev*iew 227 (1999)

33 *See* Scalia, *supra* note 25; Stephen Breyer, "On the Uses of Legislative History in Interpreting Statutes," 65 S. *California Law Review* 845 (1992).

opinions, did deploy various arguments besides the ones just shown, and made use of some considerations besides the words alone; obviously the Justices had more to work with than the respondents to our surveys did. Yet on reading the opinions for both sides in *Yermian*, as when reading the opinions for both sides in the *X-Citement Video* case, there is no avoiding the fact that impressionistic judgments are doing important work. Some judges read the text and say that it just seems clear. Other judges read the same text and say that it just doesn't. These disputes are difficult to resolve because, again, there are no legal standards that quite bear on them, and no way to falsify a judge's claim one way or the other. If one person says that both proposed readings of a statute seem plausible, and a colleague disagrees, finding the second reading too strained, what is there to do about it but for each to stamp his foot?

37 This article amounts to an inquiry into that foot-stamping side of interpretation: the simple judgment that the text seems clear, or doesn't. Our empirical inquiries suggest that those judgments, depending how they are undertaken, tend to get entwined with the policy preferences of their makers. Perhaps this is not surprising; in the absence of any legal test to guide one's thought process about clarity, one's own strong views about policy might be a natural or at any rate an inevitable place to go for guidance. But the results also show that those judgments can be disciplined, and the effect of policy preferences avoided, by using an external inquiry rather than an internal one—by considering, in other words, not whether a text seems ambiguous to the person making the judgment but whether the person thinks ordinary readers of English would be likely to agree on its meaning. The extent of the discipline exerted on a judge by the "external" question would be very modest, of course, because judges can't turn their guesses about public agreement on a statute's meaning into serious arguments about it. Nobody wants statutory cases decided by pollsters who submit evidence of what ordinary people think a statute means or whether they agree about it. And predictions of agreement made without such information—made just on instinct—are sometimes inaccurate, as we shall see below. Our suggested heuristic, in other words, probably should not and cannot be made a formal test. But it nevertheless is a possible help for the judge or lawyer who wants to make a judgment about ambiguity and wishes to reduce the risk that the judgment will be biased by preferences about the outcome.

38 In making this recommendation, we might seem to take too much for granted that judges should keep their ideas about good policy out of their

interpretations of statutes, when in fact there are those who think that a judge's preferences play an inevitable and maybe a desirable role in such cases.[34] But remember that we are not talking about how a judge decides what to do in the face of undeniable ambiguity. We are talking about how a judge decides *whether* there is ambiguity. It may be the case that a truly ambiguous statute cannot be interpreted without importing notions of good sense from outside its four corners, and indeed from the judge's own fund of experience and opinions. But it does not follow that the judge's own strong opinions also have a place in deciding whether the statute is clear in the first place. That would create a kind of boot-strapping: judges would consult their policy preferences to decide whether a statute is unclear enough to call for the use of their policy preferences. In any event, whether or not judicial preferences might have any defensible part to play in decisions about whether a statute is ambiguous, presumably one would like judges to be able to separate the question of clarity from their own preferences when the situation calls for it. Our results suggest that this is difficult—though less so when the decision called for is an "external" judgment about whether others would be likely to agree on the statute's meaning.

3.2. The legal relevance of external judgments of ambiguity

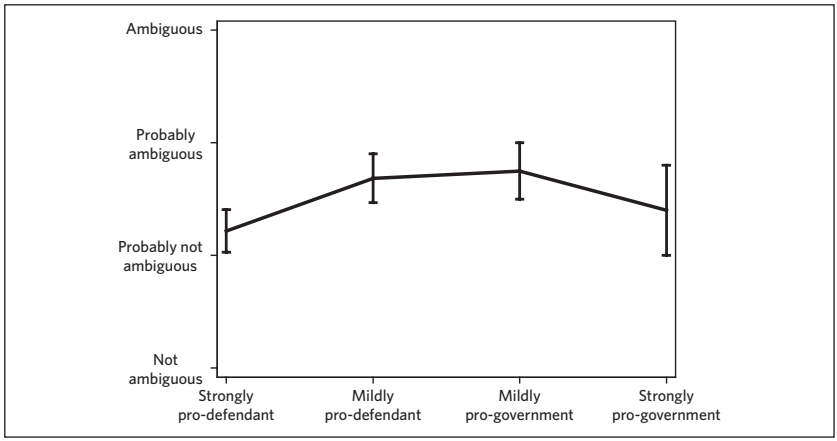
3.2.1. Theories of interpretation

39 External judgments of ambiguity are less likely than the internal kind to be biased by policy preferences, but are they the right sorts of judgments to be making as a legal matter? Which perspective—the internal or the external—is more *relevant* when considering the ambiguity of a statute? Each of them has some appeal. If literate people do not, in fact, agree about the meaning of a text, it might seem fatuous for a judge or anyone else to announce that half of those people are simply wrong: the text *isn't* ambiguous. It seems fatuous because language is customary and conventional.[35] Words mean what people understand them to mean. If literate people generally think an utterance means X, it *does* mean X—and if they disagree about its meaning, then it *is* ambiguous, even if a judge announces that it isn't, or shouldn't be—and even if an *idealized* reader, rather than an actual ordinary one, would find it perfectly clear. Putting the linguistic point to one side, using public understand-

34 *See*, *e.g.*, Posner, *supra* note 6.

35 For lively recent discussion with some applications to law, *see* Stanley Fish," Intention Is All There Is: A Critical Analysis of Aharon Barak's Purposive Interpretation in Law," 29 *Cardozo Law. Rev*iew 1109, 1122–1127 (2008).

Figure 4. How policy preferences affect judgments about the ambiguity of a statute's purpose in the child pornography case (example 2). The line presents mean ambiguity ratings. The whiskers report standard errors of the means.



ings of meaning as a benchmark for interpretation also is attractive on "rule of law" grounds: people are entitled to notice of the rules that govern them. This is a standard defense of textualism as an interpretive philosophy.[36]

But the internal perspective has its appeal as well. Consider a survey re- 40
spondent, or for that matter a judge, who asks whether a text is ambiguous and *isn't* thinking about how much agreement ordinary readers would likely reach about it. Against what other benchmark is the reader instead making the judgment? The answer probably involves an estimate of what the author of the text meant by it. This suggestion is more than just conjecture. We administered some surveys nearly identical to the ones described above, but instead asked respondents whether the "purpose" of the statute was ambiguous. We did not use this variation as often as the other forms of the survey, so the statistical significance of the result is not yet as great; but the emerging trend of the results is that asking whether the "purpose" of the statute is ambiguous produces the same results as simply asking whether the statute was "ambiguous" or whether both readings were "plausible." Here, for example, is a graph showing the results when respondents are shown the fact pattern involving the child pornography statute and asked whether the statute's purpose is ambiguous:

Again, respondents with strong policy preferences tend to find the 41
statute's purpose unambiguous. Perhaps this should not be surprising: a

36 *See* Scalia, *supra* note 22, at 17.

respondent with a strong policy preference may find it hard *not* to project those preferences onto the imagined author of the statute, presumably a person of good sense who all respondents imagine would have the same strongly held views that they do. At any rate, notice how similar this curve looks to the curves generated when respondents are simply asked whether a statute is ambiguous (without explicit reference to its purpose). Judgments about the ambiguity of a statute's purpose correlate with the respondents' policy preferences just as more general judgments of ambiguity do. While that does not prove that these questions are identical, it does suggest that asking whether a statute itself is ambiguous and asking whether its *purpose* is ambiguous are similar inquiries, that indeed in the experience of many readers the first question may be hard to distinguish from the second, and that they provoke similar recourse to policy preferences.

42 This focus on the purpose of a statute can be viewed as corresponding to its own theoretical approach to the interpretation of legal texts: intentionalism. This isn't the place to canvass all of the arguments in favor of that approach to interpretation,[37] but we can at least notice a few points that have analogues in the case for textualism just considered. To begin with the linguistic side of the story: while it's true that language is conventional, it also is customary to treat words as flexible carriers of meaning, and, in interpreting them, to seek the meaning that their author was trying to express. Sometimes that means declining to take a statement literally, whether in conversation or in court.[38] And then there is a policy, or jurisprudential argument, that reinforces this linguistic point: when judges interpret statutes they generally think of themselves as agents of the legislature, and interpreters of most schools are understandably uncomfortable reading a statute to have effects that nobody wanted it to have just because the words point that way.[39]

37 For good recent discussion, *see* Nelson, *supra* note 20; Manning, *supra* note 19; James J. Brudney, "Intentionalism's Revival," 44 *San Diego Law Rev*iew 1001 (2007).

38 For discussion and references, *see* John F. Manning, "The Absurdity Doctrine," 116 *Harvard Law Review* 2387, 2400–02 (2003).

39 *See* William N. Eskridge, "Overriding Supreme Court Statutory Interpretation Cases," 101 *Yale Law Journal* 331, 408 (1991) ("Both traditional and formalist ideologies view the Court as Congress' "agent" in statutory interpretation"); Manning, *supra* note 19 at 95–96 ("starting from the longstanding constitutional premise that federal judges must act as faithful agents of Congress, textualists must show why semantic rather than policy context constitutes a superior means of fulfilling the faithful agent's duty to respect legislative supremacy").

43 The textual and intentional approaches to interpretation both have much appeal, and few judges commit themselves decisively to one or the other. Rather, courts have time-honored ways to finesse the tensions between them. They commonly say that their goal is to give effect to the legislature's intent, *but*—or "and"—the best evidence of the legislature's intent is the plain meaning of the words it chose, so long as the words are clear.[40] The idea is that evidence of legislative intent and public meaning go together. But sometimes they don't, and it is here that textualist and intentionalist interpreters are most likely to part company. The important point for us, however, is that the courts value and routinely give weight to both of the perspectives we are considering here: the public meaning of a statute (represented in our study by questions about what an ordinary reader of English would think), and what the legislature intended by it (represented, more or less, by our questions about whether the statute or its purpose are ambiguous). Few would argue for the conceptual irrelevance of either (a few very hardy textualists possibly excepted),[41] though there would be much argument about what to admit as evidence to prove them. If we come at the choice between those goals without considering the risks of bias raised by the results shown here—if we approach them just by asking which is more legally relevant—the question quickly becomes not which of them wins out but how they ought to be balanced. And bear in mind that the question, to be still more precise, is not how to balance them in general when interpreting a statute, but how to balance them when making the particular and very important judgment that the language of a statute is ambiguous.

40 *See, e.g.*, *Engine Mfrs. Ass'n. v. South Coast Air Quality Management Dist.*, 541 U.S. 246, 252 (2004) ("Statutory construction must begin with the language employed by Congress and the assumption that the ordinary meaning of that language accurately expresses the legislative purpose"); *Ardestani v. INS*, 502 U.S. 129, 135 (1991) (noting "'strong presumption' that the plain language of the statute expresses congressional intent"); *Riley v. County of Broome*, 742 N.E.2d 98 (N.Y. 2000) ("the words of the statute are the best evidence of the Legislature's intent"); *People v. Rissley*, 795 N.E.2d 174 (Ill. 2003) ("the language of the statute is the best indication of the legislative intent"); cf. Oliver Wendell Holmes, Jr., "The Theory of Legal Interpretation," 12 Harvard Law Review 417, 419 (1899) ("We do not inquire what the legislature meant; we ask only what the statute means.").

41 *See* Antonin Scalia, "Law & Language" (review of Steven D. Smith, Law's Quandary, *First Things* (Nov. 2005) ("What is needed for a symbol to convey meaning is not an intelligent author, but a conventional understanding on the part of the readers or hearers that certain signs or certain sounds represent certain concepts. In the case of legal texts, we do not always know the authors, and when we do the authors are often numerous and may intend to attach various meanings to their composite handiwork. But we know when and where the words were promulgated, and thus we can ordinarily tell without the slightest difficulty what they meant to those who read or heard them.").

3.3. Legal consequences of ambiguity

44 The best answer to that question no doubt depends on *why* it is asked. The interpretation of different sorts of texts, including different kinds of statutes, will call for different emphases. Suppose a federal court is deciding whether a statute is ambiguous as part of an inquiry under the *Chevron* doctrine; if the statute is found ambiguous, the court will defer to any reasonable interpretation by the agency charged with enforcing it. In this case the intent of Congress, rather than the public meaning of the text, probably is the more important benchmark if there is a conflict between them, because giving effect to the intent of Congress is the most widely accepted rationale for the *Chevron* doctrine: ambiguities in a statute are treated as delegations of power to the agency in charge of carrying it out.[42] Meanwhile the public interest in notice, though not necessarily insignificant, may be weaker in regulatory cases than elsewhere—such as in criminal cases. Of course regulated industries want to know what the law is just as other parties do, but they do not generally face jail time if they are found to have violated it. More to the point, remember that we are not, in this Article, quite discussing how statutes should be finally interpreted. We are discussing how one should decide whether they are ambiguous, which is a related but distinct question; indeed, it is anterior to the larger one, because *how* a statute gets interpreted in the end, or *who* does the interpreting, will often depend on *whether* it is found ambiguous at the outset. In a *Chevron* case the big question is who will do the interpreting: an agency or a court. The interest of a regulated industry in having clear notice of the answer to that question is, perhaps, not so urgent.

45 Criminal statutes lie at the other end of the spectrum. The cost to the individual of overstepping the line may be enormous, so there is a strong interest in having clear notice of where the line is drawn. The value of notice in criminal cases receives venerable recognition in various ways, as in the doctrine that holds overly vague criminal laws void,[43] and as in the rule of lenity, which holds that ambiguous penal statutes should be construed in

42 *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000) ("Deference under Chevron to an agency's construction of a statute that it administers is premised on the theory that a statute's ambiguity constitutes an implicit delegation from Congress to the agency to fill in the statutory gaps."); Evan J. Criddle, "Chevron's Consensus," 88 *Boston University Law Review* 1271, 1284 (2008).

43 *See*, *e.g.*, *Connally v General Construction Co.*, 269 US 385, 391 (1926) (holding statute unconstitutionally vague under the due process clause where "men of common intelligence must necessarily guess at its meaning and differ as to its application").

favor of defendants.[44] Like the *Chevron* doctrine, the rule of lenity attaches significance to a finding of ambiguity. But under the rule of lenity, ambiguity does not affect who interprets the statute. It affects, rather, how the statute is read; it has immediate consequences for the defendant, who either goes to prison or—if the statute is found ambiguous in its application to his case—goes free. The rule of lenity turns out to be a fickle friend to defendants, however, because judges don't agree about how ambiguous a statute must be to trigger the rule's application.[45] Their disagreements arise partly because the doctrine has multiple rationales. One vision of the rule of lenity is that it "ensures that criminal statutes will provide fair warning concerning conduct rendered illegal";[46] thus "where there is ambiguity in a criminal statute, doubts are resolved in favor of the defendant."[47] The relevance of notice, and thus of a law's meaning to the public reader, is stressed in this passage from Justice Scalia, the Court's most consistent user of the rule of lenity:

> It may well be true that in most cases the proposition that the words of the United States Code or the Statutes at Large give adequate notice to the citizen is something of a fiction, albeit one required in any system of law; but necessary fiction descends to needless farce when the public is charged even with knowledge of Committee Reports.[48]

Another rationale for the rule, quite different in its implications, is that people should not be imprisoned unless the courts are certain that the legislature intended such a result. A focus on this side of the rule's basis results in less generous statements such as this: 46

> A statute is not ambiguous for purposes of lenity merely because there is a division of judicial authority over its proper construction. The rule of lenity

44 For a recent statement, *see United States v. Santos*, 128 S.Ct. 2020, 2025 (2008) ("The rule of lenity requires ambiguous criminal laws to be interpreted in favor of the defendants subjected to them"); *see* also *McNally v. United States*, 483 U.S. 350 (1987).

45 For a more detailed account, *see* Farnsworth, *supra* note 6, at 72–73.

46 *Liparota v. United States*, 471 U.S. 419, 427 (1985). *See* also *Crandon v. United States*, 494 U.S. 152, 160 (1990) ("Because construction of a criminal statute must be guided by the need for fair warning, it is rare that legislative history or statutory policies will support a construction of a statute broader than that clearly warranted by the text.").

47 *Adamo Wrecking Co. v. United States,* 434 U.S. 275, 284–285 (1978). in *Smith v. United States*, 508 U.S. 223 (1993).

48 *United States v. R.L.C.*, 503 U.S. 291, 308 (1992) (Scalia, J., concurring in part and concurring in the judgment) (citations and quotation marks omitted).

> applies only if, after seizing everything from which aid can be derived, we can make no more than a guess as to what Congress intended.[49]

47 These different views of the rule of lenity are not outright inconsistent, but they differ substantially along precisely the spectrum we have been considering here. The first places the highest priority on notice to the defendant. The second gives the highest priority to the legislature's intent. Everyone acknowledges that both rationales lie behind the rule, but judges differ in the weight they give to one or to the other. Those differences in which rationales to emphasize lead to different views about how much ambiguity to require, and what *sort* of ambiguity to require, before invoking the rule.

48 The empirical work presented here suggests a ground for approaching the threshold judgment about the rule of lenity—whether the statute is ambiguous—in a manner that is weighted more toward the notice-ensuring rationale for the rule, and thus on an externally-driven inquiry into public meaning: would ordinary readers of English interpret the statute the same way? The answer to that external question has a solid claim to legal relevance, and it is unlikely to get entwined with a judge's own views about whether the defendant should be punished as a matter of policy. An attempt to say whether a statute is ambiguous without reference to anyone else, but just by reference to the reader's own opinion or the reader's ideas about the purpose of the rule, raises greater risks that the judgment will reflect the policy preferences of its maker.

49 External judgments have an additional consequence worth noting. They are more likely than internal judgments to produce a judgment that a text is ambiguous. This might be considered salutary because it implies a kind of humility; internal judgments tend toward confidence, which is tempered by the external question about whether others would agree. But the consequences can also be viewed more practically. Finding ambiguity more often has, as we have seen, different implications in different legal settings. It means deferring to agencies more often in administrative law cases. It might mean resorting more often in statutory cases to legislative history, or perhaps to a judge's own views of policy—whatever one takes to be the next step once a statute is found to fairly admit of more than one reading. In a criminal case, it means resorting to the rule of lenity more often. Whether

49 *Reno v. Koray*, 515 U.S. 50, 64–65 (1995).

these outcomes are benefits or detriments of asking the external question will depend on one's views about the policies at stake in each area.[50]

3.3.1. The accuracy of external judgments of ambiguity

50 A question remains, however. Supposing external judgments of ambiguity to be of some legal interest, and supposing them to be less biased than judgments of the "internal" variety—still, are they *right*? A claim that ordinary readers would disagree about the meaning of a text is empirical in nature; unlike a mere internal feeling of confidence about the best meaning of a text, an external claim can, in principle, be proven or falsified by consulting ordinary readers and learning whether they did, in fact, agree or disagree about it. We investigated the accuracy of the predictions as far as our methodology allowed. It might be open to question whether the respondents to this survey were representative of "ordinary readers of English"; all of them were college graduates with an interest in law. In any event, some groups of respondents were asked which reading of the statutes involved they thought was better. By comparing their agreement in answering this question with the predictions of others about whether readers would agree, we can make a start at saying how accurate those predictions were.

51 To summarize the results involving the survey questions already seen: In the problem involving how LSD should be weighed, respondents tended to underestimate how much disagreement the statute would produce. 19% said that there would be "widespread disagreement" about the statute's meaning; 36% said there would "probably" be disagreement; 39% expected that "most people" would agree; and 6% thought that everyone would agree. We also ran a variation in which respondents were asked more simply, "Do you think ordinary readers of English would disagree about which reading better fits the statute's text?" They were asked to answer yes or no, with no option for "probably" or "probably not." When pressed in this way, 64% predicted disagreement and 36% predicted agreement. In fact disagreement *was* widespread; this was the most ambiguous of the statutes we tested, when ambiguity is measured by agreement: there was a 51%-49% split among respondents with respect to which reading of the text was better.

50 *See, e.g.*, Merrill, *supra* note 18 at 374 ("If the rise of textualism means the decline of the deference doctrine, either in the short or the long run, then this alone is cause for concern. It may suggest one reason to reject textualism").

52 By way of comparison, how well did respondents' *internal* judgments of ambiguity square with the amount of actual disagreement found among other readers? When respondents were asked just to say whether the text was ambiguous (yes or no), 56% of those with mild policy preferences found ambiguity while only 30% of respondents with strong policy preferences did. To state the overall result perhaps more cleanly: respondents making external judgments were twice as likely to find ambiguity as were respondents who made internal judgments and had strong policy preferences. (Respondents who made internal judgments but did *not* have strong policy preferences found ambiguity about as often as those who made external judgments.) So external judgments of ambiguity, however imprecise, were more accurate than the internal kind when measured against the actual disagreement readers had about the meaning of the text.

53 In the problem based on the child pornography case, 62% of respondents thought that ordinary readers would probably or definitely disagree about the best reading of the statute. With the middle options taken away (the variation explained a moment ago), 77% of respondents said that ordinary readers would disagree about "which reading better fits the statute's text." In fact there was a 66%-33% split of respondents on the best reading of the statute (66% believed the government's reading was correct). Again by way of comparison, when instead asked whether the text was "ambiguous," 73% of respondents with mild policy preferences said that it was, as against 40% of those with strong policy preferences. Here as in the LSD case, those who made external judgments were twice as likely to find ambiguity as those who made internal judgments and had strong policy preferences; and here again, there was no significant difference between external judgments and internal judgments made by those with no strong policy preference.

54 In the problem based on the false statements case, 60% said that the statute would definitely or probably produce disagreement. With the "probably" options removed, and respondents forced to make a binary choice, 75% predicted disagreement. Those who predicted disagreement were, again, right; 55% of respondents thought the government's reading was better, and 45% thought the defendant's reading was better. To compare these results once again to the accuracy of *internal* judgments of ambiguity that respondents made: when asked the "ambiguity" question, roughly 55% of respondents with mild policy preferences predicted disagreement, while only 15% of respondents with strong policy preferences, on average, predicted disagreement. Of the respondents who

strongly preferred the government's reading as a matter of policy preference, *none* of them thought the statute had any ambiguity. Those who made external judgments were five times as likely to find ambiguity as those who made internal judgments and had strong policy preferences. As usual, there was little difference between external judgments and the subset of internal judgments that were made by those without strong policy preferences.

55 The results just described suggest that the external judgments of the "crowd"—that is, the respondents taken as a whole—generally went in the right direction: if a majority of the respondents predicted disagreement (definitely or probably), there usually was a lot of disagreement. But of course all of those problems involved statutes where disagreement was indeed widespread. What about cases where it wasn't? Here is an example that is interesting by way of contrast. We asked the following question:[51]

> A federal statute, 18 U.S.C. § 924(c), provides an additional six month prison sentence for anyone who "uses" a firearm "in relation to . . . a drug trafficking offense." Defendant, a drug dealer, owned a gun. He approached a confederate and offered to trade him the gun for some cocaine. His confederate turned out to be an undercover police officer, and defendant was arrested. He was charged with violating 924(c). Defendant did not brandish the gun or use it in a threatening manner, but he did offer it as an item of barter.
>
> The question is whether offering the gun in trade was a "use" of it within the meaning of 924(c) (in which case the defendant gets the extra six-month prison sentence). Defendant's reading is that offering a gun in trade is not a "use." The government's reading is that it is a "use."

56 This statute was *not* particularly ambiguous in the external and empirical sense of the term: 80% of respondents thought the better reading was the defendant's.[52] An 80/20 split does not amount to overwhelming agreement, but it makes this statute considerably less ambiguous than, say, the statute involving LSD. Yet when pressed to choose between

51 Based on *Smith v. United States*, 508 U.S. 223 (1993), where the Court held, 6-3, in favor of the government.

52 An amusing feature of the responses to the firearms problem—or perhaps a troubling one: most respondents agreed that the best reading of the statute was one that, unbeknownst to them, the Supreme Court rejected as unambiguously *wrong* in that case; the majority at the Court held that the statute did impose liability on the defendant for bartering his gun. *See Smith*, *supra* note 44.

predictions that readers would agree or disagree about the gun statute's meaning, 74% predicted disagreement; in other words, predictions of disagreement were about as common here as they were elsewhere. This is the most extreme example of a trend that recurred in milder form elsewhere in the results: respondents as a group often overestimated the ambiguity of statutes that actually provoked relatively large amounts of agreement. In the more typical cases that provoked wide agreement, about half of all respondents predicted that result; see the appendix for a more detailed account of these questions and results. This case about gun use also is a rare example of an instance where internal judgments about ambiguity were more accurate than the external ones. Both groups found a lot of ambiguity, but the external judgers found more of it; and in fact, as we have said, most respondents agreed on the statute's actual meaning.

57 It is tempting to say that people tend to expect more disagreement than really exists and should compensate by reminding themselves of this, but that advice would be too strong. For at the same time, some people's predictions were just right, and there were many others who predicted too much clarity when it *didn't* exist. The safe statements are that people vary in their ability to accurately predict agreement about the meaning of legal texts, that collective judgments on the subject often are roughly accurate, but that in some cases they go awry.

58 The difficulty of making accurate predictions about the disagreement that a text will provoke obviously counsels care and humility in venturing such judgments. But what does it suggest about the choice between the external and internal ways of asking about ambiguity? The external question produced a lot of inaccurate answers, but the internal questions produce even *more* inaccuracies when the answers to them are measured against the amount of actual agreement that readers reached. In other words, people asked just to say how ambiguous a statute is, or whether two readings of it both are plausible, tend to produce answers that don't square with the amount of agreement or disagreement the text produces among actual readers. The significance of this inaccuracy is open to question. People who make internal judgments aren't *trying* to predict how much agreement ordinary readers would reach about the text, so perhaps it isn't fair to measure the accuracy of their answers by looking to that benchmark. On the other hand, what benchmark *is* the right one for deciding whether an internal judgment was correct? The most probable answer, and the one

most consistent with our discussion earlier, is that an internal judgment is correct when it accurately arrives at the intention of whoever wrote the text. Accuracy of that kind is impossible to measure through studies of this kind, and may be impossible in a larger and stronger sense; in litigation over a statute, the "intent of the legislature" is often difficult to discern, and some textualists deny that it exists in any coherent sense.[53] And even if it can be determined in some cases, in others it is evident that the legislature had no clear intent concerning the question at hand. Some argue that the "best" answer then is the one that legislators would have reached if they had thought about the matter,[54] which of course is even less susceptible of proof or falsification.

So if we are comparing the external and internal strategies for deciding whether a text is ambiguous, the contest between them is complicated by the differences in whether and how they can be tested. What we do know is that along the dimensions that we do have the ability to test, the external question does better: it produces judgments less entwined with the policy preferences of their makers, and it produces judgments that, while crude, are better estimates of how much agreement ordinary readers would reach about the text.[55] It is certainly possible to reject all this on the ground that disagreement among ordinary readers of a statutory text is irrelevant to its "actual" ambiguity; but then those judgments of "actual" ambiguity aren't

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53 *See*, *e.g.*, Frank H. Easterbrook, "Statutes' Domains," 50 *University of Chicago Law Review* 533, 547 (1983) ("[b]ecause legislatures comprise many members, they do not have 'intents' or 'designs,' hidden yet discoverable . . . [t]he body as a whole . . . has only outcomes."); for recent contrary arguments, *see* Lawrence M. Solan, "Private Language, Public Laws: The Central Role or Legislative Intent in Statutory Interpretation," 93 *Georgia Law Jounal* 427 (2005).

54 *See*, *e.g.*, Richard A. Posner, "Statutory Interpretation—in the Classroom and in the Courtroom," 50 *University of Chicago Law Review*. 800, 817 (1983); William Funk, "Faith in Texts—Justice Scalia's Interpretation of Statutes and the Constitution: Apostasy for the Rest of Us?" 49 *Administrative Law Rev*iew 825 (1997) ("This is the great irony of Justice Scalia's textualism; judges acting in good faith in the face of an ambiguous text, if they are not to look to legislative history, must necessarily impose their view of the law on the law."). Compare *Argentina v. Weltover, Inc.*, 504 U.S. 607, 618 (1992) (Scalia, J.) ("The question . . . is not what Congress 'would have wanted' but what Congress enacted . . ."). For general discussion, *see* Nelson, *supra* note 20 at 403–416; Eskridge, *supra* note 20, *at* 630–632.

55 Of course the debiasing effect of the ordinary readers question cannot be separated from the level effect of that question. So while the "ordinary readers" framing helps to separate textual interpretation from policy preference, it would also increase the probability that judges find a statute ambiguous. If the consequence of ambiguity is that a judge is free to appeal to his or her own policy preferences in interpreting a statute, *see supra* Section III.B.2, the "ordinary reader" framing may not, in the end, actually reduce the role of policy preferences in interpretation.

tethered to anything clear, and are quite hazardous in ways we have shown—while meanwhile the external judgments do have a legitimate claim to legal relevance in some circumstances, as we also have argued.

60 The difficulty of making accurate estimates of how much people will agree about legal texts may finally suggest that it would be valuable to develop pedagogical tools for improving those predictive abilities. Indeed, all of the issues discussed in this Article would benefit from closer pedagogical attention. One of the striking findings of these experiments, noted briefly above, was the lack of any significant differences between the judgments made by respondents when they first arrive at law school and after they have been there for a year. This may suggest that patterns of judgment we have found are embedded deeply enough in most people that they are beyond the reach of formal education to change, at least once the makers of the judgments have reached young adulthood. Or it may suggest instead—or in addition—that law schools do not do as much as they might to teach students about the interpretation of statutes and the hazards that attend the process. This probably is true; the emphasis during the first year at most law schools continues to be on the study of the common law. There typically are some exceptions at various points in the courses on civil procedure and criminal procedure, but sustained attention to the interpretation of statutes is unusual.[56] Or *has* been unusual; some schools have begun introducing courses on statutory interpretation in the first year.[57] Such training might also come later in law school, of course, but by then students generally make their own choices about what courses to take; relatively few of them sign up for courses that focus tightly on interpretation. Moreover, we think it is widely felt by most who have gone through the experience that the first year of law school tends to make the biggest dent on the student's habits of thought.

61 These pedagogical suggestions are not just a question, or perhaps even mostly a question, of helping people who eventually will become judges to make sound external judgments of ambiguity, or less biased internal judgments about it. Those external judgments cannot be more than a heuristic, or thought experiment, in the best of circumstances anyway. It is very important, though, for those who *write* statutes—or who write contracts or other legal instruments—to be able to accurately forecast whether their writings will produce agreement or disagreement by later readers trying to

56 For notes on this and sighs of regret, *see* Scalia, *supra* note 22, at 3–13.

57 *See* Ethan Lieb, [new article in *Journal of Legal Education*.]

understand what the writings mean. And it is very important for those lawyers who read statutes and other legal texts to be able to accurately predict what others will think about their meaning. Most law schools do not now provide very extensive instruction or practice in making those judgments. Our results suggest that there is a lot yet to learn and teach about them.

4. CONCLUSION

Judgments about whether a text is ambiguous are of great importance in law. The experiments presented in this Article suggest, first, that judgments about ambiguity also are dangerous, because they are easily biased by strong policy preferences that the makers of the judgments hold. A second finding, however, is that ambiguity is itself ambiguous, and that different ways of inquiring about it produce different answers.[58] Asking whether there is more than one plausible way to read a statute, or simply whether the statute seems ambiguous to the reader, is not the same as asking whether the reader thinks the text would likely be interpreted the same way by ordinary readers of English. That second finding of this article suggests that when courts and scholars argue about the ambiguity of a text, they ought to be more precise about what they mean. A third finding is that the choice between these different ways of thinking about ambiguity has practical significance. The answers to the first two questions just described—the ones that call for the reader's own "internal" judgments of a statute's clarity—are strongly correlated with, and probably are influenced by, the intensity of the respondent's policy preferences about the issues involved. The answers to the last question—the "external" question of whether ordinary readers would agree on the meaning of a text—are not likewise correlated with policy preferences. This suggests that answers to the external question are less likely to be biased by the policy judgments of the judge or other person answering it. And external estimates of ambiguity, while sometimes inaccurate, are nevertheless *more* accurate than internal judgments when measured by the amount of agreement readers are able to reach about a statute.

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58 For discussion of some ambiguities embedded in the notion of ambiguity, which overlaps with some of this paper's concerns but also explores other aspects of the point, *see* Lawrence M. Solan, "Pernicious Ambiguity in Contracts and Statutes," 79 *Chicago-Kent Law Rev*iew 859 (2004); *see* also William D. Popkin, *A Dictionary of Statutory Interpretation* (2007) (discussing different senses of "ambiguity").

63 The advantages of external inquiries into ambiguity cannot and should not be formalized into a rule for legal use, and this for several reasons. Such inquiries cannot be made rigorous; agreements that ordinary readers would reach about a text vary in their legal relevance; and our results, while suggestive, are based on experiments that do not involve judges. Moreover, no theory of interpretation calls for judges to make decisions about meaning or ambiguity on materials as slender as the respondents to our survey instruments used; everyone agrees that more context of various sorts is needed to reach a sound conclusion. But impressionistic judgments of clarity, not much different from the kind called for in our surveys, do seem to figure importantly in many actual cases, and they routinely figure as at least one component of most decisions about statutory meaning. The external perspective on the ambiguity of a statute can serve as a useful heuristic in such cases where the clarity of a text is open to question, especially in areas of law where parties—or "ordinary readers" of the legal text in question—have a strong interest in notice. The external question is a valuable corrective to the serious risks of bias that attend the more usual task of simply asking whether a statute seems clear to oneself.

64 Last and more generally, we suggest that experimental inquiries have much to offer the study of legal interpretation. Making sense out of texts is perhaps the most common work of a judge or lawyer; but while we have vast bodies of theory about how this ought to be done, we know rather little about how it is in fact done. As the inquiries presented here have shown, ideas about interpretation that sometimes are taken for granted can turn out to contain latent ambiguities. They also may be subject to bias, or to entwinement with considerations that are not at all evident from the accounts people give of their opinions about a text's meaning. Controlled experiments have inevitable limitations—but so do theories unchecked by empirical results.

A. APPENDIX

This appendix provides additional detail on the methods used to generate our results and the raw data on which the principal findings in the text are based.

A.1. General Notes on Data Pool

The data discussed in this article come from several administrations of our survey at the Boston University, University of Chicago, and University of Virginia law schools. Our primary survey had 903 respondents. Roughly 50% of the respondents were from BU (492 respondents), 17% were from University of Chicago (158 respondents), and 33% were from UVA (253 respondents). Roughly 66% of the respondents took the survey during their first week of law school (583 respondents) and 34% of them at the end of their first year (293 respondents).

Each respondent was asked questions about eleven different statutes and accompanying fact patterns. Any given respondent was asked only one type of ambiguity question throughout the survey, and as indicated in the raw data tables below, each type of question received between 60 and 500 individual responses. This variation exists because of our experimental design choices; there were many different versions of the survey that put the questions into different order, and some questions occurred more frequently overall than others. Respondents were given seven cases to consider other than the four discussed in the text of this Article. We do not report the results from those questions here because they were written differently and used to explore other questions about statutory interpretation.[59] We also administered a slightly different version of the survey in autumn 2008. This secondary survey required respondents to say that a statute was ambiguous or was not, without intermediate possibilities. It

59 For example, some of the questions included "framing" that indicated whether a lower court agreed with the defendant or the government. The purpose of such framing was to test the possibility that lower court judgments alter interpretation, policy preferences, or assessments of ambiguity. That question will be the subject of further research and reporting elsewhere.

was given to 262 incoming first-year law students, and as discussed briefly in the text of this article, it confirmed our major findings.[60]

A.2. Raw data: judgments of ambiguity and policy

Reproduced here is the raw data from which we generated each figure and the regression analysis in the text of the article. The various judgments about ambiguity that respondents chose are listed along the left side of each table; the columns represent the policy preferences the respondents claimed to have.

LSD: Ambiguous as Applied?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	4%	9%	3%	7%
Probably Ambiguous	26%	32%	41%	23%
Probably Not Ambiguous	36%	41%	39%	32%
Not Ambiguous	34%	17%	17%	39%
Total Percentage	100%	100%	100%	100%
Total Responses	95	99	90	44

LSD: Both Readings Plausible?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	4%	7%	11%	7%
Probably Ambiguous	27%	57%	48%	26%
Probably Not Ambiguous	41%	28%	32%	30%
Not Ambiguous	29%	7%	9%	37%
Total Percentage	100%	100%	100%	100%
Total Responses	49	68	44	27

LSD: Ordinary Readers Agree?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	23%	14%	14%	22%
Probably Ambiguous	30%	39%	40%	26%

60 One other question in the first version of the survey, and two other questions in the more recent version of it, did produce substantial data similar to the data discussed in the text. Those questions were based on statutes that involved carjacking, possession of firearms, and carrying of firearms. In each case the results produced support our findings; but with respect to each of those three cases, we tested two rather than three of the ambiguity questions described in this article. They therefore illuminate the issues under consideration here a little less directly than the cases discussed in the article, and this is why we are not presenting them in detail. Those questions and the data they produced are available from the authors on request.

LSD: Ordinary Readers Agree?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Probably Not Ambiguous	36%	38%	43%	44%
Not Ambiguous	11%	9%	2%	7%
Total Percentage	100%	100%	100%	100%
Total Responses	47	56	42	27

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Child Pornography: Ambiguous as Applied?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	4%	12%	6%	2%
Probably Ambiguous	31%	45%	42%	22%
Probably Not Ambiguous	45%	33%	38%	51%
Not Ambiguous	20%	11%	15%	25%
Total Percentage	100%	100%	100%	100%
Total Responses	49	95	157	150

Child Pornography: Both Readings Plausible?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	19%	21%	20%	12%
Probably Ambiguous	24%	35%	39%	32%
Probably Not Ambiguous	29%	41%	35%	40%
Not Ambiguous	29%	3%	6%	16%
Total Percentage	100%	100%	100%	100%
Total Responses	21	34	66	68

Child Pornography: Ordinary Readers Agree?	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	24%	19%	13%	20%
Probably Ambiguous	35%	52%	47%	39%
Probably Not Ambiguous	35%	22%	34%	39%
Not Ambiguous	6%	7%	6%	2%
Total Percentage	100%	100%	100%	100%
Total Responses	17	27	68	51

Child Pornography: Purpose Ambiguous?	**Strong Pro-G**	**Mild Pro-G**	**Mild Pro-D**	**Strong Pro-D**
Ambiguous	9%	21%	25%	0%
Probably Ambiguous	26%	37%	25%	60%
Probably Not Ambiguous	43%	32%	50%	20%
Not Ambiguous	22%	11%	0%	20%
Total Percentage	100%	100%	100%	100%
Total Responses	23	19	12	5

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False Statement: Ambiguous as Applied?	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	0%	18%	3%	2%
Probably Ambiguous	21%	41%	49%	10%
Probably Not Ambiguous	47%	33%	33%	50%
Not Ambiguous	31%	8%	15%	38%
Total Percentage	100%	100%	100%	100%
Total Responses	70	127	147	109

False Statement: Both Readings Plausible?	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	0%	11%	8%	0%
Probably Ambiguous	36%	69%	58%	23%
Probably Not Ambiguous	50%	20%	29%	45%
Not Ambiguous	14%	0%	5%	32%
Total Percentage	100%	100%	100%	100%
Total Responses	28	61	76	22

False Statement: Ordinary Readers Agree?	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	28%	22%	10%	21%
Probably Ambiguous	40%	45%	43%	32%
Probably Not Ambiguous	24%	29%	43%	32%
Not Ambiguous	8%	3%	5%	5%
Total Percentage	100%	100%	100%	89%
Total Responses	25	58	61	19

A.3. Raw data: accuracy of judgments that statutes were ambiguous

In Section III.C. above, we discuss the accuracy of respondents' external judgments about ambiguity. The measurement of actual ambiguity, which serves as a benchmark for deciding whether respondents were accurate in predicting it, comes from respondents' judgments about which reading best fit the statute's text. The more agreement there was among respondents about how best to read a statute, the less ambiguous we consider the statute in fact (in the most extreme cases there was 93–95% agreement that one reading was best). Below we reproduce the raw data used to generate this analysis of external judgments.

As discussed in Section I of this appendix, we administered two types of surveys. The primary survey gave respondents four choices concerning ambiguity: not ambiguous, probably not ambiguous, probably ambiguous, and ambiguous (Table A1). The secondary survey forced respondents to choose between two choices: ambiguous and not ambiguous (Table A2). In the "Statute" column below, we list the case name in the first column. (Some cases are listed more than once because we used more than one version of them, introducing slight variations in phrasing or details to see if they made any difference). In the second column, "Better Text Actual Agreement," we provide the percentage of all respondents who agreed about which reading best fit the statute's text. In the remaining columns we provide the percentages for each ambiguity response.

Table A1

Statute	Better Text Actual Agreement	% Not Ambiguous	% Probably Not Ambiguous	% Probably Ambiguous	% Ambiguous
LSD	51%	6%	39%	36%	19%
False Statement	59%	7%	34%	42%	18%
Child pornography	61%	4%	34%	44%	18%
Gun Use	76%	6%	32%	44%	18%

Table A2

Statute	Better Text Actual Agreement	% Not Ambiguous	% Ambiguous
LSD	51%	36%	64%
False Statement	55%	25%	75%
Child pornography	66%	23%	77%
Gun Use	80%	26%	74%

Raw data: respondents who took the survey before their first year of law school (fall) versus respondents who took the survey after one year of law school (spring).

It is reasonable to hypothesize that after a year of law school, respondents have become more aware of the distinction between their own policy preference and the best reading of a text, and the risk of the former consideration infecting the latter judgment. The data shows, however, that the textual judgments made by both groups are simiarly entwined (or, when making external judgments, unentwined) with their policy preferences. As an example, we provide the raw data from the LSD statute below. There is no significant difference between the fall and spring numbers.

LSD: Ambiguous as Applied (Fall)	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	5%	9%	4%	7%
Probably Ambiguous	27%	33%	42%	23%
Probably Not Ambiguous	36%	41%	40%	30%
Not Ambiguous	32%	17%	15%	40%
Ambiguity Score	2.05	2.33	2.34	1.97
Total Responses	59	70	53	30

LSD: Ambiguous as Applied (Spring)	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	3%	10%	4%	8%
Probably Ambiguous	26%	33%	41%	23%
Probably Not Ambiguous	37%	38%	37%	31%
Not Ambiguous	34%	18%	19%	38%
Ambiguity Score	1.97	2.36	2.30	2.00
Total Responses	35	39	27	13

LSD: Plausible (Fall)	**Strong Pro-D**	**Mild Pro-D**	**Mild Pro-G**	**Strong Pro-G**
Ambiguous	3%	8%	10%	6%
Probably Ambiguous	24%	60%	47%	29%
Probably Not Ambiguous	44%	25%	33%	29%
Not Ambiguous	29%	8%	10%	35%
Ambiguity Score	2.00	2.68	2.57	2.06
Total Responses	34	40	30	17

LSD: Plausible (Spring)	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	5%	5%	13%	14%
Probably Ambiguous	24%	55%	44%	14%
Probably Not Ambiguous	43%	32%	38%	29%
Not Ambiguous	29%	9%	6%	43%
Ambiguity Score	2.05	2.55	2.63	2.00
Total Responses	21	22	16	7

LSD: Ordinary Readers (Fall)	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	21%	15%	15%	21%
Probably Ambiguous	31%	38%	38%	29%
Probably Not Ambiguous	38%	38%	42%	43%
Not Ambiguous	10%	9%	4%	7%
Ambiguity Score	2.62	2.59	2.65	2.64
Total Responses	29	34	26	14

LSD: Ordinary Readers (Spring)	Strong Pro-D	Mild Pro-D	Mild Pro-G	Strong Pro-G
Ambiguous	22%	15%	14%	29%
Probably Ambiguous	28%	35%	36%	29%
Probably Not Ambiguous	39%	40%	43%	29%
Not Ambiguous	11%	10%	7%	14%
Ambiguity Score	2.61	2.55	2.57	2.71
Total Responses	18	20	14	7