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HARD CASES AND HARD DATA:¹ ASSESSING
CORPUS LINGUISTICS AS AN EMPIRICAL PATH TO
PLAIN MEANING[†]

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The Plain Meaning Rule is often assailed on the grounds that it is unprincipled—that it substitutes for careful analysis an interpreter’s ad hoc and impressionistic intuition about the meaning of legal texts. But what if judges and lawyers had the means to test their intuitions about plain meaning systematically? Then initial linguistic impressions about the meaning of a legal text might be viewed as hypotheses to be tested, rather than determinative criteria upon which to base important decisions.

There exists very little legal scholarship on corpus linguistics—the study of language function and use through large, electronic linguistic databases called corpora—and the role that corpus methods might play in legal interpretation. This omission becomes more and more striking as scholars and jurists (and even the United States Supreme Court) have found themselves persuaded by corpus-based arguments.

1. Cf. Ronald Dworkin, *Hard Cases*, 88 Harv. L. Rev. 1057, 1060 (1975) (defining “hard cases” as those in which “no settled rule dictates a decision either way”); Lawrence M. Solan, *The Language of Judges* 208 n.10 (1993) (“The issue that Dworkin raises is how judges decide hard cases. The issue that I raise is a different one: how judges attempt to mask the fact that a case is hard in the first place.”).

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This Article argues that the plain or ordinary meaning of a given term in a given context is an empirical matter that may be quantified through corpus-based methods. These methods, when applied to questions of legal ambiguity, present significant advantages over existing empirical approaches to plain meaning and over the prevailing intuition-based interpretive approach of many courts. Because large, sophisticated linguistic corpora are widely available and easy to use, and because corpus methods offer a more principled and systematic alternative to the impressionistic interpretation of legal texts, corpus linguistics may one day revolutionize the process of legal interpretation.

I. Introduction.....	158
A. Plain Meaning and Linguistic Data.....	159
II. Lexical Ambiguity and Plain Meaning.....	163
A. From Formalism to Legal Realism.....	165
B. The Legal Process, Purposivism, and Plain Meaning.....	167
C. Textualism and Plain Meaning.....	172
III. Empirical Approaches to Ordinary Meaning.....	180
A. Linguistic Empiricism and Linguistic Prototypes.....	181
B. Corpus Linguistics and Frequency.....	190
C. Objectivity and Practicality.....	201
IV. Conclusion.....	204

“The same exploratory methods that have enabled linguists to make significant scientific progress in recent decades can also assist judges in finding and analyzing predictable order in the complex textual issues which so frequently make cases hard.”³

—Clark Cunningham et al.

*“And yet for all this help of head and brain
How happily instinctive we remain.”⁴*

—Robert Frost

3. Clark D. Cunningham, Judith N. Levi, Georgia M. Green & Jeffrey P. Kaplan, *Plain Meaning and Hard Cases*, 103 Yale L.J. 1561, 1568 (1993).

4. Robert Frost, *Accidentally on Purpose*, in *The Poetry of Robert Frost* 425 (Edward Connery Lathem ed., 1969).

I. INTRODUCTION

The January 18, 2011 oral argument in *FCC v. AT&T* may one day be regarded as the start of a “revolution”—a revolution that promises to alter the way jurists resolve questions of linguistic ambiguity in legal texts and one that will place “judicial inquiries into language patterns on a firmer, more systematic footing.”⁵ At issue before the United States Supreme Court that day was whether the “personal privacy” exemption of the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552(b)(7)(C), applies to corporations.⁶ The legal fiction of the corporate “person” is, of course, a foundational principle of corporate law and the noun “person” is itself defined in the Administrative Procedures Act to include corporate entities.⁷ As a consequence, to some it seems at least reasonable to assume that a meaning ascribed to the nominal form of the word (in this case “person”) would likewise apply to the adjectival form (in this case “personal”). To others the notion that “a statute which defines a noun has thereby defined the adjectival form of that noun” is more than merely reasonable—it is a “grammatical imperative[.]”⁸

Rather than rely on this suspect lexicographical claim, or other “scattershot, impressionistic evidence,” the justices instead “drew on some nuanced linguistic expertise” to determine the scope of FOIA’s “personal privacy” exemption.⁹ “Mr. Klineberg,” said Justice Ginsberg addressing the attorney for AT&T, “you have read the brief of the Project on Government Oversight where they give dozens and dozens of examples to show that, overwhelmingly, ‘personal’ is used to describe an individual, not an artificial being. And it is the overwhelming use of personal.”¹⁰ That brief, referenced at oral argument and later believed to have informed the opinion in the case,¹¹ introduced for the first time into the discourse of the

5. Ben Zimmer, *The Corpus in the Court: ‘Like Lexis on Steroids’*, The Atlantic (March 4, 2011, 1:22 PM), <http://www.theatlantic.com/national/archive/2011/03/the-corpus-in-the-court-like-lexis-on-steroids/72054/>. Ben Zimmer is the former *On Language* columnist for the New York Times; he now writes for the Atlantic.

6. *FCC v. AT&T Inc.*, 131 S. Ct. 1177 (2011) (decided March 1, 2011).

7. 5 U.S.C. § 551 (2006) (“person” includes an individual, partnership, corporation, association, or public or private organization other than an agency).

8. *Del. River Stevedores v. DiFidello*, 440 F.3d 615, 623 (3d Cir. 2006) (Fisher, J., concurring) (stating that it is a “grammatical imperative[.]” that “a statute which defines a noun has thereby defined the adjectival form of that noun”). This opinion was cited favorably in the majority opinion in *AT&T, Inc. v. FCC*. *FCC v. AT&T, Inc.*, 582 F.3d 490, 497 (3d Cir. 2009), *rev’d* 131 S. Ct. 1177 (2011).

9. See Zimmer, *supra* note 5.

10. Transcript of Oral Argument at 37, *FCC v. AT&T, Inc.*, 131 S. Ct. 1177 (2011) (No. 09–1279).

United States Supreme Court the emerging field of corpus linguistics.

Corpus linguistics is the study of language function and use by means of large, principled collections of naturally occurring language called corpora.¹² Though any linguistic research based on a collection of texts may be properly characterized as corpus linguistics, the advent of computers has had a dramatic impact on the role of corpus-based methodologies in linguistic analysis. Even linguists once skeptical of empirical, corpus-based data have come to recognize the methodology's contribution to linguist knowledge.¹³ And, as illustrated by the decision in *FCC v. AT&T*, the corpus approach has already shown its utility in helping to resolve questions of legal ambiguity. That is, corpus linguistics has shown itself to be a powerful tool in determining which of two competing meanings of a given term in a given context is the plain or ordinary meaning.

A. Plain Meaning and Linguistic Data

The judicial desire for objectivity and predictability when interpreting statutes can hardly be chalked up to pedantry. Rather it is “the consequence of the natural anxiety that decent people feel when they find themselves exercising power over other people”¹⁴ They want “to think that their exercise of that power is just.”¹⁵ But in the realm of interpretation, it is often difficult to determine which of two competing meanings of a given term in a given context ought to control. Statutory commands are often unclear and statutory language may be amenable to competing interpretations. When faced with difficult questions of statutory analysis, judges often invoke the Plain Meaning Rule, a linguistic

11. Mark Liberman, *Q: Do corporations have “personal privacy”? A: No.*, Language Log (Mar. 1, 2011, 3:12 PM), <http://languagelog.ldc.upenn.edu/nll/?p=3002> (“Neal [Goldfarb] . . . makes a good case that ‘the opinion was influenced by the brief in several respects.’”) (citing Neal Goldfarb, *Decision in FCC v. AT&T*, LAWnLinguistics (Mar. 1, 2011), <http://lawlinguistics.wordpress.com/2011/03/01/decision-in-fcc-v-att/>).

Mark Liberman is the director of the Linguistic Data Consortium at the University of Pennsylvania. He continued that “it seems likely to me that in the future, we’re likely to see many more applications of corpus evidence in legal arguments about meaning and usage. This is partly because such evidence can be very persuasive, and partly because it’s becoming increasingly easy to get.”

12. See Douglas Biber, *Corpus-based and Corpus-driven Analyses of Language Variation and Use*, in *The Oxford Handbook of Linguistic Analysis* 159–60 (Bernd Heine & Heiko Narrog eds., 2009).

13. See Charles J. Fillmore, ‘*Corpus linguistics*’ or ‘*Computer-aided armchair linguistics*’, in *Directions in Corpus Linguistics* 35 (Jan Svartvik ed., 1992).

14. Richard A. Posner, *How Judges Think* 251 (2008).

15. *Id.*

canon of interpretation that states, “if a document is plain or unambiguous, as determined solely from the language . . . a judge cannot refer to any outside (‘extrinsic’) evidence to decide what it means.”¹⁶

The Plain Meaning Rule has come to occupy an uncomfortable position on an ideologically divided Supreme Court. On the one hand are the purposivists, whose foundational texts suggest that judges ought to prefer those meanings which are “linguistically permissible” in a given context and later determined to be consistent with a statute’s purpose. Textualists, on the other hand, prefer to look for textual sufficiency, often attempting to interpret the words of a statute consistently with those meanings they believe to be the “common understanding” of a given term in a given context or its “common usage.”

The first step of the purposivist approach to lexical meaning, the determination of which meanings are “linguistically permissible” in a given context, presents little difficulty to the judicial interpreter. The human language faculty has a highly developed sense of what is and is not linguistically permissible. Thus, a purposivist judge may comfortably rely on her linguistic intuition to generate “possible” meanings of a statutory term. But the success of this cognitive exercise may not be repeated when the purposivist judge attempts to select from among these linguistic possibilities the interpretation that she imagines to accord with the overarching purpose of the legislature. The search for legislative purpose presents a number of familiar epistemic problems (discussed below) and may invite circumstances in which “even the best intentioned [judges] . . . find that the imagined dialogues of departed legislators have much in common with their own conceptions of the good.”¹⁷

The textualist judge, by contrast, may not be satisfied with a determination that a given sense of a term is merely permissible in a given context. She searches for linguistic determinacy and may be more apt to demand that terms not defined in a statute be interpreted according to the way that they are “commonly used” or “commonly understood.” She believes, like her purposivist colleague, that her linguistic intuition is up to the task that her judicial philosophy has presented her and that she may rely upon her intuition (along with extrinsic aids like dictionaries) to determine which meanings of a given term in a given context are “ordinary,” and which are less common, archaic, or idiosyncratic.

The textualist judge’s confidence in her linguistic intuition may be misplaced. Unlike the purposivist’s determination of a word’s

16. Peter M. Tiersma, *Legal Language* 126 (1999).

17. Frank H. Easterbrook, *Statutes’ Domain*, 50 U. Chi. L. Rev. 533, 551 (1983).

grammaticality in a given context, the textualist judge's intuition is a demonstrably inadequate guide to which senses are more commonly used or more commonly understood in that context. Though the human language faculty is very good at assessing which meanings are linguistically permissible in a given context, human intuition is less successful in selecting the most common meaning or common understanding.

Despite these differences, both the purposivist and the textualist judges begin with an examination of the text, and there seems little reason to conclude that an accurate, scientific assessment of the linguistic contours of a particular statutory term could not form a meaningful part of either interpretive regime. Still, while scientific linguistic description of statutory terms may be helpful to the purposivist, it is in the face of such description that textualism is most vulnerable. This is because textualism makes an entirely different set of claims about textual sufficiency, claims that can be proven true or false using empirical linguistic methods.

When judges, either textualist or purposivist, demand that statutory terms be interpreted according to their ordinary meaning, they implicate a set of empirical questions, many of which are amenable to different types of linguistic analysis. In a number of linguistic disciplines, scholars have relied upon survey methodologies in order to determine how certain words are commonly understood in particular contexts. Some linguists characterize this notion of the common understanding of a term as its "prototypical meaning." By contrast, in the field of corpus linguistics, scholars rely on large electronic databases called corpora to determine, among other things, those meanings that are consistent with common usage. The sense of a term that is more commonly used in a given context may be referred to as the term's ordinary or most frequent meaning.

Prior research has addressed the notion of prototypical meaning and its possible role in statutory interpretation.¹⁸ Further, empirical studies have been conducted applying survey methodologies to determine ordinary meaning of contested statutory terms.¹⁹

To date, there exists very little legal scholarship on the possible role of corpus linguistics in resolving questions of lexical ambiguity in legal texts. This omission becomes more and more striking²⁰ as

18. See, e.g., Lawrence Solan, *Why Laws Work Pretty Well, but Not Great: Words and Rules in Legal Interpretation*, 26 *Law & Soc. Inquiry* 243, 257 (2001).

19. See Cunningham, *supra* note 3.

20. Mark Liberman, *Corpus Linguistics in a Legal Opinion*, *Language Log* (July 20, 2011, 5:49 AM), <http://linguagelog.ldc.upenn.edu/nll/?p=3281> ("Is it true that there have been no previous law review articles using corpus linguistics? Amazing, if true. . . . I've been curious for some time about why lawyers, who spend a good deal of their time arguing about the interpretation of words,

scholars and jurists increasingly embrace corpus methods.²¹ That is, as of yet, corpus-based methodologies, though ideally suited for the task, have rarely been brought to bear on the legal question of ordinary meaning. This Article attempts to help fill that void.

The common usage of a given term in a given context is an empirical matter that may be quantified through corpus-based methodologies. Further, the corpus methodology may present significant advantages over the survey methods used to address questions of statutory ambiguity. The representativeness of the sample used, the sheer quantity of data that may be examined, and the low cost and ease of access to electronic corpora render corpus linguistics an ideal tool for judges whose longing for impartiality and consistency in the interpretation of statutes cannot be satisfied by an appeal to judicial intuition.

Part II of this Article explores the development of the Plain Meaning Rule and its current role in the debate between purposivists and textualists. Part III explores two empirical approaches to Plain Meaning, the survey method and the corpus-based approach, demonstrating how electronic corpora may be employed to resolve hard cases of lexical ambiguity and outlining several advantages of the approach over prevailing methods of interpretation. Part IV concludes this study by suggesting that closer attention to empirical linguistic methods in interpretation may ameliorate the uncertainty with which judges engage in the interpretive process.

phrases, and sentences, are not in general expected to learn anything about how to do this. It's as if medical schools had failed to notice that it would be useful for their graduates to know something about anatomy and physiology. So I see the opportunity for legal application of corpus linguistics as an instance of the opportunity for the legal application of linguistics more generally.”)

21. On January 14, 2011, the journal *Science* reported on the work of scholars using the Google Books N-gram Viewer corpus tool “to investigate cultural trends quantitatively.” See Jean-Baptiste Michael et al., *Quantitative Analysis of Culture Using Millions of Digitized Books*, 331 *Science* 176 (2011). The results were discussed in the *New York Times* and a number of other sources. See, e.g., Patricia Cohen, *In 500 Billion Words, New Window on Culture*, *N.Y. Times*, Dec. 17, 2010, at A3. Likewise, a March 4, 2011, front-page article in the *New York Times* reported the increasing use of corpus-based methods in litigation. See John Markoff, *Armies of Expensive Lawyers Replaced by Cheaper Software*, *N.Y. Times*, Mar. 5, 2011, at A1. And as noted, corpus linguistics recently had its day in court. At the January 18, 2011, oral argument for *FCC v. AT&T*, several justices made reference to the data in a linguists’ brief submitted on behalf of the Project On Government Oversight. See discussion *infra* pp. 38–39 on Brief for the Project On Government Oversight et al. as Amici Curiae in Support of Petitioners, *FCC v. AT&T Inc.*, 131 S. Ct. 1177 (2011), (No. 09–1279). The brief was the first of its kind and relied on corpus-derived data to describe the “ordinary meaning” of *personal privacy*. The resulting opinion tracked very closely the brief’s analysis. See *FCC v. AT&T, Inc.*, 131 S. Ct. 1177 (2011).

II. LEXICAL AMBIGUITY AND PLAIN MEANING

When called upon to interpret statutory language, jurists often invoke the Plain Meaning Rule, a so-called textual canon of interpretation that discourages judges from appealing to outside sources when interpreting the language of statutes.²² Praised as a “venerable principle” of interpretation,²³ and ridiculed as a “silly” way to understand statutory language,²⁴ this vestige of English common law has proven both its enduring utility and its enduring controversy.

The Rule has been variously characterized as an invocation of literal, natural, common, plain, or ordinary meaning, though of these, the most frequent labels are the latter two.²⁵ Contemporary commentators seek to give content to these differences by suggesting that the Plain Meaning Rule is the acontextual approach to interpretation employed by Legal Formalists around the turn of the last century,²⁶ while the Ordinary Meaning Rule allows current Textualists to rely upon extra-statutory sources of meaning, such as dictionaries.²⁷ This usage accurately reflects a difference in the way

22. See William M. Eskridge, Jr., Philip P. Frickey, & Elizabeth Garrett, *Cases and Materials on Legislation: Statutes and the Creation of Public Policy* 848 (2007).

23. *Immigration and Naturalization Serv. v. Cardoza-Fonseca*, 480 U.S. 421, 452 (1987) (Scalia, J., concurring in judgment) (faulting the majority for “an ill-advised deviation from the venerable principle that if the language of a statute is clear, that language must be given effect”).

24. Frank H. Easterbrook, *Text, History, and Structure in Statutory Interpretation*, 17 Harv. J. L. & Pub. Pol’y 61, 67 (1994) (“‘Plain meaning’ as a way to understand language is silly. In interesting cases, meaning is not ‘plain’; it must be imputed; and the choice among meanings must have a footing more solid than [sic] a dictionary.”).

25. See Stephen C. Mouritsen, Comment, *The Dictionary Is Not a Fortress: Definitional Fallacies and a Corpus-Based Approach to Plain Meaning*, 2010 B.Y.U. L. Rev. 1915, 1972–73 (charting the statistical frequency of the phrase “plain meaning” and its synonyms in the decisions of the United States Supreme Court).

26. See Lawrence M. Solan, *The New Textualists’ New Text*, 38 Loy. L.A. L. Rev. 2027, 2038 (2005) (“The plain meaning approach . . . asks only whether the disputed events fit cleanly within the outer boundaries of the disputed word’s meaning. Context is not important as long as the event fits within the language of the statute.”); Jonathan T. Molot, *The Rise and Fall of Textualism*, 106 Colum. L. Rev. 1, 3 (2006) (“[T]extualists have been so successful in updating their own philosophy, and in distinguishing modern textualism from the old ‘plain meaning’ school, that textualists themselves will consider a statute’s context as well as its text.”).

27. See Solan, *supra*, note 26, at 2036–37 (“[New Textualists] permit a limited range of tools to be used in statutory interpretation. Such tools include references to dictionaries, to the use of the same words elsewhere in the statute, to the use of the same words in other statutes, to court decisions, and to a set of canons of construction such as the ordinary meaning rule.”).

courts understood the role of plain language, but the actual distribution of these terms does not map onto this historically differentiated treatment of the Plain Meaning Rule. While it is true that from its inception until 1878, the United States Supreme Court favored the term “plain meaning” over “ordinary meaning” by a ratio of about three to one²⁸—and while it is likewise true that during that timeframe, the Court relied upon dictionaries as interpretive aids in only some twenty cases²⁹—this difference narrowed long before the Legal Realists began their strident criticism of the Rule in the 1920s and 30s.³⁰ By 1905, the Court was using the terms “plain meaning” and “ordinary meaning” with about the same frequency, though slightly favoring the latter.³¹ Further, though current usage of the two phrases has increased since 1970 by an order of magnitude, the phrases are still used with almost identical frequency.³² Thus, the division of the Rule into the Plain and Ordinary Meaning is largely conventional and retrospective³³—it is a convenience to facilitate discussion,³⁴ and in this Article, the terms are used interchangeably.

Still, the interchangeability of these labels in the usage of the Supreme Court does not undermine the notion that that the concept of plain or ordinary meaning has been differently calibrated to suit the needs of different judicial interpreters. This section will briefly outline the progress of the Plain Meaning Rule from English literalism to the Rule’s current uneasy position on a divided Supreme Court. This section will likewise outline the concept of

28. See Mouritsen, *supra* note 25, at 1974.

29. Samuel A. Thumma & Jeffrey L. Kirchmeier, *The Lexicon Has Become a Fortress: The United States Supreme Court’s Use of Dictionaries*, 47 *Buff. L. Rev.* 227, 248 (1999) (“Although the Court relied on dictionaries only three times prior to 1864, in the 1860s, the Court cited dictionaries in seven opinions in the course of defining nine terms. In the 1870s, the Court cited dictionaries in ten opinions to define thirteen terms.”). For further discussion of the frequency of the Court’s use of dictionaries, see *id.* 248–260; Note, *Looking It Up: Dictionaries and Statutory Interpretation*, 107 *Harv. L. Rev.* 1437 (1994).

30. See Richard A. Posner, *Frontiers of Legal Theory* 3 (2004); Cass R. Sunstein, *After the Rights Revolution: Reconceiving the Regulatory State* 148–49 (1993).

31. See Mouritsen, *supra* note 25, at 1971–72.

32. *Id.* at 1973–74.

33. See Molot, *supra* note 26, at 15 (“[C]ritics of the Court’s strong purposivism long ago developed a precursor to modern textualism (*known in hindsight* as the ‘plain meaning’ school.”) (emphasis added).

34. See Solan, *supra* note 26, at 2038–39 (“[N]either courts nor legal scholars typically distinguish between these two concepts analytically.”). See, e.g., Sunstein, *supra* note 30, at 122 (“[I]t is by no means obvious that courts should rely on the text or on the *plain meaning* of words even in cases in which such reliance is possible An interpretive strategy that relies exclusively on the *ordinary meaning* of words is precisely that—an interpretive strategy.”) (emphasis added).

ordinary meaning used by those who tend to eschew statutory literalism—namely, the Legal Process School and contemporary purposivists. Finally, this section will identify several problems with the contemporary textualist approach to ordinary meaning that may be ameliorated by empirical linguistic methods.

A. From Formalism to Legal Realism

Our Plain Meaning Rule was inherited from the English common law.³⁵ In a legislative regime dominated by the notion of parliamentary supremacy, the role of the judge in interpretation was thought to be straightforward:

[T]he only rule for construction of Acts of Parliament is, that they should be construed according to the intent of the Parliament which passed the Act. If the words of the statute are in themselves precise and unambiguous, then no more can be necessary than to expound those words in that natural and ordinary sense. The words themselves alone do, in such a case, best declare the intention of the lawgiver.³⁶

We see in this statement the familiar contours of the Plain Meaning Rule. There must be a determination as to the precision of the language used by Parliament, and if that language is sufficiently precise, then nothing is left but for the judge to apply the law. Further, because Parliament was supreme, the practical consequences of such blind application of law to facts were irrelevant—even if the law, as written, produced an absurd result:

[I]t is infinitely better, although an absurdity or an injustice . . . may be . . . the consequence of your construction, to adhere to the words of an Act of Parliament and leave the legislature to set it right than to alter those words according to one's notion of an absurdity.³⁷

Writing during the turn of the last century, the American Legal Formalists³⁸ adopted almost wholesale the English literalists' view of Plain Meaning. Thus, Justice Day's classic statement of the Plain Meaning Rule in *Caminetti v. U.S.* would bear striking resemblance to Lord Tindal's statement above.

35. See Eskridge et al., *supra* note 22, at 691–95.

36. *The Sussex Peerage*, 11 Clark & Finnelly 85, 143 (H.L.) (appeal taken from Eng.) (1844) (Tindal, L.C.J.).

37. *Hill v. E, and W. India Dock Co.*, 9 App. Cas. 448, 465 (H.L.) (1884) (Bramwell, L.J.).

38. Gerald V. Wetlaufer, *Systems of Belief in Modern American Law: A View from Century's End*, 49 Am. U. L. Rev. 1, 10–16 (1999).

Where the language is plain and admits of no more than one meaning the duty of interpretation does not arise and the rules which are to aid doubtful meanings need no discussion.³⁹

There was, however, one important caveat: Even the rule-bound Legal Formalists recognized the danger of the unanticipated application of the law to a particular set of facts. Thus, the American Plain Meaning Rule had a safety valve—the absurdity doctrine.

[T]he language being plain, and *not leading to absurd or wholly impracticable consequences*, it is the sole evidence of the ultimate legislative intent.⁴⁰

In spite of this limitation on its operation, the Plain Meaning Rule came under fire from the Legal Realists—and their antecedents like Justice Oliver Wendell Holmes, Jr.⁴¹—as being inconsistent with linguistic reality. “A word is not a crystal,” said Justice Holmes, “it is the skin of a living thought and may vary greatly in color and content according to the circumstances and the time in which it is used.”⁴² This sentiment was echoed by Arthur L. Corbin who, writing about the related field of contract interpretation, said:

All through the history of the common law, there is found a very common assumption of the existence of antecedent rules and principles, beginning no man knows when, coming from no man knows where, seemingly universal and unchangeable. . . . Among such rules are those indicating that words must have one, and only one, true and correct meaning, [which] must be sought only by poring over the words within the four corners of the paper.⁴³

39. *Caminetti v. United States*, 242 U.S. 470, 485–86 (1917).

40. *Id.* at 490 (emphasis added). See also *United States v. Kirby*, 74 (7 Wall.) U.S. 482, 487 (1868) (“[W]e think that . . . common sense will sanction the ruling we make, that the act of Congress which punishes the obstruction or retarding of the passage of the mail, or of its carrier, does not apply to a case of temporary detention of the mail caused by the arrest of the carrier upon an indictment for murder.”). See also John F. Manning, *The Absurdity Doctrine*, 116 Harv. L. Rev. 2387 (2003); Margaret Gilhooley, *Plain Meaning, Absurd Results and the Legislative Purpose: The Interpretation of the Delaney Clause*, 40 Admin. L. Rev. 267 (1988).

41. See Posner, *supra* note 14, at 235 (“[Proto-realist Holmes and] influential judges such as Cardozo and Hand [as well as] thoughtful realists such as Felix Cohen, Max Radin, and Karl Llewellyn, wanted the judiciary to be ‘realistic,’ practical, think things not words, recognize the epistemic limitations of legalism. But they did not want them [as subsequent realists would] to be political . . .”).

42. *Towne v. Eisner*, 245 U.S. 418, 425 (1918) (Holmes, J.).

43. Arthur L. Corbin, *Corbin on Contracts*, Volume 1–8 § 536, at 499 (one vol. ed. 1952).

“And yet,” said Corbin, “at all periods, there have been a few jurists who took thought to the matter and who knew better.”⁴⁴ Central to Holmes’ and subsequent Realists’ concerns about the Plain Meaning Rule were their misgivings about whether such meaning could be objectively determined,⁴⁵ and whether plain meaning was consistent with contemporary notions of the function of language⁴⁶—specifically the notion that language was a social endeavor. Thus, said Holmes, “we ask, not what [the author] meant, but what those words would mean in the mouth of a normal speaker of English, using them in the circumstances in which they were used”⁴⁷ This “normal speaker of English” was thought to be an objective criterion for interpreting statutory language, in much the same way that the fiction of the reasonable person is thought to be an objective measure of human conduct.⁴⁸

B. *The Legal Process, Purposivism, and Plain Meaning*

After the Legal Realists came the Legal Process School, whose tenets were based on a series of lectures developed by Professors Henry Hart and Albert Sacks (later published in book form as *The Legal Process*).⁴⁹ This would become the foundational text of the contemporary purposivist movement. These materials, now published as a single text, have been variously characterized as “the canonical statement of purposivism”⁵⁰ and “the most sustained intentionalist argument, [that] for years . . . ha[s] dominated the interpretive scene.”⁵¹

Hart and Sacks advocated a view of law that was “goal-oriented, rational and dynamic.”⁵² Their methodology sought to advance “the purposiveness of law, the coordination of institutions

44. *Id.*

45. Richard A. Posner, *Overcoming Law* 59 (1995); Arthur L. Corbin, *The Interpretation of Words and the Parol Evidence Rule*, 50 *Cornell L. Q.* 161, 164 (1965) (“[N]o man can determine the meaning of written words by merely gluing his eyes within the four corners of a square paper.”).

46. *See* Posner, *supra* note 14, at 236.

47. Oliver Wendell Holmes, Jr., *The Theory of Legal Interpretation*, 12 *Harv. L. Rev.* 417–18 (1899). *See also* John F. Manning, *What Divides Textualists from Purposivists?* 106 *Colum. L. Rev.* 70, 91 (2006) (“Textualists give primacy to the *semantic* context—evidence about the way a reasonable person conversant with relevant social and linguistics practices *would have used the words.*”) (emphasis added).

48. *See infra* notes 91–104.

49. *See* Henry M. Hart, Jr. & Albert M. Sacks, *The Legal Process: Basic Problems in the Making and Application of the Law* (William N. Eskridge, Jr. & Philip P. Frickey eds., 1994).

50. *See* Manning, *supra* note 47, at 86.

51. T. Alexander Aleinikoff, *Updating Statutory Interpretation*, 87 *Mich. L. Rev.* 20, 26–27 (1988).

52. *See* Hart & Sacks, *supra* note 49, at liii.

each operating within their fields of competence, and the legitimizing role of procedure.”⁵³ Specifically, they endeavored to “respect the constitutional position of the legislature and the constitutional procedures for the enactment of legislation” by ascribing to words only those meanings which they would bear and only those meanings consistent with legislative goals.⁵⁴ Further, like contemporary purposivists, where legislative goals were not adequately expressed in legislative language, Hart and Sacks favored applying the fiction of the “reasonable legislator.”⁵⁵

This view of statutory interpretation is consistent with the approach taken by contemporary purposivists. For example, Justice Breyer articulated a similarly purpose-driven approach in his 2006 book *Active Liberty*.⁵⁶ There, he argued for “placing more emphasis on statutory purpose and congressional intent.”⁵⁷ He encouraged judges to “pay primary attention to a statute’s purpose in difficult cases of interpretation in which language is not clear.”⁵⁸ Like Hart and Sacks, Justice Breyer invokes the “reasonable member of Congress”—a legal fiction called into being when Congress failed to stake out a position on a given question. The judge will ask how this fictive member of Congress, aware of the statute’s language, structure, and general objectives, would have wanted a court to interpret the statute in light of circumstances presented in a given case.⁵⁹ Justice Breyer characterizes the “reasonable member of Congress” as “a workable method of implementing the Constitution’s democratic objective,” or a means of aiding “statutes [to] match their means to their overall public policy objectives, a match that helps translate the popular will into sound policy.”⁶⁰

Purposivism is not without its critics,⁶¹ some of whom may question the presumption that “[a]n overly literal reading of a text

53. *Id.*

54. *Id.* at 1375.

55. *Id.* at 1378 (“In determining [statutory purpose], a court should try to put itself in imagination in the position of the legislature which enacted the measure. . . . It should assume, unless the contrary unmistakably appears, that the legislature was made up of reasonable persons pursuing reasonable purposes reasonably.”).

56. Stephen Breyer, *Active Liberty: Interpreting Our Democratic Constitution* (2005).

57. *Id.* at 85.

58. *Id.*

59. *Id.* at 88.

60. *Id.* at 101.

61. See Posner, *supra* note 14, at 341 (quoting Stephen Breyer, *Judicial Independence: Remarks by Justice Breyer*, 95 Geo. L.J. 903, 904 (2007)) (“Breyer has said that judicial ‘independence is . . . a determination to decide each case according to the law.’ I do not question the sincerity of his commitment . . . , but I do wonder what the word ‘law’ means to him.”).

can too often stand in the way.”⁶² Still, the approach advocated by Hart and Sacks and by the Court’s current purposivists is not the sort of “strong purposivism”⁶³ adopted by the Supreme Court in *Holy Trinity Church*, which famously stated that “[i]t is a familiar rule that a thing may be within the letter of the statute and yet not within the statute, because not within its spirit nor within the intention of its makers.”⁶⁴ Instead, Hart and Sacks insisted that interpretation begins with the language of the statute, by considering what they termed the “double role of the words as guides to interpretation.”⁶⁵

The words of a statute, taken in their context, serve both as guides in the attribution of general purpose and as factors limiting particular meanings that can properly be attributed.⁶⁶

This passage illustrates the Legal Process approach to lexical meaning. First, words are used as a semantic floor, suggesting to the judge the realm of possible meanings from which she may determine the general purpose of the statute. The statute’s purpose then becomes the means by which the judge selects the proper interpretation from among the possible interpretations of the statute.⁶⁷

Hart and Sacks likewise suggest that legislative purpose and the range of possible meanings may be so similar as to leave little doubt of the appropriate interpretation.⁶⁸ At other times, the range of pos-

62. Breyer, *supra* note 56 at 101. (emphasis added).

63. See Molot, *supra* note 26, at 15 (“It is not that *Holy Trinity*’s brand of purposivism was accepted by everyone. . . . [C]ritics of the Court’s strong purposivism long ago developed a precursor to modern textualism . . . , and purposivism itself evolved considerably in the century after *Holy Trinity* was decided. But one should not underestimate the influence of *Holy Trinity*’s purposivism. The Court’s formalism in the late nineteenth century gave birth to an aggressive version of purposivism that would not meet its demise until the rise of textualism a century later.”).

64. *Holy Trinity Church v. United States*, 143 U.S. 457, 459 (1892).

65. See Hart & Sacks, *supra* note 49, at 1375.

66. *Id.*

67. *Id.* (“The proposition that a court ought never to give the words of a statute a meaning they will not bear is a corollary of the propositions that courts are bound to respect the constitutional position of the legislature and the constitutional procedures for the enactment of legislation.”). This second prong of the Legal Process approach to ordinary meaning is not entirely dissimilar to the view espoused by textualists. See also Antonin Scalia, *A Matter of Interpretation: Federal Courts and the Law* viii (1997) (“Words do have a limited range of meaning, and no interpretation that goes beyond that range is permissible.”).

68. See Hart & Sacks, *supra* note 49, at 1375 (“When the words fit with all the relevant elements of their content to convey a single meaning, as applied to the matter in hand, the mind of the interpreter moves to a confident conclusion almost instantaneously.”).

sible meanings is greater, and interpretation requires more “conscious effort.”⁶⁹ In these circumstances, the double role of words is activated: Words are used to form hypotheses about the possible purpose behind the legislation, and words are used to limit the range of these hypotheses.⁷⁰

One salient feature of the Legal Process approach to lexical meaning is the acknowledgement of both the utility and limitation of dictionaries in statutory interpretation. With regard to dictionaries’ limitations, Professors Hart and Sacks state:

A dictionary, it is vital to observe, never says what meaning a word must bear in a particular context. *Nor does it ever purport to say this.* An unabridged dictionary is simply an historical record, not necessarily all-inclusive, of the meanings which words in fact have borne The editors make up this record by collecting examples of uses of the word to be defined, studying each use in context, and then forming a judgment about the meaning in that context.⁷¹

This characterization of the limitation of dictionaries in interpreting statutes is consistent with dictionaries’ design and purpose. In defining a given term, the lexicographer presents a range of possible meanings that have been instantiated. Dictionary makers collect these records in large citation files,⁷² and attempt to select from these files the most illustrative examples. When scanning these sources for citations, editors rely almost exclusively on written sources, primarily from prestigious authors.⁷³ Likewise, in searching for these citations, editors search for samples that are either particularly illustrative of a common meaning, or helpful in exemplifying a rare use.⁷⁴ Consequently, though dictionary entries can be partic-

69. *Id.*

70. *Id.*

71. *Id.* at 1190 (emphasis added).

72. Sidney I. Landau, *Dictionaries: The Art and Craft of Lexicography* 190 (2d ed. 2001) (“A citation file is a selection of potential lexical units in the context of actual usage, drawn from a variety of written sources and often some spoken sources, chiefly because the context illuminates an aspect of meaning Citations are also collected to provide illustrative quotations that will be printed in the dictionary.”).

73. Randolph Quirk, *Style and Communication in the English Language* 88 (1982) (“Given . . . the tendency to take citations from the more prestigious authors, it is not difficult to see the danger of a highly skewed lexicon emerging from principles designed precisely in the interests of objective generality.”).

74. Douglas Biber, Susan Conrad, & Randi Reppen, *Corpus Linguistics: Investigating Language Structure and Use* 26 (1998) (“[C]itation slips represent only those contexts that a human reader happens to notice (in some cases representing only the more unusual uses).”); Geoff Barnbrook, *Defining Language: A Local Grammar of Definition Sentences* 46 (“Even the OED, despite its comprehensively descriptive aims, suffers from the lack of a properly representative cor-

ularly useful in demonstrating the meanings that “words may bear,” they cannot reveal “what meaning a word must bear in a particular context,” or which meaning is more commonly or less commonly ascribed to a given term.⁷⁵

Unabridged dictionaries are historical records (as reliable as the judgment and industry of the editors) of the meanings with which words have in fact been used by writers of good repute. They are often useful in answering hard questions of whether, in an appropriate context, a particular meaning is *linguistically permissible*.⁷⁶

Though Hart and Sacks do not use the phrase *ordinary meaning*, the passages above outline what we may characterize as the purposivist approach to ordinary meaning.⁷⁷ This approach begins with the text of the statute and uses the semantic breadth of those words both to establish a range of possible meanings and to limit that range of possibilities. Within that range, those meanings that are both consistent with what the judge determines to be the purpose of the statute and which are linguistically permissible within the statute’s semantic context would be considered ordinary and controlling.

pus. . . . Detailed instructions were given to the [citation compilers] in the later stages, but these make it clear that the basis of selection would not produce a fully representative sample. [They were told], ‘Make a quotation for every word that strikes you as rare, obsolete, old-fashioned, new, peculiar, or used in a particular way. . . . Make as many quotations as you can for ordinary words, especially when they are used significantly, and tend by the context to explain or suggest their own meaning.’”

75. See Landau, *supra* note 72, at 104 (“[C]itation readers all too often ignore common usages and give disproportionate attention to uncommon ones, as the seasoned birder thrills at a glimpse in the distance of a rare bird while the grass about him teems with ordinary domestic varieties that escape his notice. By contrast, a corpus that is sensibly developed will, by design, be representative, at least to a much greater degree than any citation file.”); See Easterbrook, *supra* note 24, at 67 (“[A] dictionary . . . is a museum of words, an historical catalog rather than a means to decode the work of the legislature.”).

76. See Hart & Sacks, *supra* note 49, at 1375–76; See Corbin, *supra* note 43, § 539, at 511 n.59 (“The better and more complete the Dictionary, the more numerous and varied are the usages that it records and the less dogmatic are its assertions as to their relative merits.”).

77. *Muscarello v. United States*, 524 U.S. 125, 128 (1998) (arguing that “[w]hen one uses the word [carry] in the first, or primary, meaning, one *can*, as a matter of ordinary English, ‘carry firearms’ in a wagon, car, truck”) (emphasis added); *O’Gilvie v. United States*, 519 U.S. 79, 82–83 (1996) (comparing alternative interpretations of the phrase “damages received on account of personal injuries” and selecting the alternative deemed most consistent with the legislative history).

C. Textualism and Plain Meaning

In stark contrast to what I have described as the purposivist approach to ordinary meaning, textualist judges are generally dissatisfied with the search for those meanings that are merely linguistically permissible.⁷⁸ This is because the textualist approach to ordinary meaning enshrines what its adherents believe to be consistency and predictability in the interpretation of statutory language over the search for a statute's purpose:

When we adopt a method that psychoanalyzes Congress rather than reads its laws . . . we do great harm. Not only do we reach the wrong result with respect to the statute at hand, but we poison the well of future legislation, depriving legislators of the assurance that ordinary terms, used in an ordinary context, will be given a *predictable* meaning. Our highest responsibility in the field of statutory construction is to read the laws in a *consistent* way, giving Congress a sure means by which it may work the people's will.⁷⁹

Taking aim at the linguistically-permissible approach to ordinary meaning, Justice Scalia famously stated that “[t]he Court does not appear to grasp the distinction between how a word *can be* used and how it *ordinarily is* used.”⁸⁰ He has further observed that the Court's job “is not to scavenge the world of English usage to discover whether there is any possible meaning.”⁸¹ “[O]ur job,” he says, “is to determine . . . the *ordinary* meaning.”⁸²

Textualists articulate a number of justifications for their belief in textual supremacy. Among these are the formal and procedural constraints on lawmaking imposed by the Constitution and the epistemic problems that inhere in attempting to determine the “intent” or “purpose” of a collective body.

With regard to formalism, textualists argue that the Constitution sets out a single, exclusive method by which a legislator's purpose may be enshrined into law.⁸³ This process is marked by the requirements of Bicameralism and Presentment, set out in Article I, Section 7, and is the exclusive constitutional means by which legislative intentions become the law.⁸⁴

78. See Hart & Sacks, *supra* note 49, at 1375–76.

79. *Chisom v. Roemer*, 501 U.S. 380, 417 (1991) (Scalia, J., dissenting) (emphasis added).

80. *Smith v. United States*, 508 U.S. 223, 242 (1993) (Scalia, J., dissenting).

81. See *Chisom*, *supra* note 79, at 410.

82. *Id.*

83. *INS v. Chadha*, 462 U.S. 919, 951 (1983).

84. Antonin Scalia, *Common-Law Courts in a Civil Law System: The Role of United States Federal Courts in Interpreting the Constitution and Laws*, in *A Matter of*

In addition to this formalist critique, textualists argue that the search for a collective intent of a body of individual legislators presents serious, if not insurmountable, epistemic problems. “Because legislatures comprise many members, they do not have ‘intent’ or ‘designs,’ hidden yet discoverable. Each member may or may not have a design. The body as a whole, however, has only outcomes.”⁸⁵ Legislators may only express their preferences with a binary vote, “yeah” or “nay.”⁸⁶ In order to aggregate these preferences, some method of agenda control (say, a committee chairmanship) must be introduced. The result is that “we have only a limited capacity to distinguish between what legislators want and what various procedural elements have foreordained.”⁸⁷

Finally, legislation is often the product of compromise—compromise that does not necessarily find its way into the public record. “[T]he details of a statutory text may reflect whatever compromise competing groups could reach. Such compromises, in turn, may be awkward precisely because they attempt to split the difference between competing principles. Legislators may compromise on language that does not perfectly correspond to a perceived mischief, accepting half a loaf to facilitate a law’s passage.”⁸⁸

Consequently, textualists are not content to simply choose from among those meanings that *may* fit in a given context and accord with the judge’s imaginatively reconstructed view of the statute’s

Interpretation: Federal Courts and the Law 16–17 (1997).

85. Easterbrook, *supra* note 17 at 547 (arguing that it is “incompatible with democratic government, or indeed, even with fair government, to have the meaning of the law determined by what the lawgiver meant, rather than by what the lawgiver promulgated. . . . Men may intend what they will; but it is only the laws that they enact which bind us.”); see also Kenneth A. Shepsle, *Congress is a “They,” Not an “It”: Legislative Intent as Oxymoron*, 12 Int’l Rev. L. & Econ. 239, 249 (1992) (“When a bill passes the House and Senate in the same form, and is signed by the president, there are only limited inferences to be drawn. We know that one majority in each chamber has revealed a ‘preference’ for the bill over [the status quo]. We do not know why, and it is likely that each legislator has a mix of different reasons. We do not know how majorities feel about choices with which they were never confronted (one of the results of agenda control).”).

86. Easterbrook, *supra* note 17 at 547–48 (“Legislatures customarily consider proposals one at a time and then vote them up or down. This method disregards third or fourth options and the intensity with which legislators prefer one option over another. Additional options can be considered only in sequence, and this makes the order of decision vital. It is fairly easy to show that someone with control of the agenda can manipulate the choice so that the legislature adopts proposals that only a minority support. The existence of agenda control makes it impossible for a court—even one that knows each legislator’s complete table of preferences—to say what the whole body would have done with a proposal it did not consider in fact.”).

87. See Shepsle, *supra* note 85, at 248.

88. John F. Manning, *The Absurdity Doctrine*, 116 Harv. L. Rev. 2388, 2411 (2003).

purpose. Rather they search for what Justice Scalia has called an “objectified intent,” i.e. “the intent that a reasonable person would gather from the text of the law, placed alongside the remainder of the *corpus juris*.”⁸⁹ This “reasonableness” standard for interpretation has elsewhere been described as “an objective inquiry into the reasonable import of the language.”⁹⁰ Judge Easterbrook further characterized this standard as follows:

We should look at the statutory structure and hear the words as they would sound in the mind of a *skilled, objectively reasonable user of words*. Words appeal to *the reasonable man of tort law*; private language and subjective intents should be put aside. The meaning of statutes is to be found not in the subjective, multiple mind of Congress but in the understanding of the objectively reasonable person.⁹¹

This invocation of the “reasonable man of tort law” lays bare a significant difficulty for textualist claims about ordinary meaning. The common law fiction of the “reasonable person” is characterized as “objective” because it serves the ideal that “[t]he standards of the law are standards of general application.”⁹² In the classic articulation of this principle, Justice Oliver Wendell Holmes, Jr. stated that “[t]he law takes no account of the infinite varieties of temperament, intellect, and education which make the internal character of a given act so different in different men.”⁹³

Such reasonableness standards are thought to be objective because they exclude personal idiosyncrasies from the analysis. Juries are told to measure a defendant’s conduct not against how the defendant herself acted, but against how a reasonable defendant would have acted. And in the realm of tort law, these fact-based determinations are often left to juries, where, at the very least, a sub-community of twelve people can attempt to determine what would constitute reasonable conduct in the community at large. But in the realm of interpretation—of constitutions, statutes, and contracts—such determinations are left to the judge who has introspective access to the (ostensibly) reasonable language use of only a single language user—her own. Thus, we might expect a high correlation (perhaps a perfect correlation) between what a judge deems to be reasonable use of language, and how the judge

89. See Scalia, *supra* note 67, at 17.

90. Frank Easterbrook, *The Role of Original Intent in Statutory Construction*, 11 Harv. J. L. & Pub. Pol’y 59, 62 (1988).

91. *Id.* at 65 (emphasis added).

92. Oliver Wendell Holmes, Jr., *The Common Law* 108 (1881).

93. *Id.*

herself uses the language in question. With objectivity like that, who needs subjectivity?⁹⁴

Judges, in determining whether . . . language is susceptible to more than one reasonable interpretation, typically rely on their own intuitions as native English speakers. The problem, however, is that a judge has no way of determining whether she is correct in her assessment that her own interpretation is widely shared.⁹⁵

With regard to linguistic intuition, a judge is “as liable to be as deviant as the next man,”⁹⁶ and the judge’s instincts about the meaning of a given text may be highly idiosyncratic.⁹⁷ Further, judges are subject to the same linguistic limitations as the rest of us, which limitations include the inability to intuit which features of the language are common or ordinary and which are unusual. A great deal of information regarding language use, including information about one’s own language use, is “not susceptible to recovery via introspection.”⁹⁸ This is because humans “tend to notice unusual occurrences more than the typical occurrences,”⁹⁹ which

94. Of the judicial limitation on introspection, Justice Scalia has said facetiously: “[t]hough we know ourselves to be eminently reasonable, self-awareness of eminent reasonableness is not really a substitute for democratic election.” *Sosa v. Alvarez-Machain*, 542 U.S. 692, 750 (2004) (Scalia, J., concurring in part and dissenting in part). But with regard to linguistic intuition, both eminent reasonableness and self-awareness of the same are empirical nonstarters. See William R. Uttal, *Human Factors in the Courtroom: Mythology Versus Science* 30 (2006) (“The myth of the reasonable person is . . . inappropriately applied in many situations because it is not always clear what constitutes reasonableness. Intuitions and prejudices often fill a gap left by ignorance. Furthermore, standards of reasonableness shift with the situation. . . . Clearly, the ‘reasonable person’ standard is *not an objective standard at all*, but a highly flexible artifice used to create the appearance that an objective criterion has been applied to the judicial proceedings. . . . The reasonable person criterion bears none of the supposed objectivity so highly desired in the courtroom.”) (emphasis added).

95. See Lawrence Solan, Terri Rosenblatt, & Daniel Osherson, *False Consensus Bias in Contract Interpretation*, 108 *Colum. L. Rev.* 1268, 1273 (2001).

96. See Quirk, *supra* note 73, at 87.

97. See Solan et al., *supra* note 95, at 1268. See also William N. Eskridge, Jr., *Dynamic Statutory Interpretation* 69 (1994).

98. Tony McEnery & Andrew Wilson, *Corpus Linguistics: An Introduction* 12 (2d ed. 2001) (“Human beings have only the vaguest notion of the frequency of a construct or a word. Natural observation of data seems the only reliable source of evidence for such features as frequency.”). See also Susan Hunston, *Corpora in Applied Linguistics* 20 (2002) (“Although a native speaker has experience of very much more language than is contained in even the largest corpus, much of that experience remains hidden from introspection . . .”).

99. See Biber et al., *supra* note 74, at 3 (“Finding patterns of use and analyzing contextual factors can present difficult methodological challenges. Because we are looking for typical patterns, analyses cannot rely on intuitions or anecdotal evidence. In many cases, humans tend to notice unusual occurrences more

may cloud their determination about which meanings are ordinary and which are unusual. Further, even assuming that the judge is a more sophisticated user of language than the “objectively reasonable user of words,” this sophistication does not correlate with the ability to intuit ordinary usage.¹⁰⁰

If a judge’s intuition about ordinary language use is unreliable, she may fare little better when she seeks to confirm her intuition in ostensibly objective sources, such as the dictionary or the remainder of the statutory text. Dictionaries, as noted above, show only which meanings are linguistically permissible, not which meanings are ordinary; and if the remainder of the statutory text conveyed “a single, controlling meaning,” it is unlikely that the case would have been litigated in the first place.¹⁰¹

More importantly, once the judge has reached her initial, intuitive conclusion about the meaning of the text, her search for the proper meaning in extraneous sources or the remainder of the statute is likely to be clouded, even if subconsciously, by her initial impression. Whether she knows it—and acknowledges it—or not, she is more likely to search for evidence that supports her initial impression, and she more likely to ignore or undervalue counter evidence. This phenomenon is referred to by cognitive psychologists as *confirmation bias*,¹⁰² and there are a number of circumstances in which confirmation biases seep in to judicial decision making. For example, Judge Richard Posner has noted:

[T]he vote on how the case shall be decided precedes the opinion; and . . . most judges do not treat the vote, though nominally tentative, as a hypothesis to be tested by further research conducted at the opinion-writing stage. That research is mainly a search for supporting arguments and evidence. Justificatory rather than exploratory, it is distorted by confirmation bias—the well-documented tendency, once

than typical occurrences, and therefore conclusions based on intuition can be unreliable. Furthermore, we need to analyze a large amount of language collected from many speakers, to make sure that we are not basing conclusions on a few speakers’ idiosyncrasies.”).

100. See e.g., J. Charles Alderson, *Judging the Frequency of English Words*, 28 *Applied Linguistics* 383, 383 (2007) (examining empirically the frequency of judgments of professional linguists and noting that “judgments by professional linguists do not correlate highly with [objective measures of word frequency].”).

101. See Easterbrook, *supra* note 90, at 60 (“People spend the money to come to court only when it is possible to draw conflicting inferences from the words alone.”).

102. For the seminal work on confirmation bias in cognitive psychology, see Peter C. Wason, *On the Failure to Eliminate Hypotheses in a Conceptual Task*, 12 *Q. J. of Experimental Psychology* 129 (1960). See also Kathleen M. Galotti, *Cognitive Psychology: In and Out of the Laboratory* 357 (2009); Michael W. Eysenck, *Principles of Cognitive Psychology* 373 (2001).

one has made up one's mind, to search harder for evidence that confirms rather than contradicts one's initial judgment. . . . Had the intuitive judgment that underlies the decision been different, perhaps an equally plausible opinion in support of it could have been written.¹⁰³

The notion of the subconscious decision, immediately arrived at and later supported by rational argument finds descriptive support in the writings of Justice Oliver Wendell Holmes, Jr. who said that “[b]ehind the logical form lies . . . an [often] inarticulate and unconscious judgment . . . [that is] the very root and nerve of the whole proceeding.”¹⁰⁴ Professors Hart and Sacks gave voice to a similar concern when they noted that “[w]hen the words fit with all the relevant elements of their context . . . the mind of the interpreter moves to a confident conclusion almost instantaneously.”¹⁰⁵ Judge Posner even quotes a “surprisingly” candid statement from Justice Kennedy that “all of us have an instinctive judgment that we make. . . . [A]fter you make a judgment, you then must formulate your reason for the judgment.”¹⁰⁶ Again, writing in the related field of contract interpretation, Arthur L. Corbin responded to this impressionistic approach to plain meaning:

It is true that when a judge reads the words of a contract he may jump to the instant and confident opinion that they have but one reasonable meaning and that he knows what it is. A greater familiarity with dictionaries and the usages of words, a better understanding of the uncertainties of lan-

103. See Posner, *supra* note 14, at 110–11. See also Posner, *supra* note 30, at 354 (“The problem will be aggravated by confirmation bias, the tendency to interpret evidence in the way most consistent with one’s priors. The fact that the life-tenured judge on a fixed salary pays no penalty for succumbing to this bias undermines his resistance to it.”); Richard A. Posner, *The Problematics of Moral and Legal Theory* 42, n. 64 (1999) (“Once having taken a position, a person will tend to interpret subsequent evidence as supporting it (‘confirmation bias’); therefore argument may, simply by eliciting evidence on both sides of the controversy, have a polarizing effect.”); Cass R. Sunstein, *Infotopia: How Many Minds Produce Knowledge* 139 (2006) (“Human beings usually assimilate new information in a way that confirms their view of the world; this phenomenon is called *confirmation bias*.”); Cass R. Sunstein, David Schkade, Lisa M. Ellman, & Andres Sawicki, *Are Judges Political? An Empirical Analysis of the Federal Judiciary* 74 (2006) (“[J]udicial voting is reinforced by the natural human tendency toward *confirmation bias*, by which people find most compelling those arguments that confirm their antecedent inclinations.”). See also Cass R. Sunstein, David Schkade, & Lisa Michelle Ellman, *Ideological Voting on Federal Courts of Appeals: A Preliminary Investigation*, 90 Va. L. Rev. 301, 341–42 (2005).

104. Oliver Wendell Holmes, Jr., *The Path of the Law* in *Collected Legal Papers* 167, 181 (1920).

105. Hart & Sacks, *supra* note 49, at 1375.

106. See Posner, *supra* note 14, at 257 (emphasis added).

guage, and a comparative study of more cases in the field of interpretation, will make one beware of holding such an opinion so recklessly arrived at.¹⁰⁷

This is not to say that a judge's linguistic intuition is useless. Human experience with language allows the judge—like any other language user—to recognize almost instantly which uses of a given term are grammatically correct and which are not.¹⁰⁸ But this is not ordinary meaning in the textualist's sense of the term. Rather it is ordinary meaning in the purposivist sense, i.e. the capacity to determine grammaticality allows the judge to recognize those language uses that are linguistically permissible.

It is against the backdrop of this difficulty—the textualist's desire for consistency and predictability in the interpretation of statutes, and the fiction that an objective measure for the ordinary meaning of a given term may be found through judicial introspection—that the textualist approach to ordinary meaning is most vulnerable. If statutory terms are to be applied consistently and predictably, their ordinary meaning cannot be determined introspectively.

If introspection is thus removed from the textualists' already truncated¹⁰⁹ list of interpretive devices, how might the ordinary meaning of a statutory term be found so as to satisfy the consistency and predictability interests discussed above? Two possible answers, both implicated by the different ways in which courts describe the notion of ordinary meaning, present themselves for consideration.

When courts speak of ordinary meaning, they often do so in a way that emphasizes language *perception*, characterizing ordinary meaning as the way in which particular words are “commonly understood.”¹¹⁰ In contrast, courts likewise speak of ordinary mean-

107. See Corbin on Contracts, *supra* note 43, §536 at 497.

108. Linguists have relied upon such grammaticality judgments for years in order to study the structure of language and its cognitive basis. See Noam Chomsky, Aspects of the Theory of Syntax 19–20 (1965). See also Carson T. Schütze, The Empirical Base of Linguistics: Grammaticality Judgments and Linguistic Methodology (1996).

109. See Solan, *supra* note 26, at 2036–37.

110. *Regalado Cuellar v. United States*, 553 U.S. 550, 557–58 (2008) (“This is consistent with the *plain meaning* of ‘money laundering,’ petitioner argues, because that term is *commonly understood* to mean disguising illegally obtained money in order to make it appear legitimate We agree with petitioner.”) (emphasis added); *Amoco Prod. Co. v. Village of Gambell*, 480 U.S. 531, 554 (1987) (“Numerous statements by other legislators reveal a *common understanding*—consistent with the *plain meaning*.”) (emphasis added); *United States v. Frank*, 599 F.3d 1221, 1234 (11th Cir. 2010) (“We interpret words that are not defined in a statute ‘with their *ordinary and plain meaning* because we assume that Congress uses words in a statute as they are *commonly understood*.”) (citations omitted) (emphasis added); *Phillips v.*

ing in a way that emphasizes language *production*, characterizing ordinary meaning as that meaning which is consistent with a word's "common usage."¹¹¹ This production-based approach to ordinary meaning is reflected in a statement by Justice Holmes: "[W]e ask, not what [the author] meant, but what those words would mean in the mouth of a normal speaker of English, *using* them in the circumstances in which they were *used*."¹¹²

Without intending to, these jurists have implicated two very different methodological approaches to studying language, one based on linguistic perception, and the other based upon language pro-

AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) ("In some cases, the *ordinary meaning* of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of *commonly understood* words.") (emphasis added). A Westlaw search of "All State and Federal Cases" reveals 524 cases in which the terms "plain meaning" or "ordinary meaning" are used in the same sentence as "commonly understood" or "common understanding." ("ordinary meaning" "plain meaning" /s "commonly understood" "common understanding"). Further, like textualists, originalists sometimes articulate their approach to interpretation with a similar emphasis on perception. See Scalia, *supra* note 67, at 38 ("I will consult the writings of some men who happened to be delegates to the Constitutional Convention . . . I do so, however, not because they were Framers and therefore their intent is authoritative and must be the law; but rather because their writings, like those of other intelligent and informed people of the time, display how the text of the Constitution was *originally understood*.") (emphasis added); Robert Bork, *The Tempting of America: The Political Seduction of the Law* 144 (1990) ("What is the meaning of a rule that judges should not change? It is the meaning understood at the time of the law's enactment. Though I have written of the understanding of the ratifiers of the Constitution, since they enacted it and made it law, that is actually a shorthand formulation, because what the ratifiers understood themselves to be enacting must be taken to be what the public of that time *would have understood the words to mean*.") (emphasis added).

111. *S.D. Warren Co. v. Maine Bd. of Envtl. Prot.*, 547 U.S. 370, 377 (2006) ("In resort to *common usage* under § 401, this Court has not been alone, for the Environmental Protection Agency (EPA) and FERC have each regularly read 'discharge' as having its *plain meaning*." (emphasis added); *United States v. Lopez*, 590 F.3d 1238, 1248 (11th Cir. 2009) ("When a statutory term is undefined, courts give it its '*ordinary meaning*' or '*common usage*." (emphasis added); *Payless Shoesource, Inc. v. Travelers Companies, Inc.*, 585 F.3d 1366, 1373 (10th Cir. 2009) ("But when, as here, the parties have not made manifest their 'intention to deviate from *common usage*,' we are left with and must enforce the *plain meaning* of the language they chose." (emphasis added); *Medical Mut. Ins. Co. of Maine v. Indian Harbor Ins. Co.*, 583 F.3d 57, 62 (1st Cir. 2009) ("Both *plain meaning* and *common usage* require that, in order for a judicial complaint to be 'made against' a person, that complaint must be filed in court and must identify the person as a defendant in the action.") (emphasis added). A Westlaw search of "All State and Federal Cases" reveals 941 cases in which the terms "plain meaning" or "ordinary meaning" are used in the same sentence as "common usage," "common English usage," or "commonly used." ("ordinary meaning" "plain meaning" /s "common usage" "common English usage" "commonly used").

duction. “[W]e speak to be heard and need to be heard in order to be understood,”¹¹³ and from the earliest stages of our development it is the bringing into equilibrium of our language-perceptive and language-productive capacities that ultimately facilitates communication.¹¹⁴ Though each of these empirical approaches to meaning has its relative merits and short-comings, they each present significant advantages over the intuition-based approach of the contemporary Plain Meaning Rule because they remove the determination of ordinary meaning from the black box of the judge’s mental impression and render the discussion of ordinary meaning one of tangible and quantifiable reality.

III. EMPIRICAL APPROACHES TO ORDINARY MEANING

This section will address two empirical approaches to ordinary meaning. The first is the survey methodology that is sometimes employed to examine the prototypical meaning of a word or phrase. The second is the notion of the statistically more frequent meaning as quantified through the examination of electronic corpora. Both of these approaches will be brought to bear on a question implicating ordinary meaning, i.e. whether the term *enterprise* as it is employed in the context of the Racketeer Influenced and Corrupt Organizations Act (RICO) ordinarily implies that the organization so designated has an economic motivation.

Before proceeding to an examination of this question, we ought first to outline some criteria by which to judge whether these approaches might successfully be employed in the context of statutory interpretation. I propose two such criteria: First, the tests must serve the goals of objectivity and predictability alluded to above.

112. Oliver Wendell Holmes, Jr., *The Theory of Legal Interpretation*, 12 Harv. L. Rev. 417–18 (1899) (second emphasis added). See Manning, *supra* note 47, at 91 (“Textualists give primacy to the *semantic* context—evidence about the way a reasonable person conversant with relevant social and linguistics practices *would have used the words.*”) (emphasis added).

113. Roman Jakobsen & Morris Halle, *Fundamentals of Language* 34 (1956).

114. Andrew Radford, Martin Atkinson, & David Britain, *Linguistics: An Introduction* 110–116 (2006). Ray Jackendoff, *Language in the Ecology of the Mind*, in *The Routledge Companion to Semiotics and Linguistics* 52, 54 (ed. Paul Colby 2001) (“Mentally representing messages and expression is not sufficient for using language. A speaker needs a means to map between message and expression—in *production*, to express a message that one desires to transmit; in *perception*, to interpret an expression that one perceives.”) (emphasis added); John Laver, *Cognitive Science and Speech: A Framework for Research in Logic and Linguistics* in *Logic and Linguistics* 37, 38 (1989) (“An adequate description of the production, perception, and understanding of speech is thus obliged to invoke strata at very many levels from ideation to production, through acoustic transmission, and on through perception to semantic interpretation of the message.”).

Second, but just as important, the tests must be straightforward, practicable, and feasible.

Like any social science, specialized linguistic discussions may very easily devolve into the realm of the esoteric, and it is no great criticism to say that the generalist judge is not a specialist linguist. The generalist nature of the judiciary places limitations on the use of social sciences for judicial interpretation:

Interpreters are normal people. Judges are overburdened generalists, not philosophers or social scientists. Methods of interpretation that would be good for experts are not suitable for generalists. Generalists should be modest and simple. While recognizing that specialists might produce more nuanced approach, generalists must see that the process and error costs are much higher when they try to do the same thing.¹¹⁵

Whatever their origin, our linguistic canons of interpretation are very old. But, “[j]ust as medical science has progressed since the time of leech treatments, the science of linguistics has progressed.”¹¹⁶ We would no more expect the generalist judge to behave like an expert linguist than we would expect her to operate a complex medical device like an MRI-Scanner. In order for empirical methods to be of any use to the generalist judge they must be objective, but they must also be uncomplicated.

A. Linguistic Empiricism and Linguistic Prototypes

One way to characterize ordinary meaning is to ask how words are “commonly understood.” By doing so, we implicate the notion of prototypical meaning. Writing in the 1970s, linguists in a number of different disciplines began to question the validity of the prevailing account of lexical meaning. In his seminal article *The Boundaries of Words and Their Meanings*, William Labov (often referred to as the father of sociolinguistics)¹¹⁷ famously expressed dissatisfaction with the traditional notion a definitional or categorical meaning, stating: “The description of the meanings of words has been left to the lexicographers, for better or worse; and linguists have long con-

115. See Easterbrook, *supra* note 24, at 69–70. See also Posner, *supra* note 14, at 205 (“No judge of [an appellate] court can be an expert in more than a small fraction of the fields of law that generate the appeals that he must decide, or can devote enough time to an individual case to make himself . . . an expert in the field out of which the case arises.”) (emphasis removed).

116. Craig Hoffman, *Parse the Sentence First: Curbing the Urge to Resort to the Dictionary when Interpreting Legal Texts*, 6 N.Y.U. J. Legis. & Pub. Pol’y 401, 401 (2003).

117. Alison Wray & Aileen Bloomer, *Projects in Linguistics: A Practical Guide to Researching Language* 93 (2006).

tented themselves with glosses which are labels but not descriptions.”¹¹⁸ Labov argued that the traditional category-based approach to definition was largely a matter of lexicographic convention.¹¹⁹ Taking aim at a categorical definition of the term *cup*, in which *cup* was characterized as a “small open bowl-shaped vessel used chiefly to drink from, with or without a handle [and] . . . commonly set on a saucer,” Labov identified several aspects of the definition that were linguistically unsatisfactory.¹²⁰ The first was the use of terms like *chiefly* or *commonly*, both of which are indefinite qualifiers that convey little information. The second was the characterization of a *cup* as being “with or without a handle.” “Such a phrase,” said Labov, “can be applied to any object in the universe.”¹²¹ One can well imagine a can-opener with or without a handle (probably with), or an aardvark with or without a handle (probably without). “I myself,” said Labov, “come with or without a handle.”¹²²

In order to examine the boundaries of the term *cup*, Labov conducted a study in which speakers of several languages were shown a series of drawings of cup-like objects, of various sizes, and shapes, and, of course, both with and without handles.¹²³ The subjects were asked to identify which of the objects were cups. Labov then quantified the results to express the boundaries of the term *cup* as follows:

The term *cup* is regularly used to denote round containers with a ratio width to depth of $1+r$ where $r < r_b$, and $r_b = \alpha_1 + \alpha_2 + \dots + \alpha_v$ and α_i is a positive quantity when feature i is present and 0 otherwise.¹²⁴

A characterization of this definition as having questionable utility to the lay interpreter would be a euphemism. The definition is indecipherable to any but the trained specialist. But the purpose of the definition is not to tell the lay reader what a *cup* is, but to

118. William Labov, *The Boundaries of Words and Their Meanings in New Ways of Analyzing Variation in English* 340, 340 (Charles-James N. Bailey & Roger W. Shuy eds. 1973).

119. *Id.* at 343 (“As linguistics then becomes a form of boundary theory rather than a category theory, we discover that not all linguistic material fits the categorical view: there is greater or lesser success in imposing categories upon the continuous substratum of reality.”).

120. *Id.* at 349–50.

121. *Id.* at 350.

122. *Id.* at 366–67.

123. *Id.* at 353–57.

124. William Labov, *The Boundaries of Words and Their Meanings in New Ways of Analyzing Variation in English* 340, 366 (Charles-James N. Bailey & Roger W. Shuy eds. 1973).

explore the contours of the notion of *cup* as it is commonly understood.

Perhaps a slightly more accessible study into the boundaries of lexical meaning was conducted around the same time by the cognitive linguist, Eleanor Rosch. For her article *Cognitive Representations of Semantic Categories*, Rosch conducted a series of experiments that revealed, among other things, that our notion of different words “appear to be represented in cognition not as a set of criterial features with clear-cut boundaries but rather in terms of prototype (the clearest cases, best examples) of the category.”¹²⁵ Included among the experiments was a ranking survey in which 209 survey subjects were asked to rate, on a seven-point scale, which words were “good examples” of one of ten categories, like *toys*, *fruits*, or *birds*.¹²⁶ The results of the study showed “a high agreement between subjects concerning these rankings.”¹²⁷ Thus, *chair* is a more prototypical example of *furniture* than *stool*,¹²⁸ *automobile* is a more prototypical *vehicle* than *yacht*,¹²⁹ and *robin* is a more prototypical *bird* than *ostrich*.¹³⁰

For our purposes, Rosch’s study and the Labov study before it demonstrate that in a given speech community, there is a shared notion of the prototypical meaning of certain terms and that this prototypical meaning may be elicited through survey methods. What emerges from both of these studies is a concern for the limitations of the lexicographer’s intuition. Though, in defining a given term, a lexicographer may present a range of possible meanings greater than that available through intuition, the lexicographer cannot determine *a priori* how a given linguistic community might understand the term in a given context.

Some legal scholars, primarily Professor Lawrence Solan, have observed that arguments in the Supreme Court over ordinary meaning can be reduced to a question over which meanings are more or less prototypical:

Some Supreme Court cases concerning statutory interpretation can be seen as battles among the justices over definitions versus prototypes. In *Smith v. United States* (1993), the Court had to decide whether the defendant’s attempt to trade a machine gun for cocaine constituted ‘using a

125. Eleanor Rosch, *Cognitive Representation of Semantic Categories*, 104 J. of Experimental Psychology 192, 193 (1975).

126. *Id.* at 198. The categories were furniture, fruit, vehicle, weapon, vegetable, carpenter’s tool, bird, sport, toy, and clothing. *Id.* at 229–33.

127. *Id.* at 198.

128. *Id.* at 229.

129. *Id.* at 230.

130. *Id.* at 232.

firearm during and in relation to a drug trafficking crime.’ In a 6–3 decision, the majority said it did. Justice O’Connor’s opinion recites many dictionary definitions of ‘use’ and concludes that bartering is a kind of using. Justice Scalia’s dissent relies on prototype analysis: no one would ever think of ‘using a firearm’ as meaning trading a firearm. Rather, people think of ‘using a firearm’ as meaning using it as a weapon.¹³¹

Solan has elsewhere stated that “[i]n the realm of statutory interpretation, judges often evoke the canon that they are to give words in a statute their ‘ordinary’ meaning. Prototype analysis tells us that the notion of ordinary meaning has a cognitive basis.”¹³²

It is important that the term “prototype” not be divorced from its methodology. The term is useless if it is merely a proxy for what is plain or ordinary. The linguist’s conclusion regarding the prototypical meaning of a given term is the result of rigorous empirical analysis, rather than casual qualitative impressions.

One such analysis was conducted by a group of linguists led by Professor Clark Cunningham.¹³³ When called upon by the Yale Law Journal to review Professor Solan’s book *The Language of Judges*, in which Solan examines difficult questions of statutory interpretation through the lens of linguistic theory,¹³⁴ Cunningham invited a team of linguists to apply concepts from Solan’s text to problems then facing the Supreme Court.¹³⁵ The result was Cunningham’s paper *Plain Meaning and Hard Cases*, which included, among other things, a survey-based analysis of the prototypical meaning of the term *enterprise* in the context of RICO.¹³⁶

The RICO statute states, in relevant part:

131. See Solan, *supra* note 18, at 258 (citing *Smith v. United States*, 508 U.S. 223 (1993)). See also Eskridge et al., *supra* note 22, at 850 (discussing prototypical meaning in the context of statutory interpretation); Solan et al., *supra* note 95, at 1276–80 (discussing dissipation of consensus in nonprototypical instances); Solan, *supra* note 26, at 2042–46 (arguing that the battle between plain and ordinary meaning is only natural for legal interpretation); Note, *The Supreme Court 1997 Term, Leading Cases*, 112 Harv. L. Rev. 355, 361–62 (1998) (“[W]hen a legislature uses non-technical terms . . . it is likely that both the legislature and the general public interpret the term in accordance with its prototypical meaning.”).

132. Lawrence M. Solan, *Law, Language, and Lenity*, 40 Wm. & Mary L. Rev. 57, 67–68 (1998).

133. See Cunningham et al., *supra* note 3.

134. See Solan, *supra* note 1.

135. Judith Levi, *Proceedings: Northwestern University/Washington University Law and Linguistic Conference*, 73 Wash. U. L. Q. 800, 800–01 (1995) (explaining how Cunningham decided to initiate the linguistic analysis project in question).

136. See Cunningham et al., *supra* note 3, at 1598 n. 168 (“[The] main source for the type of survey . . . designed was Linda Coleman & Paul Kay, *Prototype Semantics: The English Word Lie*, 57 Language 26 (1981).”).

It shall be unlawful for any person employed by or associated with any *enterprise* engaged in, or the activities of which affect, interstate or foreign commerce, to conduct . . . such *enterprise's* affairs through a pattern of racketeering activity or collection of unlawful debt.¹³⁷

Professor Solan claimed that “there is nothing the least bit clear about what the word ‘enterprise’ means in RICO.”¹³⁸ Cunningham et al. sought to challenge that view by analyzing the statute in the context of *National Organization for Women, Inc. v. Scheidler*,¹³⁹ a case in which the National Organization of Woman (“NOW”) sought to enjoin the Pro-Life Action Network (“PLAN”) from engaging in “a nationwide campaign to close medical clinics that provide abortion service, . . . trespass, vandalism, and extortion.”¹⁴⁰ The question presented was whether RICO characterized as an *enterprise* an organization that acted without an economic motivation. The Seventh Circuit said that it did not.¹⁴¹

Cunningham and his team constructed a survey to determine whether the prototypical meaning of *enterprise* included the economic motive. In order to ensure that the survey considered every possible meaning of enterprise, the linguists first searched in a NEXIS database for sentences using the term. They found 192 examples of the term enterprise that they classified as either the non-count, mass noun form of *enterprise*, as in *free enterprise*, or the count noun form of *enterprise* which they subdivided into two types: *enterprise* as an activity, and *enterprise* as an entity that carries out such an activity.¹⁴² Only the latter count noun forms of *enterprise* were deemed relevant in the study.¹⁴³

The survey questionnaires were administered to 116 students at three universities.¹⁴⁴ They were later sent to 127 District Court judges (thirty-seven of whom responded), whose responses were ultimately found to correlate well with those of the students.¹⁴⁵ The

137. 18 U.S.C. § 1962 (c) (2006).

138. See Solan, *supra* note 1, at 107.

139. *Nat'l Org. for Women, Inc. v. Scheidler*, 968 F.2d 612 (7th Cir. 1992), *rev'd*, 510 U.S. 249 (1994).

140. See Cunningham, *supra* note 3, at 1588–89.

141. *Scheidler*, 968 F.2d at 612. The United States Supreme Court would ultimately side with Cunningham et al., by reversing the Seventh Circuit decision and holding that “[a]n enterprise surely can have a detrimental influence on interstate or foreign commerce without having its own profit-seeking motives.” *Nat'l Org. for Women, Inc. v. Scheidler*, 510 U.S. 249, 258 (1994). Because of the comparative nature of the present paper, I will limit my discussion to the Seventh Circuit decision.

142. See Cunningham et al., *supra* note 3, at 1596–97.

143. *Id.* at 1597.

144. *Id.* at 1599–600.

145. *Id.* at 1600.

survey asked subjects whether various organizations were appropriately characterized as *enterprises*.¹⁴⁶ The following is a sample of one of the twelve questions administered as part of the survey:

(a) Does it seem right, to you, to call the International Business Machines (IBM) an “enterprise?” YES/I CAN’T TELL/NO

(b) I am VERY SURE/FAIRLY SURE/NOT TOO SURE that most others would agree with the choice I circled in response to question (a).¹⁴⁷

The results demonstrated that “an overwhelming majority of both the students and judges” favored a non-economic notion of an organizational enterprise.¹⁴⁸ Thus, the study concluded that “the . . . definition used by the Seventh Circuit to dismiss NOW’s RICO claim does not correspond well with the way most speakers understand *enterprise*.”¹⁴⁹

The approach taken by Cunningham was never intended to displace a jurisprudential analysis of the merits of the case. Indeed, the authors disclaimed any such intent. Rather the intent was, in part, “to augment the judge’s thinking about possible uses of the word . . . and to inform the judge of *uses entirely acceptable and current in the relevant speech community*, of which the judge might not be aware.”¹⁵⁰

The question, then, is whether the survey method meets the criteria of objectivity and practicality posited above. As to objectivity, there appears to be nothing in the survey design that would suggest to a respondent that a particular answer is more acceptable. Though one immediately wonders whether sending the questionnaires to sitting judges would not muddy the results, as federal judges almost certainly have already formed opinions about the breadth of RICO, the judges’ responses correlated very highly with those of the students (linguistics students, not law students),¹⁵¹ who would not likely have strongly held opinions about the statute.

One possible wrinkle in the objectivity of the survey emerges in the form of context effect. “A context effect occurs when the interpretation of a question is influenced by other information that appears on the questionnaire.”¹⁵² Involving more than merely the

146. *Id.* at 1599.

147. *Id.*

148. Cunningham et al., *supra* note 3, at 1608.

149. *Id.*

150. *Id.* at 1596 (emphasis added).

151. *Id.* at 1600 n.172.

152. Paul P. Biemer & Lars Lyberg, Introduction to Survey Quality 129 (2003). See also Paul J. Lavrakas, Encyclopedia of Survey Research Methods 142

order of questions, however, context effect may occur in the survey taken as a whole. “Questions will be interpreted by respondents within the context of the entire questionnaire, previous questions, and the wording of the present question.”¹⁵³

The phenomenon of choice architecture influencing the selection of preferences is well documented. It has been noted that “[o]bserved preferences are not simply read off some master list; they are actually constructed in the elicitation process. . . . Different elicitation procedures highlight different aspects of options and suggest alternative heuristics.”¹⁵⁴ Further, “[a]lternative descriptions of the same choice problems lead to systematically different preferences; strategically equivalent elicitation procedures give rise to different choices; and the preference between x and y often depends on the choice set in which they are embedded.”¹⁵⁵ The reason for this systematic selection of different preferences is that “people make decisions on the basis of heuristic devices, or rules of thumb, that may work well in many cases but that also lead to systematic errors.”¹⁵⁶

One such heuristic credited with causing systematic errors in human choice is extremeness aversion.¹⁵⁷ “People are averse to extremes” and “[w]hether an option is extreme depends on the stated alternatives.”¹⁵⁸

Almost everyone has had the experience of switching to, say, the second most expensive item on some menu of options, and of doing so partly because of the presence of the most expensive item. In this as in other respects, the framing of the choice matters; the introduction of (unchosen, apparently irrelevant) alternatives into the frame can alter the outcome.¹⁵⁹

Extremeness aversion leads to the “compromise effect,” which is “the finding that the same option is evaluated more favorably when it is seen as intermediate in the set of options under consideration

(2008).

153. Lavrakas, *supra* note 152, at 142.

154. Cass R. Sunstein, *Behavioral Analysis of Law*, 64 U. Chi. L. Rev. 1175, 1176 (1997) (quoting Amos Tversky, Shmuel Sattath & Paul Slovic, *Contingent Weighting in Judgment and Choice*, 95 Psych. Rev. 371, 371 (1988)).

155. *Id.* (quoting Amos Tversky, *Rational Theory and Constructive Choice*, in *The Rational Foundations of Economic Behavior* 185 (Kenneth J. Arrow et al eds., St. Martin’s Press 1996)).

156. *Behavioral Law and Economics* 3 (Cass R. Sunstein ed. 2000).

157. *See Id.*

158. *Id.*

159. *Id.*

than when it is extreme.”¹⁶⁰ This aspect of extremeness aversion—its context dependence—may have important implications for the analysis of plain meaning using survey data.

The Cunningham survey presented respondents with several groups or organizations with different goals. They ranged from the quotidian (“a bible study group,” “poker players”) to the obviously economically motivated (“IBM,” “a small company”). These latter two groups were most highly associated with the notion of *enterprise* in the survey. After these two groups, the Coalition for Fair Adoption Laws (CFAL), a non-profit organization, scored “most like an enterprise” and tied for first place in the judges’ survey.¹⁶¹ A question left unaddressed in the Cunningham study is whether the appearance of these obviously economically motivated business enterprises (IBM and the small business) would skew the results of the remaining survey questions. Would a reasonable respondent treat IBM as a paradigm of *enterprise* or view the selection of only the economically motivated choices in the survey as an extreme position? Would she then examine the remaining groups inclusively or exclusively? Would she be influenced by the survey’s inclusion of many more non-economically motivated groups than economically motivated ones? It seems entirely possible that in a survey questionnaire asking which of six groups should be included under the heading *enterprise*, having one or two extreme “yes” or “no” answers might predispose respondents to look for a few compromise “maybes.”

Of course, survey-based studies can be designed to control for cognitive biases or other predispositions. A recent linguistic study analyzing false consensus bias in contract interpretation illustrates one way in which this can be done:

The study consisted of two different hypothetical scenarios In each, a claimant is injured in an event that would entitle him or her to recovery. Each story then proceeds with one of two versions. In one, the policyholder has insurance that might cover the damages that would have to be paid, but the insurance policy contains an exclusion In the other version, the policyholder has special coverage that would include [the] injury The use of these two versions controlled for result-oriented responses reflecting a possible bias against either insurance companies or plaintiffs.¹⁶²

160. Mark Kelman, Yuval Rottenstreich & Amos Tversky, *Context-Dependence in Legal Decision Making*, in Behavioral Law and Economics 61 (Cass R. Sunstein ed. 2000).

161. See Cunningham et al., *supra* note 3, at 1601.

162. Solan et al., *supra* note 95, at 1286.

As we discuss the role of context dependence in survey-based approaches to plain meaning, an important difference between this discussion and our prior discussion of confirmation bias warrants mention. Whatever faults—real or imagined—we may observe in the survey’s account of ordinary meaning, the survey is light-years ahead of the intuition-based model for the simple fact that its faults *are observable*. We are not merely discussing some internal cognitive bias on the part of a single judicial interpreter. Rather, we are discussing a tangible fact about how the survey was written and administered—facts which are presently and publicly demonstrable. We know how the survey was written, we know how it was administered, and we know what the results were. If we were counsel for either party we could defend the survey or object to it—but we would have something tangible to defend or object to. It is in this respect that we can very comfortably say that the survey method is an objective measure of ordinary meaning.

As to practicality or simplicity, generalist judges (at least federal judges) ought to be familiar with survey methodologies from their experience with trademark litigation, where they have been a fixture.¹⁶³ Surveys, however, can be costly in both time and resources. Though judges have authority to appoint their own experts on their own motion¹⁶⁴—and indeed, one judge has recommended that they exercise this authority more often¹⁶⁵—courts are reticent, as they see it, “to intrude on the adversarial system” and to assign costs to parties (or pay the costs themselves).¹⁶⁶ And unlike a survey analyzing, say, the genericide of a particular trademark, empanelling a team of expert linguists to determine what the words of a statute actually mean might be viewed as intruding upon the core

163. 5 J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition* § 32:158 (2003) (“In cases of trademark infringement, unfair competition and false advertising, the subjective mental associations and reactions of prospective purchasers are often an issue. Evidence of such mental association may consist of evidence as to the quantity and quality of advertising coverage, testimony of dealers and consumers. . . or merely an appeal to the subjective impressions of the trier of fact. However, a more scientific means of evidencing mental associations is to introduce the actual responses of a group of people who are typical of the target group whose perceptions are at issue in a case. Survey evidence is often introduced for this purpose and a large body of legal literature has developed around the subject.”).

164. See Fed. R. Evid. 706(a), (b).

165. *Indianapolis Colts v. Metropolitan Baltimore Football*, 34 F.3d 410, 414–15 (7th Cir. 1994) (Posner, J.) (“[The system] might be improved by asking each party’s hired expert to designate a third, neutral expert who would be appointed by the court to conduct the necessary studies. The necessary authority exists . . . but was not exercised here.”).

166. Phyllis J. Welter, *A Call to Improve Trademark Survey Evidence*, 85 *Trademark Rep.* 205, 206 (1995).

competency of the judge. After all, “[i]t is emphatically the province and duty of the judicial department to say what the law is,”¹⁶⁷ and courts have long treated “the meaning of words in the vernacular language” as falling within the ambit of judicial notice.¹⁶⁸

Thus, while the survey methodology undoubtedly meets the criterion of objectivity, the application of survey methodologies to questions of statutory interpretation in the courtroom would be prohibitively costly and institutionally problematic. This is hardly a damning proposition. As noted, the Cunningham paper does not set out to provide a methodology for interpreting statutes in the courtroom. It merely demonstrates that linguistic tools may be brought to bear on questions of statutory interpretation, and that, when they are, the answers provided are more reliable than mere judicial impressions. The paper is an important step forward in our understanding of statutory interpretation and, like the book that inspired it, remarkably innovative.

B. *Corpus Linguistics and Frequency*

A second way to characterize ordinary meaning is by reference to the way that terms are “commonly used.” This notion of ordinary meaning is consistent with what the Oxford English Dictionary refers to as the linguistic definition of *ordinary*, which says: “2. d. Of language, usage, discourse, etc.: that most commonly found or attested”¹⁶⁹ This definition implicates the statistical frequency of a given sense and a linguistic methodology called corpus linguistics.

As noted above, corpus linguistics is the study of language function and use by means of an electronic collection of naturally occurring language called a corpus.¹⁷⁰ Corpus linguistic methods are empirical, relying on “large and principled collection[s] of natural texts . . . as the basis for analysis.”¹⁷¹ Corpus methods likewise “make[] extensive use of computers for analysis” and “depend[] on both quantitative and qualitative analytical techniques.”¹⁷²

An amicus brief in the recent case of *FCC v. AT&T* referenced above illustrates how corpora might be employed to resolve questions of statutory ambiguity. The brief, written by attorney Neal Goldfarb and submitted on behalf of the Project for Government Oversight, demonstrated conclusively that the documented usage

167. *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803).

168. *Brown et al. v. Piper*, 91 U.S. 37, 42 (1875).

169. 10 Oxford English Dictionary 912 (2d. ed. 1989).

170. Biber, *supra* note 12.

171. Biber et al., *supra* note 73, at 4.

172. *Id.*

of the adjective “personal” could not sustain an interpretation of FOIA’s “personal privacy” exemption that would apply that term to corporations. Goldfarb wrote:

A corpus is like Lexis on steroids. It is a database of texts gathered from a variety of real-world sources (books, newspapers, magazines, transcripts of spoken language) that has been processed in ways that enable one to search for and analyze patterns in the language. So if one wants to find out, say, which nouns are most commonly modified by *personal*, it is possible to generate a list of those words, ranked by frequency. This provides powerful evidence of what meanings the word can have What is new about the use of corpora is that it has made it possible to quickly review and analyze huge quantities of text, which has enabled lexicographers to see patterns of usage that would otherwise have gone unnoticed. . . . Until recently, the use of corpora was limited to lexicographers, linguists, and other researchers. But these sophisticated tools are now available to anyone with internet access.¹⁷³

The brief then examines data from three large linguistic corpora to demonstrate that “*personal* has developed a specialized meaning such that it is used with regard to human beings, not corporations.”¹⁷⁴ The analysis proceeds by “querying each corpus so that it returns the nouns that appear most frequently in the position immediately following *personal*.”¹⁷⁵ In virtually every case, the nouns found paired with the adjective “personal” were those that made exclusive reference to human beings. These included “personal life,” “personal experience,” “personal relationship,” “personal friend,” and “personal question.”¹⁷⁶ The Court would unanimously reverse that Third Circuit’s ruling that the “personal privacy” exemption applies to corporations, and the decision was believed to have been influenced by Goldfarb’s brief.¹⁷⁷

Before proceeding to a comparison of the corpus approach with the survey-based approaches to meaning discussed above, it may be helpful to lay the groundwork for how corpora are constructed. Any collection of texts is a corpus, though corpora vary widely in size, design, and purpose. Corpora may be classified with reference to their content—texts may be included in a corpus

173. Brief for the Project on Government Oversight, *supra* note 21, at 14–15.

174. *Id.* at 16.

175. *Id.*

176. *Id.* at 17.

177. *See supra* note 11.

because they have their origin in a particular linguistic community, language genre, or geographic region. A corpus may be a *general* corpus, attempting to represent given language across genres and registers, or a *special* corpus limited to a particular genre, register, or dialect. A corpus may be a *monitor* corpus, one that is continually updated with the addition of new texts in order to track the progress of the target language, or a *sample* corpus containing a fixed (closed) and finite number of texts. A corpus may be designed for *synchronic* examination, that is, the examination of a given language feature and a particular point in time, or *diachronic*, in which language use can be compared across different time periods.

Corpora are also classified according to the depth and breadth of their linguistic annotation. Many corpora contain texts that are encoded with linguistic metadata. In this respect, a corpus may be *raw*, *tagged*, or *parsed*. A *raw* corpus contains no linguistic metadata, though the texts of such corpora may be subdivided according to genre or place or time of publication. *Tagged* corpora, by contrast, contain word-level linguistic metadata relating to the parts of speech of the individual words. Thus, in a tagged corpus, nouns are labeled as nouns and verbs are labeled as verbs, and a search for instances of usage for a particular verb (e.g., *play*) may reveal every inflected verbal form (i.e., *play*, *played*, *playing*), but will exclude nominal uses (e.g., *The play's the thing!*). *Parsed* corpora contain phrase-, clause-, or sentence-level annotation, revealing the morpho-syntactic relationship among the words that make up the corpus. While most tagging protocols can be automated, automated parsing has not yet become reliable. Further, because every type of linguistic annotation requires some time and effort, the depth of annotation is often inversely proportional to the size of the corpus—the largest corpora tend to be raw corpora, while parsed corpora tend to be comparatively smaller. Still, there are a number of uses for each type of corpus—whether raw, tagged, or parsed.

The Google Books *n*-gram corpus is a raw corpus and perhaps the largest electronic corpus ever constructed. The corpus is comprised of some “5,195,769 digitized books containing ~4% of all books ever published.”¹⁷⁸ These were drawn from “over 40 university libraries around the world. Each page was scanned with custom equipment, and the text was digitized by means of optical character recognition (OCR). . . . Metadata describing the date and place of publication were provided by the libraries and publishers and supplemented with bibliographic databases.”¹⁷⁹ The corpus contains no linguistic metadata (i.e., it is neither *tagged* nor *parsed*).

178. Jean-Baptiste Michel et al., *Quantitative Analysis of Culture Using Millions of Digitized Books*, 331 *Science* 176, 176 (2011).

179. *Id.*

Instead, corpus is a collection of *n*-grams. “A 1-gram is a string of characters uninterrupted by a space; this includes words (“banana”, “SCUBA”) but also numbers (“3.14159”) and typos (“excess”). An *n*-gram is a sequence of 1-grams, such as the phrases “stock market” (a 2-gram) and “the United States of America” (a 5-gram).”¹⁸⁰ The absence of linguistic metadata in the Google *n*-gram corpus constrains the type of linguistic analysis the corpus can support. Consequently, the inaugural study based on data from this corpus—published in the journal *Science*—focused primarily on the (diachronic) examination of the comparative frequency of certain *n*-grams. Using this approach—given the inelegant moniker “culturomics”—the authors were able to reach a number of conclusions regarding the nature and size of the English lexicon, the evolution of English grammar, and the salience and duration of certain cultural phenomena.

For example, by annotating random samples of 1-grams from the years 1900, 1950, and 2000, and by determining the average number of 1-grams in each sample that were English words (as opposed to nonalphabetic characters, misspellings, and foreign words) the study’s authors were able to estimate the total number of words in the English lexicon (1,022,000) and determine the lexicon’s rate of growth over the past 100 years.¹⁸¹ Further, by measuring the comparative frequency of the number of times the names of famous individuals’ (in this case, those whose names have appeared in the *Encyclopaedia Britannica* since the inception of that publication in 1768), the study’s authors were able to draw conclusions about the depth and duration of individual fame.¹⁸² They concluded that “people are getting more famous than ever before but are being forgotten more rapidly than ever.”¹⁸³

The conclusions of the “culturomics” study could not have been reached through an examination of a small number of texts and certainly not through human introspection, considering its staggering size:

The corpus cannot be read by a human. If you tried to read only English-language entries from the year 2000 alone, at the reasonable pace of 200 words/min, without interruptions for food or sleep, it would take 80 years. The sequence of letters is 1000 times longer than the human genome: If you wrote it out in a straight line, it would reach to the Moon and back 10 times over.¹⁸⁴

180. *Id.*

181. *Id.*

182. *Id.* at 180.

183. *Id.* at 176.

It is only through the aggregating power of computers that these conclusions could have been possible.

The corpus relied on for this present study is the *Corpus of Contemporary American Usage* (COCA). Developed by Professor Mark Davies at Brigham Young University, the COCA is the largest freely-available corpus of English and one of the principal corpora relied on in the amicus brief in *FCC v. AT&T*.¹⁸⁵ The COCA is a *tagged* corpus. This means, as noted above, that a significant amount of grammatical metadata has been added relating to the part of speech of each word. There are a number of ways in which the tagging of a corpus can aid in the study of the corpus' target language or dialect. In statutory interpretation, cases will often turn on the ordinary meaning of a given term in a given context. That context likewise will often include the part of speech of the term examined. Because the ability to exclude from examination those uses of a given term that fall outside the grammatical context in question forms part of the analysis below, it may be helpful here to outline how a corpus becomes tagged in the first instance.

The COCA is tagged with the seventh generation Constituent Likelihood Automatic Word-tagging System (CLAWS-7).¹⁸⁶ The tagging or grammatical annotation performed by CLAWS proceeds in several steps. Beginning with a raw text, CLAWS first prepares the text for tagging by removing any extraneous metadata (relating for example to typographical considerations like paragraphing) and arranging each of the words (and punctuation marks) in a vertical column.¹⁸⁷ The program then searches for each of these words in an electronic lexicon, a collection of common words for which every possible grammatical category and inflection has been anticipated.¹⁸⁸ If the program finds the word in its lexicon, it then annotates the word with every potential grammatical tag. For example, the word *round* would receive five potential tags (JJ, RI, NN, V, IN), each representing one of the possible grammatical

184. Jean-Baptiste Michel et al., *Quantitative Analysis of Culture Using Millions of Digitized Books*, 331 *Science* 176, 176 (2011).

185. Brief for the Project on Government Oversight, *supra* note 21, at 18–24.

186. Mark Davies, *The 385+ Million Word Corpus of Contemporary American English (1990–2008+): Design, Architecture, and Linguistic Insights*, 14 *Int'l J. of Corpus Linguistics* 159, 164 (2009). For further discussion of CLAWS more generally, see Roger Garside & Nicholas Smith, *A Hybrid Grammatical Tagger: CLAWS 4*, in *Corpus Annotation: Linguistic Information from Computer Text Corpora* 102 (Roger Garside et al. eds., 1997) [hereinafter Garside & Smith, *A Hybrid Grammatical Tagger*], and Roger Garside, *The CLAWS Word-Tagging System*, in *The Computational Analysis of English: A Corpus-Based Approach* 30 (Roger Garside et al. eds. 1989) [hereinafter Garside, *The CLAWS Word-Tagging System*].

187. Garside, *The CLAWS Word-Tagging System*, *supra* note 186, at 33.

188. *Id.* at 35.

functions that *round* can serve in a sentence (adjective, adverb, noun, verb, and preposition respectively).¹⁸⁹ These tags are listed in descending order of likelihood, with extremely rare uses receiving special annotation.¹⁹⁰ The program also tags nonword, *n*-grams like *numerals* and *formulae*.¹⁹¹ After the initial pass, some thirty-five percent of the words run through CLAWS will be left with more than one grammatical tag.¹⁹² These multiple tags are then disambiguated based on an existing “matrix of probabilities,” that is, a series of tag sequences that have been ranked according to the probability that they will occur in natural speech.¹⁹³ Finally, the program compares the disambiguated output against a list of idiomatic expressions that would otherwise escape automated tagging.¹⁹⁴ Contemporary automated part-of-speech taggers like current versions of CLAWS can achieve between ninety-five to ninety-nine percent accuracy without the aid of human editing.¹⁹⁵

This tagging process allows the user to perform queries that sweep in all uses of the term within a given part-of-speech. In the COCA, this is done by surrounding the operative legal word (in this case *enterprise*) in brackets and then appending the expression . [n*], as in (1) below:

(1) [enterprise].[n*]¹⁹⁶

This search will reveal all the nominal uses of the term *enterprise* (*enterprise* and *enterprises*), while excluding other grammatical uses such as the adjectival use as in (2) below:

(2) He was a grain merchant and a cattle buyer, and was generally considered the most *enterprising* businessman in our county.¹⁹⁷

Sometimes the statute is concerned only with the use of a term in a given context.¹⁹⁸ In the case of *enterprise*, the only legally operative context specified by both the cases considered and the survey

189. *Id.*

190. *Id.*

191. *Id.* at 36.

192. *Id.* at 39.

193. Garside, *The CLAWS Word-Tagging System*, *supra* note 186, at 39. *See generally* Garside & Smith, *A Hybrid Grammatical Tagger*, *supra* note 186, at 103–07 (discussing automated disambiguation).

194. Garside, *The CLAWS Word-Tagging System*, *supra* note 186, at 40.

195. *See* Garside & Smith, *A Hybrid Grammatical Tagger*, *supra* note 186, at 105.

196. I will use throughout the linguistic convention of labeling sample sentences with numbers in parenthesis.

197. Willa Silbert Cather, *My Ántonia* 168 (1918) (emphasis added).

198. *See Muscarello v. United States*, 524 U.S. 125, 143 (1998) (Ginsburg, J., dissenting) (“At issue here is not ‘carries’ at large but ‘carries a firearm.’”).

results above are those of *organization* and *economic motivation*. Though we need not include reference to *organization* in the query, it is positively vital that *economic motive* or anything similar be excluded. This is because the entire question presented in the *NOW* case is whether the ordinary use of *enterprise* includes the notion of an economic motive. We want to examine every instance of *enterprise* that has reference to an organizational setting and then determine which of these has reference to an economically motivated organization and which do not. If we include the word *business* or *economic* in the query, we will skew the results. We are not asking the database to tell us how often *enterprise* is used to describe an organization with *economic motives* but how often *enterprise* is used to describe an organization with *economic motives* compared to how often it used to describe organizations with *non-economic motives*. If either of these uses of *enterprise* is overwhelmingly more frequent, then we might conclude that the more frequent meaning is the “ordinary” meaning of *enterprise* and probably the one that ought to control.

The database will present every use of the term *enterprise*, and we have been put on notice (though notice is not required) by Cunningham et al. that some uses are irrelevant to the case before us.¹⁹⁹ Thus, when the corpus presents us with proper names, non-count nouns, or notions of general effort, pluck, and initiative, we will set these to one side. Courts and parties often helpfully reduce the question of ordinary meaning to binary propositions. As a result, our search is only concerned with two uses of the term *enterprise*—the *non-economically motivated enterprise* and the *economically motivated* one.

One particular use of *enterprise* deserves special mention. Because RICO is a matter of both public record and public discourse, occasional reference to the term *enterprise* in the context of RICO itself may be encountered in the corpus. Though such uses were extremely rare, I have excluded them from the count. I have done so with an eye to treating the ordinary meaning of *enterprise* as a fresh linguistic question, rather than a long-decided legal one.

Entering the search [enterprise].[n*] into the COCA reveals 8,872 singular uses and 4,734 plural uses of the noun *enterprise* for a total of 13,606 instances of the term found in the corpus. We can compare this to the 192 uses of the term found by Cunningham et al. in the NEXIS database.²⁰⁰ This comparison demonstrates the staggering progress of computational power since the Cunningham study was conducted in 1995 and the extraordinary amount of electronic information that has become available since that time.

199. See Cunningham et al., *supra* note 3, at 1588–95.

200. *Id.* at 1596.

These returns are listed in concordance lines, which display the word with its surrounding context.²⁰¹ In these concordance lines, “each occurrence of the chosen word is presented on a single line, with the word in the middle and the context on each side.”²⁰² This type of display is referred to as a Key Word in Context or KWIC display.

Once these randomized sentences are returned, we can begin examining them to determine in what context *enterprise* is most frequently used. For the sake of thoroughness, I have reviewed the first 1,000 randomized returns.²⁰³

The first 1,000 randomized concordance lines reveal several different uses of the term *enterprise*. Because the courts and the Cunningham study have treated the question of the ordinary meaning of *enterprise* as a binary proposition, I will set aside those uses that make reference to *organizational enterprises* to be included later in a final count, and focus first on the *non-organizational* uses of enterprise.

The most common of these excluded uses is the organizational or proper name (“OPN”) usage. This OPN use occurred in 299 of the samples sentences examined. Several of the most common names included references to *The American Enterprise Institute*, *Black Enterprise Magazine*, *Cox Enterprises*, *Coca-Cola Enterprises*, and, of course, the *Starship Enterprise*. Though OPN uses are typically excluded from frequency counts, it is interesting to note that most of the OPN uses themselves make reference to an economically motivated organization. For example, the American Enterprise Institute has the ironic distinction of being a “not for profit Institution dedicated to . . . strengthening free enterprise.”²⁰⁴ And though I have assumed, perhaps without justification, that the mission of the *Starship Enterprise* “to seek out new life and new civilizations” did not have a profit motive,²⁰⁵ most of the OPN uses of the term describe economically motivated organizations.

201. See Biber et al., *supra* note 74, at 26.

202. *Id.*

203. Hunston has suggested that reviewing 500 concordance lines per 10,000 may be sufficient. See Hunston, *supra* note 98, at 75.

204. See *About AEI*, American Enterprise Institute for Public Policy Research, <http://www.aei.org/about> (last visited April 5, 2010).

205. For a surprisingly detailed discussion of this issue, see Frank Ahrens, *The Conflicted Economics of ‘Star Trek,’* Economy Watch, WashingtonPost.Com (May 8, 2009), http://voices.washingtonpost.com/economy-watch/2009/05/the_conflicted_economics_of_st.html; Ilya Somin, *How Federal is Star Trek’s Federation?* The Volokh Conspiracy (September 19, 2007), <http://volokh.com/posts/1190182117.shtml>; Andrew Leonard, *The Utopian Economics of Star Trek*, Salon.com (May 11, 2009), http://www.salon.com/technology/how_the_world_works/2009/05/11/the_economics_of_star_trek.

The next most common use of the term *enterprise* is its use as non-count noun (“NC”). Some 211 sample sentences contained NC uses of the term. Of these 143 referenced *free enterprise*, and 29 referenced *private enterprise*. Again, while our count is not concerned with NC uses of the term, it is again striking that nearly all such uses made reference to economic-related issues.

Following the NC uses of the term, the next most common use is that reflecting a sort of general effort (“GE”), pluck, initiative, or drive. Not all of these efforts were laudable, as in (3) below:

(3) Enterprise and ruthlessness have made the Colombians dominant as cocaine producers and traffickers.

The remaining two excluded uses of the term include those referencing the RICO statute (“RICO”), of which there were four, and those in which the context rendered the use of the term vague and indecipherable (“VAG”), of which there was only a single one.

The uses of *enterprise* excluded from our ultimate count (i.e. the OPN, NC, GE, RICO, and VAG uses), account for 625 or approximately two-thirds of the total uses of the terms. Many, if not most, of these uses make reference to organizations with economic motivations, but they are excluded from the count for the reasons stated above.

This brings us to the question of which sense of *enterprise* is the statistically more frequent: the economically motivated organizational use (“EMO”), or the non-economically motivated organizational use (“NEMO”). The answer is unequivocal. Of the 375 remaining sample sentences, a full 360 are EMO uses of the term *enterprise*. NEMO uses accounted for only 15 total uses in the entire 1,000 sample sentences reviewed. The complete results are in Figure 1 below, which reveals that, far from being the “ordinary meaning” of the term *enterprise*, the NEMO use of the term makes up less than one percent of the total uses of the term. The EMO use, on the other hand, commands a comfortable plurality:

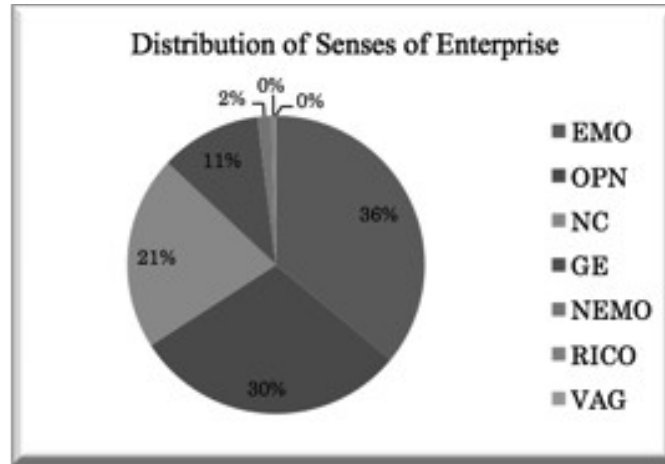


Figure 1

If we recalibrate the chart to show only the NEMO and EMO uses in juxtaposition, the ratio of EMO to NEMO uses becomes even more striking:

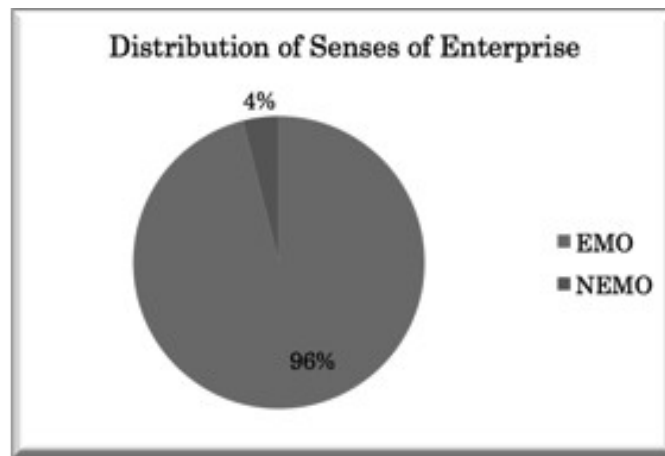


Figure 2

Thus, in the context of RICO, where the ordinary meaning of the term *enterprise* has been thought of by the courts in binary terms as either requiring an economic motive or not requiring one, the corpus data emphatically demonstrate that the ordinary or “common usage” of *enterprise* as an organization virtually always includes the notion of economic motivation.

A second way to examine the question of ordinary meaning through electronic corpora is to calculate collocation rates. “Collocation is the tendency of words to be biased in the way they co-occur;”²⁰⁶ that is, the tendency of certain words to be used in the

206. See Hunston, *supra* note 98, at 68.

same semantic environment as other words. We noticed above that among the NC uses of *enterprise*, the word *free* often appears with the word *enterprise*. Thus, *free* and *enterprise* are said to be common collocates.

A collocation program calculates collocation rates based on a *node word*, “count[ing] the instances of all words occurring within a particular span, for example, four words to the left of the node word and four words to the right.”²⁰⁷ Collocation statistics “summariz[e] some of the information to be found in concordance lines, thereby allowing more instances of a word to be considered.”²⁰⁸ While the examination of KWIC takes into account only 1,000 out of 13,606 uses of *enterprise*, the collocation program will review every occurrence of the word in question and give a read-out of its collocation statistics.

Collocation searches can be performed in the COCA by entering [enterprise].[n*] under the heading “Search String,” next to the search field labeled “Word(s),” entering an asterisk in the search field labeled “Context,” and then clicking “Search.” This displays the first one hundred collocates of *enterprise* in order of their statistical frequency.

Rank	Collocate	Occurrences
1	FREE	685
2	AMERICAN	633
3	PRIVATE	617
4	INSTITUTE	562
5	BUSINESS	368
6	COMMERCIAL	224
7	STATE-OWNED	223
8	INC	171
9	ZONES	169
10	CRIMINAL	123

Table 1

Table 1 above shows the first ten collocates of *enterprise*, which represent a substantial plurality of the total collocates. These collocates confirm our conclusion above about the ordinary meaning or

207. *Id.* at 69.

208. *Id.* at 76.

common usage of the term *enterprise*. By far the most common collocates are the first four, which primarily represent NC and OPN uses. The first and third collocates are from the familiar NC uses of *enterprise*—*free enterprise* and *private enterprise*. The second and fourth collocates are both associated primarily with the OPN use, the *American Enterprise Institute*. Again, the American Enterprise Institute is not an EMO except in the abstract. It is not out to make a buck; rather, it is dedicated to, among other things, the proposition that society functions better when lots of people are out to make a buck. The collocate *zones* is an NC use, referencing *free enterprise zones*, specific locations in urban centers designated to promote economic activity.

Of the remaining collocates in the top ten, only *criminal enterprise* is ambiguous. After all, vandalism may constitute a criminal enterprise, if so defined in a statute. However, the paradigmatic *criminal enterprises* found in the corpus—*money laundering*, *narcotics*, *smuggling*, *counterfeiting checks*, etc.—all have a profit motive. The rest of the top ten, *business*, *commercial*, *state-owned*, and *Inc.*, all tend to make reference to some organized, economically motivated entity.

A review of the remaining collocates in the corpus demonstrates a strong preference for either business-related OPN uses like *Coca-Cola Enterprises* or *Cox Enterprises*, or EMO uses like *competitive*, *profitable*, and *privatized*.

These collocations can be helpful as a guide to the semantic field that a given word may occupy, but they cannot serve as a substitute for reviewing concordance lines.²⁰⁹ A particular word may have a very broad semantic range and may collocate with numerous terms. Such appears to be the case with *enterprise*. However, the collocation output can be a helpful guide both to establish the semantic range of a given term and to confirm that no common uses of the term were missed in the concordance analysis.

C. Objectivity and Practicality

Is the corpus-based approach to ordinary meaning objective and practicable? The concordance analysis above, taken together with the collocation output, demonstrates to a high degree of certainty that the word *enterprise* is most frequently used in a business or economic sense, and, when speaking of organizations, the term is almost always used to refer to those organizations with an economic motivation. But the answer to this question is unsatisfactory

209. See Hunston, *supra* note 98, at 79 (“It is tempting, when looking at a list of collocates, to draw conclusions about the overall frequency of compounds and phrases that may not be justified.”).

if the corpus-based approach is too subjective to be reliable or too complicated to be practical.

Just as the survey methods discussed above removed the question of ordinary meaning from the black-box of the judicial interpreter's mind, so the corpus-based approach analyzes ordinary meaning through a method that is quantifiable and verifiable. Thus, the corpus method "embodies the [lexicographer's] proud ideal of descriptive objectivity; his citations (and interpretations of them) are publicly verifiable."²¹⁰

Further, the corpus methodology escapes at least some of the difficulty presented by survey design and context dependence. When seeking to elicit responses through survey methods, the survey architect must be careful not to structure their surveys in a way that will arbitrarily influence the way that respondents answer. But the language in the corpus is "naturally occurring" and was never "elicited." Thus, the corpus linguist can worry less about context dependence because she has not created the context. The speakers or writers whose speech and writing make up the corpus could not have tailored their responses based on how the linguist was asking her questions, because at the time they were speaking or writing, they did not know that their language would later be subjected to linguistic analysis. They were speaking and writing outside of the *context* of linguistic scrutiny.

The corpus methodology, however, cannot fully escape confirmation bias. The judicial interpreter must still read through the concordance lines and her biases may shape how she perceives the words in the data presented to her. However, a few features of the corpus methodology ameliorate this problem. First, a judge may read an excerpt of a statute in a brief and form an instant and subconscious opinion about what that statute means. She may then go looking for supporting evidence in a corpus. It seems possible that after reviewing a few hundred concordance lines, a salient meaning contrary to the judge's initial conclusion becomes harder to ignore.

In addition, the corpus methodology renders confirmation bias less of a threat because corpus queries are more easily repeated, and thus more easily checked by third parties. If a judge or one of the parties asserts that their interpretation of a term is statistically more frequent based on a corpus analysis, the same analysis can be easily repeated by someone contesting that interpretation. While this is also a possibility with survey methodology, the rate by which the time and cost of survey administration would outpace that of the corpus approach would grow exponentially with each attempt at rebuttal.

210. See Quirk, *supra* note 73, at 87.

With regard to practicality and simplicity, there is little question that judges, already familiar with the tools of statutory interpretation, could be trained to use a linguistic corpus. “Access to computers,” observed Lawrence Solan, “now makes it relatively simple to see how words are used . . . in common parlance. This allows judges to easily become their own lexicographers. If they perform that task seriously, they stand to learn more about how words are ordinarily used, than by today’s method of fighting over which dictionary is the most authoritative.”²¹¹ A similar observation was made by Ben Zimmer, who, in covering the use of corpus analysis in *FCC v. AT&T*, noted that “[i]n investigating the uses of the word ‘personal,’ . . . [Chief Justice] Roberts and his fellow Justices could easily have run the same queries that Goldfarb did to discover which nouns most often partner up with the adjective.”²¹² At bottom, the corpus methodology described above is a three-step process that involves:

- (1) *Structuring a query*, taking care not to include outcome-determinative language in the search parameters (i.e., if the question is whether *enterprise* means *business enterprise*, the word *business* cannot be a part of the search);
- (2) *reviewing the concordance lines*, noting how the term is used in each line and paying particular attention to competing meanings of the term asserted by the parties; and
- (3) *reviewing collocation data* in order to better understand the semantic range of the word or phrase in question.

To be sure, the corpus methodology requires time and attention. Like any intellectual exercise, the judge is likely to improve with experience. Search terms must be constructed with care, and concordance lines can be tedious to review. Further, just as in survey design, qualitative judgments form an integral part of the primarily data-driven approach. There are human beings at both ends of the corpus—the architect and the user—and both are subject to the same systematic errors and biases that affect every other member of the species. But a corpus analysis brings these subconscious assumptions about language and meaning out in the open. It forces the judge or the parties to justify their conclusions about ordinary meaning with data, and presents the data to an adverse party who then has something tangible to refute. And the corpus can accomplish this without the involvement of third-party experts or survey respondents—without requiring anyone to leave the comfort of

211. Solan, *supra* note 26, at 2060.

212. See Zimmer, *supra* note 5.

their own office (or chambers). Consequently, a corpus approach seems more practical than survey methods and could easily form an important part in the resolution of lexical ambiguities in legal texts.

IV. CONCLUSION

As noted above, the nation's judiciary is made up of generalist judges "not philosophers or social scientists. Methods of interpretation that would be good for experts are not suitable for generalists."²¹³ But in the realm of statutory interpretation, the characterization of the judge as generalist is not entirely adequate. "By far the greatest part of what . . . federal judges do is to interpret the meaning of federal statutes and federal agency regulations."²¹⁴ If a judge is expected to be a specialist at any endeavor it is the interpretation of statutory language.

Present accounts of ordinary meaning are problematic. The purposivist judge's search for those meanings which are linguistically permissible is a highly malleable effort, and the sources relied upon by the purposivist judge may invite strategic behavior among legislators.²¹⁵ Thus, for the purposivist, empirical evidence regarding the ordinary meaning of statutory terms may be helpful. After all, like her textualist counterpart, the purposivist judge is, in the first instance, concerned with statutory language. For the textualist judge, by contrast, some empirical measure of ordinary meaning is vital. The textualist judge makes entirely different claims about the determinacy of language and the appropriateness of relying primarily on the text to answer difficult questions, to the exclusion of other sources.

Against this backdrop, the corpus methodology presents an attractive alternative both to the judge's sometimes unreliable linguistic intuition and to survey data, which are more expensive and time consuming, and perhaps more vulnerable to context effects than corpus-based approaches. Not every case of legal interpretation presents a neat, binary question of lexical ambiguity and ordinary meaning. In some cases the statutory language may be hopelessly vague. In others, contextual cues, legislative context, or the clear command of precedent will resolve what could have been a hard case. But where a court is faced with the uncertain interpreta-

213. See Easterbrook, *supra* note 24, at 69; Posner, *supra* note 14, at 205 ("No judge of [an appellate] court can be an expert in more than a small fraction of the fields of law that generate the appeals that he must decide, or can devote enough time to an individual case to make himself . . . an expert in the field out of which the case arises.").

214. See Scalia, *supra* note 67, at 13–14.

215. *Id.* at 29–37.

tion of a word or phrase in a statute,²¹⁶ judges may turn to empirical methodologies like corpus linguistics to improve the predictability and consistency of judicial decision making.

216. Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 Colum. L. Rev. 527, 527–28 (1947) (“If only literary perversity or jaundiced partisanship can sponsor a particular rendering of a statute there is no problem. When we talk of statutory construction we have in mind cases in which there is a fair contest between two readings, neither of which comes without respectable title deeds. A problem in statutory construction can seriously bother courts only when there is a contest between probabilities of meaning.”).