

The Law is a Fractal: The Attempt to Anticipate Everything

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INTRODUCTION

“And they say he’s a skillful commander,” rejoined Pierre.

“I don’t understand what is meant by ‘a skillful commander,’” replied Prince André ironically.

“A skillful commander?” replied Pierre. “Why, one who foresees all contingencies . . . and foresees the adversary’s intentions.”

“But that’s impossible,” said Prince André as if it were a matter settled long ago.

– Leo Tolstoy, *War and Peace*, 1869

No man is so wise as to be able to take account of every single case, wherefore he is not able sufficiently to express in words all those things that are suitable for the end he has in view. And even if a lawgiver were able to take all the cases into consideration, he ought not to mention them all in order to avoid confusion.

– Thomas Aquinas, *Summa Theologica*, ca. 1270

Define an inappropriate rule as a rule that, if followed literally, would in at least some cases produce results that can be concluded with reasonable certainty to have been unintended by and unacceptable to even the rule’s author. Even under this definition, it is impossible for a rule writer to write an appropriate and objective rule to cover every situation in advance. Rule writers nonetheless act today as though they were unaware of this long-acknowledged impossibility of perfect

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advance enumeration, and their persistent attempts to achieve it have imposed enormous, under-recognized costs on regulated populations.

I. THE NUMBER LINE

It is impossible, even in principle, to write an appropriate, objective, and specific rule for every imaginable situation. In this way, the law resembles certain mathematical phenomena.¹

For example, take any two points on the number line—say, the points corresponding to the numbers one and two—and ask: How many points lie between them? The answer, of course, is that an infinite number of points lie between one and two on the number line. Indeed, it can be proven that as many points lie between one and two on the number line as exist on the entire number line itself, extending forever in both directions.² The same is true between any other two points—even two points that seem very close together, like 1 and 1.00000000001.³ In other words, there is no such thing as two points that are “next to” each other on the number line.

From a certain vantage, legal rules are analogous. Imagine, for example, that instead of a number line we were considering a collection of unique⁴ factual scenarios and a rule that assigned legal consequences to each of those scenarios. For instance, we might consider a municipal park for which a city had adopted the rule, “no vehicles are allowed in the park.” We could treat “Point 1” on the number line as representing the act of driving a car through the park and “Point 2” as representing refraining from driving a car through the park. The rule would assign

1. Surprisingly, there is a slightly fraught history associated with the invocation of mathematical principles even by analogy in legal scholarship. See David R. Dow, *Gödel and Langdell—A Reply to Brown and Greenberg’s Use of Mathematics in Legal Theory*, 44 HASTINGS L.J. 707, 724 (1993); Jeffrey M. Lipshaw, *The Venn Diagram of Business Lawyering Judgments: Toward a Theory of Practical Metadisciplinarity*, 41 SETON HALL L. REV. 1, 44 n.169 (2011) and sources cited therein. This issue is further addressed in note 116, *infra*. But to forestall objections at the outset, I note here that this Article will not make any sort of general claim that “the law” is a “system” in the way mathematics is an analytic system; instead, it merely observes that certain specific facets of mathematics are conceptually similar to, and therefore potentially *illustrative of*, certain facets of rulemaking.

2. For an accessible proof as well as an entertaining discussion of this and similar phenomena, see DAVID FOSTER WALLACE, *EVERYTHING AND MORE: A COMPACT HISTORY OF INFINITY* 123–24 (2003).

3. Because, of course, you can simply keep adding to the lower number digits that are to the right of the last non-zero decimal position of the higher number, forever. For example, 1.000000000005 is between the two numbers given in the text, as is 1.000000000055.

4. Here, “unique” means “relevantly unique,” which is to say, different from every other fact pattern in at least one respect that could matter to legal consequences.

the label of “illegal” to Point 1 and “legal” to Point 2.⁵

As has been famously pointed out,⁶ these two points and the rule itself are insufficient to cover all the specific factual situations that might arise involving vehicles in a park. At least they are insufficient in any reasonable rule system.⁷ What if, for example, a police vehicle has to enter the park on an emergency call? If we want an appropriate, *specific* rule, we would need another point, between Points 1 and 2, corresponding to the factual scenario, “A police vehicle entering the park.” Point 1.5, let’s call it, to which we would assign, like Point 2, the label “legal.” But what if the driver of the car were a thief who had stolen it from the police? That specific scenario would fall between Points 1 and 1.5, perhaps 1.2, and would be assigned the label

5. Technical terms are “protasis”—the factual predicate for a rule’s application—and “apodasis”—the consequence the rule applies to the protasis. FREDERICK SCHAUER, *PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND IN LIFE* 23 (1993) [hereinafter SCHAUER, *PLAYING BY THE RULES*]. In the context of the number line analogy, points on the line represent protases, and the labels we assign to those points (e.g., “illegal; punished by fine”) represent apodases. Professor Schauer observes that all rules can be transposed into the form: “All X’s must [not]/[may] Ø,” where “X” is the rule’s protasis and “Ø” the apodasis (in this case rendering X as an actor doing or being a certain thing, and Ø as an action, such as “pay a fine”). *Id.* at 44. Extending the mathematical metaphor, a rule could be thought of as a “function” that assigns to each protasis one and only one apodasis.

6. The “no vehicles are allowed in the park” example was first raised by H. L. A. Hart and has since been discussed by a long succession of legal philosophers, including (most prominently) Lon Fuller. See H. L. A. Hart, *Positivism and the Separation of Law and Morals*, 71 HARV. L. REV. 593, 606–15 (1958) [hereinafter Hart, *Positivism*]; Lon L. Fuller, *Positivism and Fidelity to Law—A Reply to Professor Hart*, 71 HARV. L. REV. 630, 663 (1958). For a history of the “no vehicles in the park” example and cites to its many invocations, see Frederick Schauer, *A Critical Guide to Vehicles in the Park*, 83 N.Y.U. L. REV. 1109, 1111 n.10 (2008) [hereinafter Schauer, *A Critical Guide to Vehicles in the Park*].

More recently, the example found its way into Chief Justice Roberts’s high-profile opinion upholding the Obama administration’s health care reform legislation, employed to support the point that the words of a rule, such as the Constitutional grant to Congress of the taxation power, do not necessarily by themselves inexorably provide answers to every specific question. *Nat’l Fed’n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566, 2593 (2012). “Vehicles in the park” also figured in the recent unpleasant exchange between Supreme Court Justice Antonin Scalia and Seventh Circuit Court of Appeals Judge Richard Posner. See Richard A. Posner, *The Incoherence of Antonin Scalia*, THE NEW REPUBLIC, Sept. 13, 2012, at 18 [hereinafter Posner, *The Incoherence of Antonin Scalia*]; Richard A. Posner, *Richard Posner Responds to Antonin Scalia’s Accusation of Lying*, THE NEW REPUBLIC (Sept. 20, 2012), <http://www.tnr.com/blog/plank/107549/richard-posner-responds-antonin-scalias-accusation-lying#>.

7. Of course, saying a rule is “not reasonable” or “not appropriate” begs a number of questions, starting with, “To whom?” For purposes of this Article, an “unreasonable” or “inappropriate” rule can be defined narrowly to mean that following the rule literally would, in at least some cases, produce results that can be concluded with reasonable certainty to have been *unintended by, and unacceptable to, even the rule’s author*. For further discussion, see notes 31 and 37 *infra*.

“illegal.”⁸

And so on. Given the numberless potential variations, foreseeable and unforeseeable, in “vehicles,” motives, and circumstances, there can, provably,⁹ be no end to the possible specific scenarios—and thus no limit on the number of rules that would result from trying to write an appropriate one for each possible, distinct fact situation.¹⁰

The same is true for any rule system. It suffices to consider as a second illustrative example a rule prohibiting the killing of another human being. To trace for a short distance a single one of the many branching, relevantly different categories of conceivable fact patterns: A person might kill another in claimed self-defense, where the killer had been attacked by his victim, who was holding a gun. Or instead the victim might have been threatening the killer with a large knife, or a penknife, or with a viola. If the goal is to have a separate, *perfectly*

8. A possibly more intuitively accurate way to conceptualize combinations of facts would be by plotting them not on a line but rather on a multi-dimensional grid, with a dimension for every possible fact-type. For example, the point just described could be located in three dimensions, with one dimension corresponding to whether the vehicle was inside or outside the park, a second to whether the vehicle was or was not an emergency vehicle, and the third to whether the vehicle had been stolen. But aside from the problem that dimensions greater than three cannot be humanly pictured, it can, in any case, be proven that there exists a one-dimensional number line point corresponding to every point in multi-dimensional space, no matter how great the number of dimensions. WALLACE, *supra* note 2, at 260–63 (describing the original proof by mathematician Georg Cantor). So the number line works just as well theoretically.

9. It is trivial to prove, for any act or behavior of interest, that an infinite number of different possible associated fact patterns exist; just keep adding a new assumed person, place, or circumstance to the starting hypothetical (omitting the literally unforeseeable scenarios involving some idea or object that has yet to be invented or discovered at the time of enumeration but will be in the future). See H. L. A. HART, *THE CONCEPT OF LAW* 125–26 (2d ed. 1994) [hereinafter HART, *THE CONCEPT OF LAW*] (pointing out the degree to which future circumstances cannot be anticipated by the writer of a rule). A rigorous proof that an infinite number of *relevantly* different factual scenarios always exist would be much more difficult, perhaps impossible. I am, however, inclined to believe that whether provable, the assertion is nevertheless true, if only because of the possibility of unanticipated future developments. See SCHAUER, *PLAYING BY THE RULES*, *supra* note 5, at 83 (“Suppose there existed a rule of great specificity, crafted in such a way as to incorporate within the rule every conceivable relevant distinction and qualification. Such a rule would, from the perspective of whatever background justification or justifications informed the creation of the rule and its qualifications, correctly decide every case. . . . It might still turn out that some new and heretofore unexpected event arose, such that now the application of the highly specific rule generated a result inconsistent with the specific rule’s background justification.”).

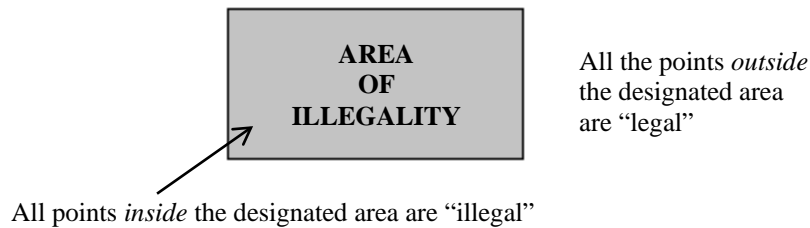
10. Stated differently, there are always an infinite number of different “protases.” See *supra* note 5 (explaining the term “protasis”). For some of the possibilities involving vehicles in the park—which include (among others) a person riding a bicycle in the park, the building of a war memorial in the park that incorporates an actual Jeep, a fire truck passing through the park as part of a municipal parade, and a toy electric car—see Schauer, *A Critical Guide to Vehicles in the Park*, *supra* note 6 and accompanying text.

specific advance rule for every situation, again, that goal is not attainable.¹¹ Writing an exhaustive set of specific and appropriate rules in any context is equivalent to assigning labels to all the points on the number line; that is to say, it is literally an infinite task.¹²

II. THE FRACTAL

The number line, being one-dimensional, is not the perfect metaphor for rules. We more naturally think of rules as defining an “area” of conduct that is legal and a “border” between what is legal and illegal. (Hence the phrase “bright-line rule.”) Thus a two-dimensional analogy better reflects intuition. Employing this metaphor, we say that everything “within the border” of the area of proscribed conduct is illegal, and everything outside is legal.

FIGURE 1



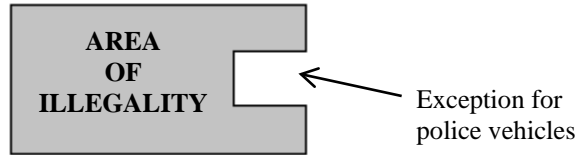
In this model of a rule, the idea of an infinitely large number of relevantly different factual scenarios is represented in a different way: by the area’s border having an infinitely complicated shape.

For example, consider again the rule, “no vehicles in the park.” A simple rule like this could be visualized as denoting an area with a simple shape, like the rectangle above. Then the exception for police vehicles would involve introducing a complication to the border—that is, making legal a small portion of what would otherwise be illegal:

11. For another instructive example, consider the difficulties associated with legally defining the word “sandwich.” Posner, *The Incoherence of Antonin Scalia*, *supra* note 6, at 20.

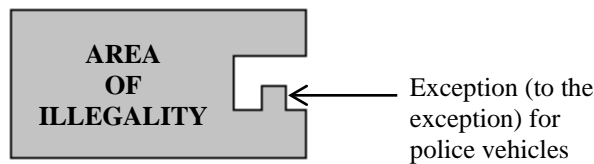
12. Here we must stipulate, in a point to which we shall return, that if a rule is subjective enough it *can* theoretically appropriately cover every situation in a finite way. For example: “A person is guilty of murder if that is appropriate under the circumstances.” But such a subjective rule is, to a greater or lesser degree depending upon one’s philosophy and ideology, disfavored on predictability, rule-of-law, and other grounds, all of which are the subject of extensive discussion in Part IV. This Article is about the attempt to write rules that cover every fact situation but leave no room for subjectivity. This Article concerns rules a rule writer intends to be “formally realizable,” in Duncan Kennedy’s phrase. Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1687–88 (1976).

FIGURE 2



But, as noted above, an exception to *that* exception would be necessary for stolen police vehicles:

FIGURE 3



And so on, with an infinite number of potentially necessary rule refinements and exceptions, ultimately resulting in an *infinitely intricate border* that separates the legal from the illegal.

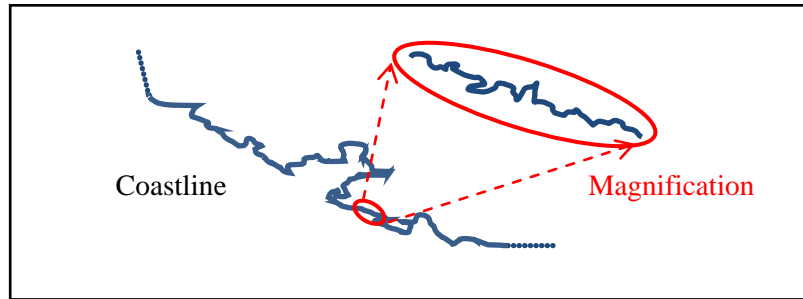
It happens that a corresponding mathematical construct, the “fractal,” has been developed to capture just this idea. This concept was described, and the term invented, relatively recently (in mathematics history terms) by the French-American mathematician Benoit Mandelbrot.¹³ A fractal is a type of shape whose contour is infinitely complicated.¹⁴ The commonly offered natural example (as represented in Figure 4) is that of any terrestrial coastline. The coast of England as seen from Earth’s orbit, for instance, looks generally jagged, unsmooth; although, you can pick out short stretches that appear from that distance to be simple curves or lines. If you zoom in, however, to an altitude of, say, 5000 meters, those previously small and apparently smooth stretches of coast are in fact also revealed to be intricate and jagged, with inlets and rocky outcrops—although, there will, again, be visible

13. See generally BENOIT B. MANDELBROT, *THE FRACTAL GEOMETRY OF NATURE* (1977) (introducing the term “fractal” and explaining how nature’s shapes differ from ordinary geometric shapes due to fractal geometry).

14. *Id.* at 14–15. The fractal idea has previously been analogized to legal issues, but in rather different ways than that outlined here. See David G. Post & Michael B. Eisen, *How Long Is the Coastline of the Law? Thoughts on the Fractal Nature of Legal Systems*, 29 J. LEG. STUD. 545 (2000) (describing the fractal quality of legal citation patterns); Alan L. Durham, *The Fractal Geometry of Invention*, 53 B.C. L. REV. 489 (2012) (contending that the process of invention has a fractal nature).

some seemingly smooth short segments. Successive magnifications produce the same results. A photo taken ten centimeters from the edge of a clod of dirt reveals about the same relative degree and type of jaggedness—of complexity—as a photo of the entire coastline of England taken from space. Eventually you can magnify down to the level of atoms and electrons and quarks without encountering a verifiably “smooth” surface.

FIGURE 4



A fractal shape, then, is “scale-insensitive”—its relative complexity is the same regardless of scale.

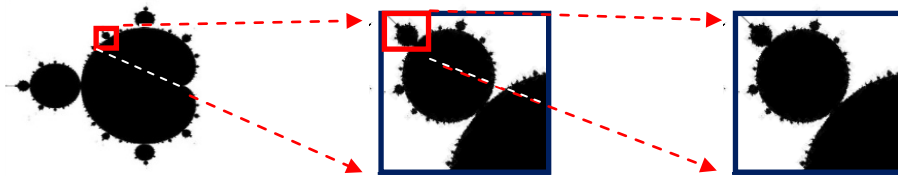
It is possible to write a mathematical formula that, when graphed, also has this same property at literally every scale.¹⁵ From a distance, such a shape looks as though it were merely a complicated curve, but as you close in, no “curve” can ultimately be identified. In fact, the graph of a fractal can never actually be drawn; it can only be approximated. The shape of a fractal cannot—even at infinite magnification—be fully resolved.¹⁶ Figure 5 below shows the first few successive magnifications of a small portion of the border of such a fractal shape.¹⁷

15. MANDELBROT, *supra* note 13, at 180–92.

16. For mesmerizing illustrations and animations of fractals, see *Video*, FRACTAL FOUND., www.fractalfoundation.org/videos/ (last visited Oct. 15, 2012).

17. This diagram represents a graph of the equations known as the “Mandelbrot set.” MANDELBROT, *supra* note 13, at 188.

FIGURE 5



This means that if you have a region bounded by a fractal, you would, up close, look in vain for the region's "border." The border of a region enclosed by a fractal—in the sense of any sort of identifiable line or curve, rather than a collection of an infinite number of tinier and tinier inlets and bays, whose ultimate contours you can never discover—does not actually *exist*. To be sure, most points on the plane are readily identifiable as being either inside such a shape or outside it. But the precise, local edge between "inside" and "outside" is no more locatable than the end of a rainbow.¹⁸

As observers have understood for millennia,¹⁹ with rules there can similarly never be, as a matter of principle, perfect resolution (in this sense of the term "resolution"). No precise, definite border can exist between all the possible specific actions microscopically on this side of that which is appropriately legal and all the possible specific actions microscopically on the other side.²⁰ One can always—forever—find, by adding new facts and circumstances, some new unresolved "gray area" that exists between the regions of fact-space previously resolved by rules. The law is a fractal.

III. A BRIEF HISTORY OF RULE PHILOSOPHY

Given that you cannot write an appropriate specific rule in advance

18. Both the number line and the fractal involve ultimately the same analogy: that of each specific factual situation to a single dimensionless mathematical point. No matter how many individual discrete points one identifies and marks, there will always be infinite empty space left, whether in one or two dimensions. Fractals also exist in three or more dimensions. See MANDELBROT, *supra* note 13, at 142–45, 264–65. The surface of a mountain range has been identified as a fractal shape, for instance. So the legal analogy could just as easily be to a *volume* of space within which conduct is illegal. A simple rule like "no vehicles in the park" could then be visualized as something like a cube.

19. See *infra* notes 21–23 and accompanying text.

20. Another way of stating that the border between legal and illegal is infinitely complicated is to say that any finite, specific, unambiguous, and appropriate rule system must be "incomplete." As Professor Schauer points out, the law uses vagueness to avoid this incompleteness. Frederick Schauer, *Formalism*, 97 YALE L.J. 509, 536 (1988) [hereinafter Schauer, *Formalism*]. See related discussion at note 12, *supra*, and accompanying text.

that will spell out what to do in every conceivable future scenario, a question arises as to how hard you should try. In particular (so to speak), how general or specific should you be? Is it better, in some sense, for a legislature simply to promulgate a vague rule—e.g., “killing another human is illegal, unless the killer has an adequate reason for doing so”—or should the legislature instead try to enumerate the ten thousand or so specific scenarios that seem most likely to arise, and write a rule for each one of them? Or as another alternative, should the legislature try for a few moderately general rules that are as objectively clear as possible—e.g., “killing another human is illegal, unless the victim was within three feet of and pointing a knife at, or within fifty feet of and pointing a loaded gun at, the killer”?

Questions like these are of interest. A centuries-long, multifaceted legal-philosophical debate—arguably *the* legal-philosophical debate—has played out over “rules” and “standards,” and related problems such as whether rules can or should be “determinate” in the sense that they actually can or should constrain decision makers. Writers have considered, among other things, whether it is better, or more just, or more predictable for legislatures to spell out as much as possible in advance, or instead simply to repose discretion in the eventual decision maker (or, indeed, whether the eventual decision maker always effectively does have discretion, whatever the legislature intends or says). This discussion reaches back to ancient Greece and continues today, by way of Oliver Wendell Holmes, Legal Realism, H. L. A. Hart, and Critical Legal Studies.

A summary of what could be called “the philosophy of rule specificity,” insofar as relevant to present purposes,²¹ might begin with the year 350 BCE, when Aristotle expressed his opinion that at least in certain contexts, a general rule can never be appropriate for every specific case: “[A]ll law is universal but about some things it is not possible to make a universal statement which shall be correct.”²²

To what extent the lawmakers of antiquity and the early Middle Ages

21. Obviously the short description that follows of several thousand years of scholarship is grossly oversimplified and incomplete, but perhaps excusably so for an article the principal point of which will be that complete detail is an inadvisable and always unattainable goal.

22. ARISTOTLE, *Nicomachean Ethics*, bk. V, ch. 10, in *THE BASIC WORKS OF ARISTOTLE* 935, 1020 (Richard McKeon ed., 1941). Aristotle’s sentiment was foreshadowed even earlier by his teacher Plato. See PLATO, *STATESMAN* 314–15 (Raymond Klibansky & Elizabeth Anscombe eds., 1961) (“A law can never be precise enough to cover what is perfectly good and right for all and issue the best command to everyone at once. The dissimilarities between the persons and their activities and the all but incessant mutability of human things forbid any art whatsoever to lay down any simple regulation on any matter which shall apply to all cases for all time.”).

were aware of Aristotle's cautionary observation or accounted for it in their rulemaking is difficult to say. We do know that 1500 years later, St. Thomas Aquinas found it necessary to make the statements employed as this Article's second epigraph, to the effect that for a lawgiver to describe all possible cases in advance would be both (1) impossible, and anyway, (2) not a good idea.²³ From there, one begins to find in the historical record references to problems of generality and specificity that become, along with extant published legal philosophy generally, more frequent.

In the late nineteenth century, Oliver Wendell Holmes discussed specificity in the development of the common law. He suggested a general rule or standard would always be available as a default principle when a rule of more specific application could not be found—that is, even if a specific rule were not provided for every situation, that would not mean *some* rule did not apply to every case.²⁴ But Holmes observed that this truth did not seem universally recognized:

There is a story of a Vermont justice of the peace before whom a suit was brought by one farmer against another for breaking a churn. The justice took time to consider, and then said that he had looked through the statutes and could find nothing about churns, and gave judgment for the defendant.²⁵

By 1933, Roscoe Pound had constructed a hierarchy, based more or less on specificity, of types of legal guidelines, ascending from “rules” through “principles,” “conceptions,” and “doctrines,” and ending with the most general category, “standards,” the latter of which he offered the “reasonable prudent man” as an example.²⁶ Other twentieth century writers vigorously took up the discussion of this “rules-standards” spectrum.²⁷

23. THOMAS AQUINAS, *Summa Theologica*, pts. I–II, q. 96, art. 6, reply obj. 3, in *THE POLITICAL IDEAS OF ST. THOMAS AQUINAS* 77 (Dino Bigongiari ed., 1953).

24. Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 474–75 (1897).

25. *Id.* at 474.

26. Roscoe Pound, *Hierarchy of Sources and Forms in Different Systems of Law*, 7 TUL. L. REV. 475, 482–85 (1933). Pound defined rules as “precepts attaching a definite legal consequence to a definite, detailed state of facts.” *Id.* at 482. Pound was not entirely clear about whether his categories were meant to distinguish among rules on the basis of specificity or objectivity, which are two different criteria. See *infra* notes 40–41 and accompanying text. In any case, Pound took the position that precise rules are better for governing business transactions and vague standards for governing “human conduct,” of which he apparently did not consider business transactions to be a subset. See Kennedy, *supra* note 12, at 1702–05 (collecting situations for which, variously, rules or standards have since been argued to be most appropriate).

27. See, e.g., HART, *THE CONCEPT OF LAW*, *supra* note 9, at 127–30; Ronald M. Dworkin, *The Model of Rules*, 35 U. CHI. L. REV. 14, 19 (1967); Cass R. Sunstein, *Problems with Rules*, 83 CAL. L. REV. 955, 964–65 (1995); Daniel J. Gifford, *Communication of Legal Standards, Policy*

In 1958, H. L. A. Hart addressed himself to the problem of “vehicles in the park.”²⁸ That such a simple prohibition could give rise to so many interpretive difficulties led Hart to conjecture that any rule—while it may have a “core of settled meaning”—at its margins would inevitably be characterized by “a *penumbra* of debatable cases.”²⁹ As another term for this “penumbra,” Hart (borrowing from the existing terminology of linguistic philosophy) described the problem of the difficult rule border as the “*open texture* of the law”—as in a law’s having an area of clear cases and a “*fringe* of open texture.”³⁰

Development, and Effective Conduct Regulation, 56 CORNELL L. REV. 409 (1971); Kennedy, *supra* note 12, at 1687–88 and sources cited therein. Despite the apparent views of many academics, it would appear that no meaningful distinction can be drawn between rules and standards or any categories in between. It is only possible to distinguish among relative degrees of precision or imprecision. To call one thing a “rule” and another a “standard” is merely to make a comparison, an assertion that the first is more specific than the second. The philosopher Ludwig Wittgenstein observed that in the end the word “inexact” is just a reproach, and ‘exact’ is praise.” LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS, ¶ 88, at 42 (G. E. M. Anscombe trans., 2d ed. 1953). Ronald Dworkin is an exemplar of a contrasting approach. He seems to think of a “principle” as an entirely different type of thing than a “rule.” Dworkin, *supra*, at 22–23. But what Dworkin distinguishes as principles could just as easily be described as *default* rules, implicitly preceded by the phrase: “If no more specific rule applies, then . . .” See RICHARD POSNER, THE PROBLEMS OF JURISPRUDENCE 239 (1990) [hereinafter POSNER, THE PROBLEMS OF JURISPRUDENCE] (criticizing Dworkin’s “arbitrary” distinctions). To be sure, it is nearly always unclear which principle has precedence in a given case or how much weight a particular principle is to be given relative to others, but those are merely instances of rule ambiguity, not of a thing’s failure to *be* a rule. Meanwhile, Posner also struggles objectively to distinguish rules from standards. He and his coauthor Isaac Ehrlich have defined a “standard,” somewhat incoherently, as both a criterion (e.g., “efficiency”) and as a vague rule. Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257, 258 (1974). Casting something as a criterion likewise does not distinguish it from a rule. In this context, a criterion can always be restated as a rule of the form: “[T]ake the approach that maximizes [the criterion].” That a standard or a criterion is not phrased explicitly as a rule (e.g., “the prudent man” or “economic efficiency”) does not alter its essential equivalence to a rule, since, as used, both standards and criteria can always be transposed into the usual form of rules by supplying words that are implicit. All in all, then, there seems to be just one category—“rules”—of which some are more or less general or subjective than others.

28. As discussed at note 6, *supra*.

29. Hart, *Positivism*, *supra* note 6, at 607–08 (emphasis added). “Penumbra” later achieved some fame or infamy in the line of Supreme Court privacy right cases. See, e.g., *Roe v. Wade*, 410 U.S. 113, 129 (1973); *Griswold v. Connecticut*, 381 U.S. 479, 483 (1965). Also similar is Professor Schauer’s characterization of the language of a rule as a “frame,” inside and outside of which are easy cases, but the very edge of which language may not fully delineate. Frederick Schauer, *Easy Cases*, 58 S. CAL. L. REV. 399, 430–35 (1985) [hereinafter Schauer, *Easy Cases*].

30. “Whichever device, precedent or legislation, is chosen for the communication of standards of behavior, these, however smoothly they work over the great mass of ordinary cases, will, at some point where their application is in question, prove indeterminate; they will have what has been termed an *open texture*.” HART, THE CONCEPT OF LAW, *supra* note 9, at 124 (emphasis added). See also *id.* at 130. The term “open texture” was originally used by the philosopher Friedrich Waismann. Friedrich Waismann, *Verifiability*, 19 PROC. ARISTOTELIAN SOC’Y 119,

“Penumbra,” “open texture,” and “fringe” are all physical, shape-based rule analogies that, among other things, accurately describe the borders of a fractal.³¹

More recently, Frederick Schauer restated the problem in terms of “easy cases” and “hard cases.”³² Hard cases for this purpose involve an objective, clear rule—e.g., “no vehicles allowed in the park”—applied to a specific factual situation where that rule gives an unacceptable answer, such as a police car responding to an emergency.³³ Schauer

121 (Supp. 1945). Professor Schauer takes care to point out that despite common misperceptions, “open texture” does not refer to vagueness but rather to the inability to anticipate. SCHAUER, *PLAYING BY THE RULES*, *supra* note 5, at 35–37. Schauer unpersuasively divides the open texture problem into three supposedly different types of “recalcitrant experience”: the first, in which a simple, clear rule is known to be right for most cases but can be predicted to be wrong for a few; a second, in which unanticipated developments arise to render the rule incorrect; and a third, in which some circumstance not initially supposed to have been *relevant* turns out to be relevant. *Id.* at 37–39. But the third of these is a subset of the second, and the first two could simply be summarized as foreseeable and unforeseeable open texture.

31. See also the “fuzzy edges” described by Dworkin, *supra* note 27, at 18. At this point, a distinction must be emphasized between an *existing rule*, on the one hand, and a *concept to which a rule writer seeks to give expression*, on the other. Precisely speaking, it is the latter that this Article contends always has “open texture” and a fractal quality. Hart did not carefully distinguish between these two things, and Professor Schauer has persuasively argued that Hart was wrong to suggest that existing rules themselves have open texture—or at least that they have any open texture beyond that inherent in the language itself with which the rules are written. Frederick Schauer, *On the Open Texture of Law*, 86 *GRAZIER PHILOSOPHISCHE STUDIEN* (forthcoming 2013) [hereinafter Schauer, *Open Texture*], available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1926855. See also Brian Bix, *H. L. A. Hart and the “Open Texture” of Language*, 10 *LAW AND PHIL.* 51, 68–70 (1991) (noting the lack of distinction in Hart’s work between the meaning of words and the meaning intended by the words’ speaker). The limited definition of “appropriate” adopted above at note 7, *supra*, follows from this Article’s focus on the rule writer’s perspective. A strict definition of a “hard case,” *infra* note 33, can similarly follow: A factual scenario for which the result of applying an objective rule as written would be an outcome known with reasonable certainty to have been unintended by and unacceptable to even the rule’s author.

32. See generally Schauer, *Easy Cases*, *supra* note 29 (delineating “easy cases” and “hard cases” within the context of constitutional theory). See also Frederick Schauer, *The Generality of Law*, 107 *W. VA. L. REV.* 217, 224–26 (2004) [hereinafter Schauer, *The Generality of Law*] (noting the disproportionate focus of legal scholarship on those relatively few cases whose difficulty ultimately requires resort to a judicial opinion). The point was previously made by Hart. HART, *THE CONCEPT OF LAW*, *supra* note 9, at 124–30. The existence of easy cases permits Schauer to show that rules have at least some determinacy—that Realists and others cannot be right in suggesting that words can have *no* constraining effect on judges. See also John A. Miller, *Indeterminacy, Complexity & Fairness*, 68 *WASH. L. REV.* 1, 28–34 (1993) (discussing the implications of “easy tax cases” for the determinacy of tax law).

33. Another favorite example is the grandson who the letter of the law clearly says should inherit from the grandparent he has killed. Schauer, *The Generality of Law*, *supra* note 32, at 226–27; Posner, *The Incoherence of Antonin Scalia*, *supra* note 6, at 23; Dworkin, *supra* note 27, at 23–24. For a recent example of a hard case in the employee benefits law area, where even one of the country’s leading “textualists” felt compelled to ignore the bright-line rule, see generally Julie A. Roin, *The Limits of Textualism: Cooper v. IBM Personal Pension Plan*, 77 *U. CHI. L.*

observed that the overwhelming majority of cases that actually arise in the world are, to the contrary, easy cases—e.g., civilian cars driving inside the park for no good reason, or, much more numerous still, all cars driving outside the park—and therefore that much of the philosophical reaction to the existence of hard cases is overwrought.³⁴

But it nevertheless remains true there will always be some hard cases. Attempts to eliminate in advance all hard cases are frustrated, every time, by the problem of the fractal border.³⁵ The only difficulty-free alternative is the unavailable one identified by Plato of entrusting all power to a perfectly enlightened despot to decide each case as it arises.³⁶ The phenomenon with which all these writers have ultimately struggled is that two things are simultaneously true: (1) it is always possible, and even likely, to have mostly easy cases on both sides of a rule's border; and yet (2) it is always impossible to locate that border, in

REV. 1195 (2010) (describing the decision of Seventh Circuit Court of Appeal Judge Frank Easterbrook to ignore clear statutory text in favor of a more reasonable result). The existence of such hard cases, in which an existing rule encounters factual scenarios where the rule cannot reasonably be followed, led Aquinas to his observations about the impossibility of exhaustive rulemaking. AQUINAS, *supra* note 23, at 76–77. Dworkin describes the problem of the hard case as the inability to “enumerate all the situations where the principle trumps the rule.” Dworkin, *supra* note 27, at 26. Schauer takes the position that there are in fact not one but four types of “hard cases”: (1) where the rule is too vague, incoherent, or opaque; (2) where the result of a clear rule conflicts with the rule's purpose; (3) where two inconsistent rules apply; and (4) where a clear rule gives a result that is “hard to swallow.” Schauer, *Easy Cases*, *supra* note 29, at 414–16. But type number 3 is a special case of type number 1, and number 4 is a restatement or enlargement of number 2. Meanwhile, type number 1, the unclear rule, is only hard in the sense that it makes things difficult for the judge, who will do his or her best, and the most that can be said is that other judges or observers might disagree with the result. Really there is only one type of “hard case”—Schauer's type number 2—in the intractable sense that the judge is faced with the strict choice between following a clear, authoritative rule to produce an unacceptable result or embarking on a course over whose legitimacy philosophers agonize.

34. Schauer, *Easy Cases*, *supra* note 29, at 420–23. Schauer also criticizes Realists' reasoning from “weird cases” to conclude that words cannot constrain judges. *Id.* Weird cases are particularly unlikely combinations of facts that create the unforeseen need for exceptions or for exceptions-to-exceptions. An example might be the stolen police car in the park. Stated another way, weird cases are the ones that turn up when we magnify a rule's fractal border.

35. “Hard cases make bad law,” as the legal maxim has it, because those are the cases at the fractal edge—they call for creating a new wrinkle in a previously smooth section of border. Further wrinkles will ultimately have to be made within that new wrinkle. A simple rule like “no vehicles in the park” gives rise to many hard cases just because it is simple and therefore lacking, from the outset, in obviously necessary exceptions. As one writer has put it, “rules that are simple because they are arbitrary will not withstand . . . pressure for fairness. The simple rule will give way to the complex as soon as the unfairnesses inherent in the simple rule are discerned and the pressure is exerted.” Stanley S. Surrey, *Complexity and the Internal Revenue Code: The Problem of the Management of Tax Detail*, 34 L. & CONTEMP. PROBS. 673, 700 (1969).

36. Acknowledging that such an ideal “scientific statesman” could never be, Plato sought to understand and describe other forms of government, such as popular democracy, as “counterfeits” for this hypothetical ruler. PLATO, *supra* note 22, at 314–29.

advance, in a sufficiently precise way to avoid all potential hard cases—because the number of the latter is infinite.³⁷

IV. GENERALITY AND AMBIGUITY

Duncan Kennedy, among others, points out two different things that should be—but often, in the literature, do not seem to be—recognized as distinct. As discussed above, one identifiable continuum of rule styles runs from “generality” to “specificity.” But there also exists a different continuum, running from “subjectivity” to “objectivity.” Kennedy’s term for this second continuum is the degree to which a rule is “formally realizable.”³⁸ For example, a highly formally realizable rule is: “Driving faster than 55 mph is always illegal; and driving less rapidly than 55 mph is always legal.” A highly *non*-formally realizable (or subjective) rule would be: “Driving in a safe manner is always legal, and driving in an unsafe manner is always illegal.”³⁹

The general-specific dimension is different from the objective-subjective dimension. A rule’s generality refers to the range of situations to which the rule applies, which is not the same as the rule’s objectivity.⁴⁰ A rule of very general application can be either objective

37. This Article has nothing to say about the perhaps principal preoccupation of those writing about hard cases, which is what a judge should do when confronted with one. Writers have adopted one of two general points of view: that the judge should follow the rule; or that the judge should not follow the rule, by “making new law” or applying some overriding principle. Hart and many others fall into the latter camp (but on grounds that vary widely). Professor Schauer is generally in the former camp, arguing that the tendency of a clear, so-called “arbitrary” rule to collect unlike situations and treat them similarly is the very characteristic that *makes* a rule a rule, and that we have compelling reasons to apply a principle that respects rules, *qua* rules. Schauer, *Open Texture*, *supra* note 31, manuscript at 24; SCHAUER, *PLAYING BY THE RULES*, *supra* note 5, at 18. Under this view, the rule writer might be attributed the foreknowledge that unanticipated cases would arise, as well as the intent that the rule nonetheless be followed in all such cases, for the simple reason that rules should be respected. It would then be difficult to say that *any* literal application of the rule would really be “unacceptable” to the rule writer, and thus that there could even be such a thing as a hard case. This Article does not address that question. “Unacceptable” here is meant in the limited sense that if the rule writer had been faced, *ex ante*, before writing the rule, with the question of whether she could accept a rule that produced the given result in *this* particular scenario, the answer would have been “no” (and therefore she would, if the issue had been brought to her attention, have written into the rule an exception for this fact pattern). This Article simply contends that hard cases under this definition are always impossible for any rule writer to avoid.

38. Kennedy, *supra* note 12, at 1687–88. Another term that has been employed for this idea is “symbolic fixity.” Gifford, *supra* note 28, at 417 (citing Paul J. Mishkin, *ON LAW IN COURTS* 84 (1965)).

39. One way to voice the criticism of Ronald Dworkin’s identification of a “principle” as something distinct from a “rule,” *see* Dworkin, *supra* note 28, is to observe that a principle is simply a rule that happens to be both general and non-formally realizable.

40. Some writers define specificity differently. Ehrlich and Posner, for example, define a law

or subjective—e.g., the two driving regulations contrasted just above—as can a very specific rule—e.g., “Between 9:00 p.m. and 5:00 a.m., when snow is on the ground, do not drive more than 35 mph,” versus “Between 9:00 p.m. and 5:00 a.m., when snow is on the ground, drive extra carefully.”⁴¹

Much of the historical scholarship is concerned with the objective-subjective axis, and involves the idea that if rules are not objectively realizable, then decisions will effectively be delegated to the judge or other decision maker and will therefore inevitably be affected or even determined by that particular decision maker’s value system and prejudices.⁴² Discussions of formal realizability raise issues like whom we want making a particular decision—the legislature or a judge⁴³—and questions such as Kennedy’s battle between the values of “communitarianism” and “individualism.” Kennedy associates delegation of authority to a judge, by means of a standard, with the value of community. Conversely, Kennedy associates specificity with the value of individualism. He therefore takes the view that the choice between rules and standards is not so much a question of efficacious

as being more “precise” (the opposite of general), when fewer and simpler facts attach to definite legal consequences, which seems an odd definition. Ehrlich & Posner, *supra* note 27, at 261.

41. See Kennedy, *supra* note 12, at 1689 (noting that generality is different from formal realizability). Not all the commentators—e.g., Judge Posner—do a good job keeping these two dimensions separate. See POSNER, *THE PROBLEMS OF JURISPRUDENCE*, *supra* note 27, at 48. Generality and subjectivity, while distinct dimensions, are not entirely orthogonal, as Kennedy also understood. At the “generality end” the two merge: It is not possible to imagine a reasonable, perfectly general rule that is not also at least partly subjective, along the lines of, “[W]here the rule system is otherwise silent, the governing rule is ‘Do not be evil.’” See Kennedy, *supra* note 12, at 1700 (explaining the practical impossibility of “maintaining a highly formal regime” with the application of rules).

42. This is the principal burden of the Realists’ argument.

43. With a specific rule, the idea is that it is the legislature that will have decided the case, *ex ante*; with a standard, it is the judge, *ex post*. Louis Kaplow, *Rules versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 559–62 (1992). In fact, the distinction between a “rule” and a “standard” has been *defined* by reference to whether the decision as to a particular case is to be made before or after the fact. *Id.* at 559. Schauer calls this “decisional jurisdiction.” See Schauer, *Formalism*, *supra* note 20, at 539 (explaining that the value of rules, as opposed to standards, is “disabling certain classes of decisionmakers from making certain kinds of decisions”). In certain contexts, like criminal law, this *ex ante* versus *ex post* distinction has constitutional due process implications. Kaplow, *supra*, at 608. See also Robert C. Post, *Reconceptualizing Vagueness: Legal Rules and Social Orders*, 82 CAL. L. REV. 491, 491–98 (1994) (discussing the Supreme Court’s application of the “void for vagueness” doctrine). In general, if the stakes involved with violating a rule are higher—as is true in criminal law and sometimes in tax law—the argument for precision is stronger, because it allows for advance decision making to avoid violating the rule. Surrey, *supra* note 35, at 682, 698. See also Ehrlich & Posner, *supra* note 27, at 261 (describing the factors that weigh for and against the application of rules or standards).

rule drafting as one of morality.⁴⁴

The present discussion differs from most of the legal philosophical thread by focusing on the general-specific dimension rather than the objective-subjective dimension. For example, as noted in Part III, a question that has occupied writers is whether rules ever actually constrain decision makers. At its philosophical extension, this inquiry is a special case of the question of whether language itself can ever have fixed meaning.⁴⁵ For present purposes, I simply assume that there can exist such a thing as an objective rule that can constrain decision makers. I make this assumption mostly because if there is not such a thing, then my contention is already proved: having an exhaustive set of perfectly specific rules is in that case already obviously pointless, with no further need for discussion about the *feasibility* or *merits* of specificity. Specificity is meaningful only if determinateness is possible.⁴⁶

Aside from that, in the real world just about everyone believes in the possibility of objectivity. Outside the walls of law schools, no one for practical purposes takes seriously or even knows about the Realist thesis that all rules are or might be indeterminate. Legislators, judges, lawyers, and the public alike assume it is at least possible to write words that can have constraining effect.⁴⁷ My limited point, then, is that even if we grant for argument's sake the accuracy of this perception under which the world labors—that law *can at least sometimes be determinate*—it remains provable that law *cannot always be determinate*, or at least cannot always be both determinate and appropriate.

One writer who did think about the specific-general continuum was Bayless Manning, most famous for having coined the term “hyperlexis.”

44. Kennedy, *supra* note 12, at 1712–13. As described below in note 62 *infra* and accompanying text, Justice Scalia associates very different values with the identical distinction.

45. For more on the issue of indefiniteness in language, see Gifford, *supra* note 27, at 423–24; Schauer, *Easy Cases*, *supra* note 29, at 416–20; Miller, *supra* note 32, at 34; Jeremy Waldron, *Vagueness in Law and Language: Some Philosophical Issues*, 82 CAL. L. REV. 509 (1994); Schauer, *Open Texture*, *supra* note 31. For a summary of the long philosophical debate about rules' determinacy, see Miller, *supra* note 32, at 2, 76 n.346.

46. Professor Miller makes the similar point that the “vast proliferation of rules in the law of federal taxation rests upon the belief that elaborate rules can render tax law both fair and certain. The unspoken assumptions are that rules determine outcomes in a mechanical fashion and that fairness can be provided by such a process.” Miller, *supra* note 32, at 3. Miller offers a penetrating and lengthy analysis of the determinacy issue in the context of tax law, ultimately concluding that tax law is “generally determinate.” *Id.* at 28, 62.

47. For example, for a “tax professional, the thought that tax law I pervasively indeterminate may seem as utterly alien point of view.” *Id.* at 29.

By that word Manning meant “the pathological condition caused by an overactive lawmaking gland”—the explosion in the sheer volume of American law.⁴⁸ Though hyperlexis is itself relevant to the present discussion, another less famous idea that Manning introduced later—the “Conservation of Ambiguity”—is much more so.⁴⁹

In his earlier “*Hyperlexis*” article, Manning wrote:

A significant part of the hyperlexis problem arises from the effort to deal with problems with too great particularity. Contrary to surface impression, detailed specificity in a legal provision does not reduce disputes; particularization merely changes the vocabulary of the dispute. The most detailed statutes, like the Internal Revenue Code, are the ones that proliferate most rapidly and generate both the greatest need for administration and the most disputes.⁵⁰

Returning to the same point in a later article, Manning proposed a “Law of Conservation of Ambiguity”:

Elaboration in drafting does not result in reduced ambiguity. Each elaboration introduced to meet one problem of interpretation imports with it new problems of interpretation. Replacing one bundle of legal words with another bundle of legal words does not extinguish debate, it only shifts the terms in which the debate is conducted. In physics, we are all familiar with the Law of Conservation of Energy; in law, there is an analogous Law of Conservation of Ambiguity.

. . . .
 . . . [The] Law of Conservation of Ambiguity tells us that the draftsman can control and select *what* will be left ambiguous, but he cannot banish or control the aggregate *amount* of ambiguity.⁵¹

48. Bayless Manning, *Hyperlexis: Our National Disease*, 71 NW. U. L. REV. 767, 767 (1977) [hereinafter Manning, *Our National Disease*].

49. Bayless Manning, *Hyperlexis and the Law of Conservation of Ambiguity: Thoughts on Section 385*, 36 TAX LAW. 9, 11 (1982) [hereinafter Manning, *Conservation of Ambiguity*]. This article was occasioned by the U.S. Treasury Department’s release in 1982 of “110 single-spaced pages” of regulations defining the difference between corporate “debt” and corporate “equity.” *Id.* at 9. The *Conservation of Ambiguity* paper is infrequently cited; it has had nothing near the impact of Manning’s original *Hyperlexis* article.

50. Manning, *Our National Disease*, *supra* note 48, at 773. John Miller recognized the same idea. See *infra* note 67 and accompanying text. To similar effect, see also James W. Colliton, *Standards, Rules, and the Decline of the Courts in the Law of Taxation*, 99 DICK. L. REV. 265, 312 (1995).

51. Manning, *Conservation of Ambiguity*, *supra* note 49, at 11. By way of illustration, Manning compared the two extremes of rule style:

Consider the United States Constitution. The Constitution is open-ended, generalized and telescopic in character. What has it spawned? Pervasive ambiguity and unending litigation.

Contrast the extreme counter-model of law, the Internal Revenue Code and its festooned vines of regulations. The Code and regulations are particularized, elaborated

Even more than “open texture,” the idea of “conservation of ambiguity” at a rule’s margins captures perfectly the idea of a fractal.⁵²

Of course the arguments in favor of precision are many, including that precise rules prevent disputes,⁵³ enable people to plan,⁵⁴ provide stability,⁵⁵ and satisfy a deep human need for certainty and closure.⁵⁶ Perhaps the weightiest justification, however, is that, as noted above, precise rules leave the decision regarding covered cases with the rulemaker—the legislature—and avoid having to shift rulemaking

and microscopic in character. What have they spawned? Pervasive ambiguity and unending litigation.

Id. at 12.

52. As imagery, Manning happened to choose one of the examples Benoit Mandelbrot had already identified as a naturally occurring fractal:

Depending upon the lens and distance chosen by the photographer, a camera aimed in the same direction can focus on a forest, or a tree, or a branch, or a leaf, or the cells in the leaf. Though each snapshot, in a sense, depicts the same thing, each snapshot is different. Each successive magnification clarifies some feature of the object photographed. But each magnification also reveals new interior complexities that had not been visible before. And in all the photos, the lines of definition will be blurred; the lines in the microscopic shot will be as ambiguous at the margin as those in the telescopic shot.

Id. at 11. See MANDELBROT, *supra* note 13, at 156–65 (identifying the borders of trees as examples of fractal shapes).

53. See Schauer, *Easy Cases*, *supra* note 29, at 404 (“[P]recise language forestalls litigation with respect even to matters of great moment, while relatively vague language encourages litigation, even as to matters that are completely trivial.”).

54. See Holmes, *supra* note 24, at 457 (“The object of our study, then, is prediction.”); Miller, *supra* note 32, at 21–22 (explaining that the tax planner is less vulnerable to a “substance over form” argument by the government where the Internal Revenue Code is precise). The predictability of outcomes permitted by precision has been promoted on economic and efficiency grounds. See Ehrlich & Posner, *supra* note 27, at 264–67 (explaining the benefits of precise legal rules in terms of their subsequent effects on behavior in the legal system). All these contentions, as well as Schauer’s, miss—or at least fail to address—Manning’s point illustrated above. See *supra* note 52. The presumed attractiveness of infinite precision may have been stated most extravagantly by law and economics theorists Isaac Ehrlich and Judge Richard Posner: “A perfectly detailed and comprehensive set of rules brings society nearer to its desired allocation of resources by discouraging socially undesirable activities and encouraging socially desirable ones.” Ehrlich & Posner, *supra* note 27, at 262 (emphasis added).

55. See Kennedy, *supra* note 12, at 1688 (“Two great social virtues of rules: restraint of official arbitrariness and certainty.”). Schauer, *Formalism*, *supra* note 20, at 542 (“Thus, stability, not as a necessary condition for predictability but as a value in its own right, is fostered by truncating the decisionmaking authority.”).

56. This need was characterized by Jerome Frank, a prominent Legal Realist, as “childish.” See generally JEROME FRANK, *LAW AND THE MODERN MIND*, ch. 17 (1936). This is perhaps an unfairly harsh assessment. As Holmes (the only contemporary juristic example Frank could find of an “adult”) had noted, much really is at stake in predicting the application of a legal rule. *Id.* at 168. See also Manning, *Conservation of Ambiguity*, *supra* note 49, at 10 (“Every expert, in every field of endeavor, when confronted by a problem, is seized by an urge to elaborate.”).

discretion to the judge.⁵⁷ They thus promote the “rule of law.”⁵⁸ Justice Scalia holds up—as the *reductio ad absurdum* of the contrary, disfavored “delegation” approach—the example of King Louis IX of France, who reputedly decided all legal disputes by gathering his courtiers around him under the shade of an oak tree and personally choosing the particular outcomes he deemed most just.⁵⁹

At the same time, vagueness can have practical benefits. As many have pointed out, a vague rule denies people the benefit of a clear line up to which they could otherwise toe.⁶⁰ As one tax administrator put it,

57. See Colliton, *supra* note 50, at 308–09 (1995) (summarizing the role of detailed tax law in retaining power with the legislature rather than courts); Surrey, *supra* note 35, at 698 (“[T]he answers provided by the detailed statute are legislative answers, and to many this is a factor of great importance.”).

58. See 3 ROSCOE POUND, JURISPRUDENCE 679 (1959) [hereinafter POUND, JURISPRUDENCE]. As Pound put it:

[T]he subject of codification is intimately connected with the idea of a written law. It is a form of the demand for a complete, intelligible, authoritative statement of the precepts governing individual relations and individual conduct. It is a phase of the demand that every man shall be assured of knowing what he may do and what he may not do. It is related to the idea behind our Bills of Rights. It is a part of the quest of a government of laws and not of men; it is part of the claim that men be assured that the magistrate shall regulate their conduct and adjust their relations according to pre-established law and not in accordance with his more or less arbitrary will. It has to do with an important aspect of the social interest in the general security in that it is one means of excluding the personal element in the administration of justice and thus of insuring uniformity, equality, and certainty. Indeed, the idea of a written law is urged not only to assure these things, but in order to make the lay public believe that they are assured. For if it is important that justice be done, it is no less important that people feel justice has been done. The stability of the legal ordering of society depends quite as much upon the latter as upon the former.

Id. See also Ehrlich & Posner, *supra* note 27, at 259, 267 (observing that rules are better than standards, because rules are better at controlling officials).

59. Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1175–76 (1989). This is Plato’s “ideal despot,” but not ideal. A famous statement about the extreme “standards” end of the rules-standards spectrum is Justice Cardozo’s concerning the requirement that a business expense be “ordinary” in order to be tax-deductible: “The standard set up by the statute is not a rule of law; it is rather a way of life. Life in all its fullness must supply the answer to the riddle.” *Welch v. Helvering*, 290 U.S. 111, 115 (1933).

60. See, e.g., Robert D. Cooter, *Introduction to Void for Vagueness Symposium*, 82 CAL. L. REV. 487, 489 (1994) (“A precise rule typically induces people to conform exactly to the legal standard in order to avoid liability. Conversely, uncertainty may cause people to overcomply with the presumptive standard in order to allow for a margin of error in its application.”); Ross F. Cranston, *Reform through Legislation: The Dimension of Legislative Technique*, 73 NW. U. L. REV. 873, 884 (1979) (“If those to whom legislation is directed are uncertain as to whether an agency will invoke sanctions against a particular activity they may prefer to avoid the risk and desist from the activity.”); James S. Eustice, *Tax Complexity and the Tax Practitioner*, 45 TAX L. REV. 7, 23 (1989) (“There may well be some virtue in vagueness particularly in the tax avoidance area, so as to restrain overzealous taxpayers, because if they know exactly where the lines are, they soon will be teetering on the very edge of those lines with depressing frequency.”); Gifford,

detailed rules “suffocate the many taxpayers who try to do what’s right, while providing a road map for the few with larceny in their hearts.”⁶¹

The tendency toward overelaboration discussed in this Article is driven by people, like Justice Scalia, who do not prefer a subjective rule because it is unpredictable and therefore sure to be applied unequally.⁶² However, an objective rule that is also general, such as “no vehicles in the park,” will simply be wrong for many situations. “Do not drive more than 55 mph” is certainly not the correct rule for some stretches of road under some conditions—either too restrictive or too lenient.⁶³ So we may prefer not just to say “do not drive over 55 mph,” because that is often the wrong (suboptimal and arbitrary, and therefore arguably “unfair”) rule;⁶⁴ but we also do not want merely to say “drive safely,” because that approach leaves too much power in the hands of the judge and is, as a result, unpredictable and likely to be unevenly applied.⁶⁵ Writing many specific, objective rules tailored for different situations is a tempting means of addressing both problems at once; those who favor such an approach want it all—certainty and no “hard” cases.⁶⁶ The

supra note 27, at 435–37; Gillian K. Hadfield, *Weighing the Value of Vagueness: An Economic Perspective on Precision in the Law*, 82 CAL. L. REV. 541, 546–53 (1994); Kennedy, *supra* note 12, at 1695–96. Legislative drafters may also be deliberately vague in order to obtain the necessary majority vote—but that is a different issue. Here, we are assuming the rule writer *can* realize the optimal rule form, and are asking what that optimal rule form *is*. See Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65, 75 (1983).

61. I.R.S. Commissioner Fred T. Goldberg, Jr., Memorandum to All Employees of the Chief Counsel, All Employees of the Office of Tax Counsel, All Employees of the Office of Tax Policy, and All Assistants to the Commissioner (May 1, 1992). This point is further pursued *infra* notes 102–04.

62. Scalia, *supra* note 59, at 1179. Scalia is less in favor of the “discretion-conferring approach,” and more in favor of uniformity and precision, for reasons that are essentially the mirror-opposite of those Duncan Kennedy lists for coming out the other way. See *supra* notes 43–44 and accompanying text. Scalia purports to argue that even a bad, objectively realizable rule is better than leaving everything to the judge’s discretion (“purports” because Scalia’s fidelity to this principle has been questioned). See Posner, *The Incoherence of Antonin Scalia*, *supra* note 6, at 22–23. But Scalia is mostly concerned with court-made, not legislature-made, law, and thus more concerned with the objectively realizable-non-objectively realizable spectrum than the general-specific spectrum. Scalia, *supra* note 59, at 1179–80.

63. A comparable example is the age at which a person is deemed to have attained legal competence. Kennedy, *supra* note 12, at 1689.

64. Precision leads to arbitrariness and hence to hard cases. See Miller, *supra* note 32, at 44–46. See also *id.* at 55, 56 (explaining how arbitrariness varies inversely with generality and fairness and certainty can be antithetical concepts).

65. For a rulemaker to provide only a nondeterministic, subjective “standard,” like “reasonable man,” is to acknowledge the fractal’s existence but to leave it to judges to locate the fractal’s edge, as it were, on an as-needed basis.

66. See Miller, *supra* note 32, at 9 (“Those who opt for what I call the elaboration approach toward tax rulemaking apparently believe they have discovered a safe passage between the devil of arbitrariness and the deep blue sea of indeterminacy.”); *id.* at 46 (“[T]he elaboration approach

point of this Article is that *that* approach has its own problems including, ultimately, futility, which commentators and especially rule writers have not sufficiently recognized. The rule writer cannot have it all.⁶⁷

After two-and-a-half thousand years of discussion about the relative merits of rules and standards, a few things seem clear. One is that the approach you prefer is in large degree a function of which values you prioritize. Another is that certain relevant observations seem to have been made but then mostly ignored; or if not ignored, at least insufficiently emphasized.⁶⁸ The first of these observations is that, as to the “rules” end of the rules-standards spectrum, there is no such end.⁶⁹ Provably, you can never have a specific rule for every situation. (And if you did, the result would not deserve to be called a set of “rules”—by

seeks to escape indeterminacy and unfairness through greater and greater specificity in the black letter law.”).

67. *See id.* at 5 (“[T]he simultaneous effort to achieve both fairness and certainty through great elaboration of the rules of taxation is inherently contradictory and yields a never ending spiral of complexity.”). Professor Schauer blames the excesses of Realists and others on the mistaken presumption, to which they overreacted, that certainty is possible. Schauer, *Easy Cases*, *supra* note 29, at 423. But Schauer also argues, interestingly, and in absolute contrast to Jerome Frank, that the popular *myth* of linguistic certainty—like the myth of Santa Claus—has a potentially beneficial effect. Belief in the myth constrains; it serves as the “conscience on the judicial shoulder.” *Id.* at 439–40. *But see* Frank, *supra* note 56. For roughly the same argument as Schauer’s articulated a century earlier, see POUND, *JURISPRUDENCE*, *supra* note 58, at 673–79, 732–38.

68. A long list of writers have discussed the idea of infinite precision as though that might actually be one of the options available to a rule writer. *See, e.g.*, Cooter, *supra* note 60, at 489 (“Finding the ideal legal standard *can require more information than is available to the legislature*,” rather than “*will always be impossible for the legislature*.” (emphasis added)); Diver, *supra* note 60, at 73 (noting that foreseeing every possibility “may be” (rather than “*will be*”) impossible); Kaplow, *supra* note 43, at 559, 590, 563 (explaining that a rule that would apply to every possible category would be “*wasteful*,” rather than the more accurate “*impossible*”) (emphasis added); Sunstein, *supra* note 27, at 957 (“[O]ften [not *always*] rulemakers cannot foresee the circumstances to which their rules will be applied.” (emphasis added)). Stanley Surrey, who in addition to being a commentator was also one of the culpable rule writers, thought one solution to tax code complexity was just to transfer authority for detailed rulemaking to the U.S. Treasury Department—to let the bureaucracy be as precise as necessary. Surrey, *supra* note 35, at 703. But the Treasury is as capable as Congress of drowning readers in detail and as incapable of foreseeing all potentially relevant scenarios. On the other hand, for writers (in addition to Plato, Aristotle, Aquinas, and Hart) who have recognized the impossibility of complete precision, see Miller, *supra* note 32, at 53–54 (“To fairly address [everything] . . . seems both hopeless and perhaps even ridiculous.”); Waldron, *supra* note 45, at 522–26.

69. Neither the objective-subjective nor the detailed-general axis has an identifiable terminus at the objective or detailed end of the respective scale. *See* discussion *supra* notes 39–46 and accompanying text. One can imagine a definite bound on the other end—the subjective, general, “standards” side: “That which is just is legal; and that which is not just is illegal.” But the opposite, detailed-objective ends of both spectra are infinite, which is what causes hard cases and ultimately what led to the rules-cynicism of Realists and others.

definition, a rule, as opposed to a decision, must apply to more than a single case.)⁷⁰

Meanwhile, lawmakers continue to write rules without much evidence of having considered any of the above.⁷¹ Much of current American statutory and regulatory law is characterized by what has been called the “elaboration” approach⁷²—trying to enumerate as many foreseeable factual occurrences as possible and write a specific rule for each. Along the way, the rule writers have begun unintentionally to illustrate the costs (legal, economic, and political) of trying to do the impossible. Thus, the second insufficiently recognized point is that if you try too hard—if the rule writer is too detailed—the rules will become, literally, too lengthy to read. Their mere *existence* will tend to impose untenable burdens upon the regulated population.

V. COMPLEXITY AND ITS COSTS

In 1913, the original U.S. Internal Revenue Code comprised approximately 12,000 words (materially shorter than the present Article) and was printed on twenty-seven, six-by-nine-inch pages.⁷³ By 1942, its length had reached 79,000 words.⁷⁴ Now the Internal Revenue Code runs to more than 3.4 million words⁷⁵—four times the length of the King James Bible—and 5000 pages.⁷⁶ It now contains at least one sentence whose length alone exceeds 2800 words.⁷⁷ Indeed, an entire

70. SCHAUER, PLAYING BY THE RULES, *supra* note 5, at 18. See Schauer, *The Generality of Law*, *supra* note 32, at 229 (“[I]t is a defining feature of rules that they collect numerous relevantly different events and treat them the same way.”).

71. Ehrlich and Posner have proposed, not very persuasively in the author’s experience, that the expected economic implications of vagueness and specificity do explain how rules have been written in the real world. Ehrlich & Posner, *supra* note 27, at 272–75.

72. See Miller, *supra* note 32, at 9.

73. See *When It Comes to Tax Law, It’s Complicated*, CCH INC., <http://www.cch.com/wbot2012/020TaxCode.asp> (last visited Oct. 15, 2012) (providing calculations). To determine the upper word count bound, the author loaded the text of the Revenue Act of 1913 into a computer word processing program and ran the program’s word-count utility.

74. Calculated in the same manner as the 1913 Act, described *supra* note 73.

75. See John Walker, *U.S. Tax Code On-Line*, <http://www.fourmilab.ch/uscode/26usc/> (last visited Oct. 15, 2012).

76. CCH, a leading tax publisher, maintains a web site with these statistics and other information about the explosive growth in tax law volume. See *When It Comes to Tax Law*, *supra* note 73. These figures of course do not count other forms of guidance, beginning with regulations, which according to Professor Miller themselves now occupy approximately 10,000 pages. Miller, *supra* note 32, at 8.

77. 26 U.S.C. § 4975(d) (2006). This provision was identified by quick manual review of the employee benefits-related tax provisions. The Code surely contains even longer sentences. Until its repeal, section 341(e) famously featured a sentence with over 400 words *before the reader reached the sentence’s verb*. See 26 U.S.C. § 341(e) (repealed 2003); Boris Bittker, *Tax Reform*

genre of legal scholarship has sprung up just around the complexity of the federal income tax code.⁷⁸

Still, not even tax law seems to have quite the same reputation for complexity as that which the author's own specialty, employee benefits law, has acquired during the relatively brief period of its existence.⁷⁹ In the words of one tax authority, benefits law is "[e]ven more unknowable

and Tax Simplification, 29 U. MIAMI L. REV. 1, 1 (1974); Jerry Boyle, *Debris: What Lawyers Can Learn from Poets*, POETRY FOUND. (2011), <http://www.poetryfoundation.org/poetry/magazine/article/242688>). For comparison, the entire Gettysburg Address comprised 272 words. President Abraham Lincoln, Address at the Dedication of the National Cemetery at Gettysburg, Pennsylvania (Nov. 19, 1863), available at <http://www.presidency.ucsb.edu/ws/index.php?pid=73959&st>.

78. See Miller, *supra* note 32, at 5–9 (taking as a “point of departure” that tax law is characterized by “extremely burdensome complexity”); *id.* at 8 n.28 (providing a summary of scholarship on tax simplicity). As Jimmy Carter remarked, “[O]ur income tax system . . . is a disgrace to the human race.” U.S. President Jimmy Carter, Address Accepting the Presidential Nomination at the Democratic National Convention in New York City: Our Nation’s Past and Future (July 15, 1976), available at <http://www.presidency.ucsb.edu/ws/index.php?pid=25953>. This all goes at least as far back as the somewhat overused quote from Judge Learned Hand (that I will nonetheless use again here):

[T]he words of such an act as the Income Tax, for example, merely dance before my eyes in a meaningless procession: cross-reference to cross-reference, exception upon exception—couched in abstract terms that offer no handle to seize hold of—leave in my mind only a confused sense of some vitally important, but successfully concealed, purport, which it is my duty to extract, but which is within my power, if at all, only after the most inordinate expenditure of time. I know that these monsters are the result of fabulous industry and ingenuity, plugging up this hole and casting out that net, against all possible evasion; yet at times I cannot help recalling a saying of William James about certain passages of Hegel: that they were no doubt written with a passion of rationality; but that one cannot help wondering whether to the reader they have any significance save that the words are strung together with syntactical correctness.

Learned Hand, *Thomas Walter Swan*, 57 YALE L.J. 167, 169 (1947). As James Eustice observed in 1989, Judge Hand wrote the foregoing passage about the 1939 Internal Revenue Code, which was “almost childlike in its simplicity” compared to that in effect in 1989. Eustice, *supra* note 60, at 7. Now we are able to say that the Code of 1989 was an adolescent compared to that of 2012. Stanley Surrey aptly restated Hand’s description of the problem for a reader: “The consequences of this detailed drafting style are thus very often *precision of detail but obscurity of over-all policy and intent*. We see the trees and not the forest—indeed we often see trees, bushes, shrubs, and even tall grass and must work hard to distinguish among them.” Surrey, *supra* note 35, at 699 (emphasis added).

79. It seems worthwhile here to acknowledge expressly that “employee benefits law” has emerged during the last two generations as an identifiable American legal subspecialty. Specialists in this field first appeared in law firms and can now also be found among the legal academy, a trend that accelerated with the passage of the Employee Retirement Income Security Act of 1974, or “ERISA.” As with tax law, the complaint about pension law being too complex is old. Seventy years ago, a commentator wrote that the federal pension laws included “provisions so complicated that they are difficult to read.” David A. Pratt, *Pension Simplification*, 35 J. MARSHALL L. REV. 565, 565 (2002) (quoting John W. Drye, Jr., *Pension and Other Deferred Compensation Plans under Section 162 of the Revenue Act of 1942*, 2 N.Y.U. INST. FED. TAX’N 48, 50 (1943)).

than anything that has come before.”⁸⁰ Adjectives like “confusing,” “incoherent,” and “incomprehensible” characterize descriptions of this field.⁸¹ Regulators, law students, practicing lawyers—even judges—routinely express outrage about the complexity of American employee benefits law. A relatively young sitting U.S. Supreme Court Justice recently retired from the bench, seeming to cite the chore of deciding employee benefits cases as one of his reasons for departing.⁸²

But why is this? What, exactly, is the matter with employee benefits law? The most commonly offered answer is that the field is “complex.”⁸³ It is not, though, that the subject is complex in the sense of being difficult to understand, in the way that quantum mechanics is considered to be complex.⁸⁴ Rather, employee benefits law is complex in the way a network of pipes is complex; or a maze; or the organizational chart of the Internal Revenue Service; or the circuitry on a computer chip. These things are complex in the sense the word is used in the phrase “a complex web.” To contemplate a large oil refinery is to be overwhelmed by the number of the pipes and their endless and obscure interconnections. It can be hard to fathom that each part of the network—every one of the thousands of individual joints, valves, and loops—can have been deliberately fitted into place according to a coherent scheme, or that anyone could now hope to trace or predict the

80. Eustice, *supra* note 60, at 9.

81. Russell Korobkin, *The Failed Jurisprudence of Managed Care, and How to Fix It: Reinterpreting ERISA Preemption*, 51 UCLA L. REV. 457, 460–61 (2003) (“confusing”); Brendan S. Maher, *The Benefits of Opt-In Federalism*, 52 B.C. L. REV. 1733, 1756 n.120 (2011) (“incoherent”); Billee Elliott McAuliffe, *The Changing World of HMO Liability under ERISA*, 22 J. LEG. MED. 77, 79 (2001) (“incomprehensible”).

82. See Jess Bravin & Greg Hitt, *Justice Souter to Retire from Court*, WALL ST. J., May 1, 2009, <http://online.wsj.com/article/SB124114676548376235.html> (“Justice Souter has complained about life in Washington and even about aspects of the court’s work, such as the numbingly technical cases involving applications of pension or benefits law.”). I am indebted to Professor Brendan Maher for bringing this item to my attention. It is clear that an area of law is problematic if the prospect of having to think about it once or twice a year (the Court generally decides no more than two employee benefits cases per term) is too high a price to pay to serve on the U.S. Supreme Court.

83. See, e.g., Frederick Schauer, *Opinions as Rules*, 62 U. CHI. L. REV. 1455, 1469 (1995); McAuliffe, *supra* note 81, at 79; Stephen E. Ehlers & David R. Wise, *So What’s ERISA All About? A Concise Guide for Labor and Employment Attorneys*, 77 N.Y. ST. B.A. J. 22, 22 (2005); Paul M. Secunda, *Cultural Cognition Insights into Judicial Decisionmaking in Employee Benefits Cases: Lessons From Conkright v. Frommert*, 3 AM. U. L. & EMP’T L. FORUM (forthcoming 2013) (manuscript at 3), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2139205&download=yes.

84. It is true that some math is involved in practicing both employee benefits and tax law. But the level of difficulty seldom rises to that of middle school algebra. Computational difficulty is simply not a significant part of the explanation for either field’s reputation for complexity.

flow of fluid from one distant place to another. The complexity of a refinery is, ultimately, a function of the sheer numbers of pipes and their connections with each other.⁸⁵ This complexity is an emergent “group property” of a number of elements, each one itself simple, in the same way a black-and-white image is an emergent group property of some quantity and arrangement of black or white dots and not the property of any one dot.

It would appear this description applies also to tax law and employee benefits law.⁸⁶ The complexity of these subjects has, in the end, to do with the number of rules and ways they relate to each other—e.g., the cross-references, the defined terms. Maze-like complexity—“elaborative complexity,”⁸⁷ it has been called, to distinguish it from other types of complexity—might be defined as “inaccessibility due to volume.” Such complexity is borne, at least in part, of the attempt to be specific about every possible fact situation.⁸⁸

85. The cumulative quantification of elements corresponds to mathematical definitions of “complexity” that have been proposed for “networks” (such as pipes or circuits). See Danail Bonchev & Gregory A. Buck, *Quantitative Measures of Network Complexity*, in COMPLEXITY IN CHEMISTRY, BIOLOGY, AND ECOLOGY 191 (Paul G. Mezey et al. eds., 2005); D. Minoli, *Combinatorial Graph Complexity*, in *ATTI. ACAD. NAZ. LINCEI REND.* 59, 651–61 (1976). Like many seemingly fundamental ideas, legal “complexity” has no universally accepted meaning. It has been defined by some commentators to include the idea of “judgmental complexity,” which is the inability to predict how courts will rule on a question. Miller, *supra* note 32, at 12–13. See also Bittker, *supra* note 77, at 2; Surrey, *supra* note 35, at 693. This meaning does not fit particularly well, in the author’s opinion, with the ordinary usage of the term “complexity.” Another writer defines the complexity of a rule with reference to the cost of accessing it, which seems to come closer to the intuitive meaning, albeit indirectly. See *infra* note 100.

86. See Colliton, *supra* note 50, at 283 (“[C]ongress simply tried to clear up troublesome little problems. The solutions Congress enacted were invariably rational. These statutory solutions are only troublesome when viewed as part of the current massive and intricate Internal Revenue Code.”).

87. The term is Professor Miller’s. Miller, *supra* note 32, at 12. The idea might also be called “reticulation complexity,” which is to say “net-like complexity,” as suggested by the Supreme Court’s much-cited characterization of ERISA as “a comprehensive and reticulated statute.” *Nachman Corp. v. PBGC*, 446 U.S. 359, 361 (1980).

88. Other causes can also be identified. For example, the necessity of legislative compromise may lead to complexity. Surrey, *supra* note 35, at 690. Mark Schwimmer, a former senior Internal Revenue Service Chief Counsel official who was involved in the drafting of many U.S. Treasury regulations, observes that arguably over-complex rules also sometimes result from the urge to prevent someone from receiving an unjust windfall. Schwimmer points out that these rules often cost everyone else more in the aggregate than the amount of the windfall prevented. Although this latter cost is often overlooked, the urge is so powerful and the politics so appealing that Schwimmer suspects many would support such rules even if they understood the cost. Telephone Interview with Mark Schwimmer, Former Senior IRS Chief Counsel Official (Nov. 30, 2012). Space does not, regrettably, permit further exploration of this idea here, other than to suggest that Internal Revenue Code section 409A is one arguable example, at least in part, of the phenomenon Schwimmer has identified. Andrew W. Stumpff, *Deferred Compensation and the*

For instance, the following passage can be found among the regulations promulgated by the U.S. Department of Treasury, interpreting the rules that apply to “qualified” retirement plans under section 401(a) of the Internal Revenue Code (it is one among a very large number of provisions that could have been chosen to illustrate the point): “Q: When does an employee attain age 70 ½? A: An employee attains age 70 ½ as of the date six calendar months after the 70th anniversary of the employee’s birth.”⁸⁹

It was not actually insane for the Treasury Department to include this pronouncement among its formal published regulations. The rule writer was trying to leave nothing to chance, since the idea of “½” as an age is susceptible to more than one possible meaning. For example, “age 70 ½” could conceivably be interpreted to mean 70 years plus 182 ½ days.⁹⁰ But a regulation like this does invite the reader to consider a couple of issues. First, if we really mean to construct a complete rule system in which every instance that rises to this level of potential ambiguity is to be specifically identified and eradicated in advance, think of the number of rules that would be required. Second, observe that even this regulation does not eliminate all potential debate about when exactly a particular person may be said to have reached age 70 ½. What if the employee travels, for example, across the International Date Line? Does she attain the requisite age on the appropriate date as measured in the place of her birth, or that of her new location?⁹¹

The human yearning for advance certainty seems to have been felt even more keenly than elsewhere in fields like tax and employee benefits law.⁹² All lawyers’ desire for advance precision is understandable, given the nature of their work. As Justice Holmes observed:

The reason why [law] is a profession, why people will pay lawyers to argue for them or to advise them, is that in societies like ours the command of the public force is intrusted to the judges in certain cases,

Tax Policy Limitations of the Nuclear Option, 117 TAX NOTES 611 (2007).

89. Treas. Reg. § 1.401(a)(9)-2, Q&A-3, 26 C.F.R. § 1.401(a)(9)-2 (2012). The rule is part of a set of regulations interpreting the Code’s requirement that distributions from a qualified plan must commence no later than an employee’s attainment of age 70 ½. See also Michael Doran, *Time to Start Over on Deferred Compensation*, 28 VA. TAX REV. 223, 227–33 (2008) (providing an extended exegesis of comparable regulatory examples).

90. Except, of course, for leap years, when it would have to mean 70 years plus 183 days.

91. Professor Schauer is surely right that the ability to keep coming up with “weird cases” like this does not qualify as proof of the blanket claim that language is indeterminate. See *supra* note 34 and accompanying text. But it seems to qualify as proof that no appropriate and objective rule could ever eliminate all possible weird cases.

92. Surrey, *supra* note 35, at 697.

and the whole power of the state will be put forth, if necessary, to carry out their judgments and decrees. People want to know under what circumstances and how far they will run the risk of coming against what is so much stronger than themselves, and hence it becomes a business to find out when this danger is to be feared. The object of our study, then, is prediction, the prediction of the incidence of the public force through the instrumentality of the courts.⁹³

This point is the more compelling one in a field like income tax law, where no particular moral or social stigma attaches to paying no more than the smallest amount the law requires,⁹⁴ and where the economic quantities at stake can mean clients are anxious to go just exactly as far as they are able without triggering a penalty.

But despite a lawyer's hopes, the rule writer cannot provide every answer in advance. That a regulation may fail to address all the questions practitioners might have is neither a flaw in the regulation, nor a mistake by the regulation writer. It is a feature of reality—part of the fabric of the universe.

And what may not be obvious—because, again, the problem is emergent: each newly added rule may well itself be simple, so that the rule writer may not even be aware of the group property of complexity he or she is helping to make worse—is the full cost of *trying* to satisfy this unsatisfiable need for certainty.⁹⁵ In attempting to be exhaustive, the rule writer creates complexity, the cost of which at some point

93. Holmes, *supra* note 24, at 457. The emphasis on prediction is, as Holmes asserted, what differentiates law from ethics or morality.

94. Quite the opposite, actually. As Governor Mitt Romney, the 2012 Republican presidential nominee said, "I pay all the taxes that are legally required and not a dollar more. I don't think you want someone as the candidate for president who pays more taxes than he owes." Lori Montgomery et al., *Mitt Romney's Tax Returns Shed Some Light on His Investment Wealth*, WASH. POST, Jan. 24, 2012, http://www.washingtonpost.com/politics/mitt-romney-releases-tax-returns/2012/01/23/gIQAj5bUMQ_story.html. When it comes to taxes, more or less everyone involved can be taken to be Holmes' "bad man":

If you want to know the law and nothing else, you must look at it as a bad man, who cares only for the material consequences which such knowledge enables him to predict, not as a good one, who finds his reasons for conduct, whether inside the law or outside of it, in the vaguer sanctions of conscience.

Holmes, *supra* note 24, at 459.

95. See Manning, *Conservation of Ambiguity*, *supra* note 49, at 14 ("We do not adequately weigh the social cost of ungoverned proliferation of the law."); Colliton, *supra* note 50, at 283. This is an instance of the "tragedy of the commons," where the commons could be thought of as representing the abstract societal value of accessible laws; and a single sheep grazing on the commons as a person's obtaining an advance answer to a specific question through promulgation of a detailed rule. See generally Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968). As Professor Bittker observed, "[S]implicity is like a lighthouse: everyone can attest to its value, but no one will pay the price voluntarily." Bittker, *supra* note 77, at 11.

outweighs the benefits of precision.⁹⁶ It has been estimated, for example, that the annual economic cost of “tax compliance” in the U.S. is \$431 billion, and that “the tax compliance industry” employs more people than Wal-Mart, UPS, McDonald’s, IBM, and Citigroup combined.⁹⁷

The degree to which these costs have been ignored or misjudged by legal writers, such as law and economics scholars purporting to calculate the optimal level of rule precision, is striking. The usual operating assumption seems to have been that because uncertainty is costly, the existence of a rule for every situation will always reduce transaction costs.⁹⁸ Surely the most extreme manifestation of this assumption is the assertion, by two of the most celebrated law and economics scholars, that so long as the cost of rulemaking is assumed to be zero, the economically optimum number of rules is *infinite*.⁹⁹ That

96. It is probably worth making clear at this point that in arguing against unrestrained detail, I do not mean to argue for unrestrained generality. A tax code consisting only of the single provision, “Everyone must pay a fair amount,” would not be a good idea. But there is no evidence that rule writers are in fact adopting that approach, perhaps because its disadvantages are more immediately obvious than the disadvantages associated with excessive precision; and so the objective here is just to point out those latter. For any given situation, the appropriate level of generality must surely represent some happy medium between over-generality and over-precision. See Cranston, *supra* note 60, at 878 (“A point of diminishing returns can be reached, where to increase control in legal terms is counterproductive because of the consequential increase in complexity.”). I merely observe that that happy medium will not be located by a rule writer who is in exclusive pursuit of precision. See also *infra* note 115.

97. See Arthur B. Laffer, *The 30-Cent Tax Premium*, WALL ST. J., Apr. 18, 2011, <http://online.wsj.com/article/SB10001424052748704116404576262761032853554.html> (estimating that reducing the cost of tax compliance by half would raise gross domestic product in the United States by half a percentage point). Isolating the part of this cost that is due to “elaborative complexity” would be difficult or impossible. Although specific numbers might be speculative, however, the massive order of magnitude of the problem is not, as might be confirmed just by contemplating the time spent on one’s own tax return—or, for lawyers, in researching a particular client’s question—and multiplying that time and associated expense by at least several hundred million.

98. One writer even speculates that vague standards rather than rules are more in the economic interests of lawyers, because vague rules deprive potential clients of any easy alternative means of gaining advance knowledge of likely outcomes. Kaplow, *supra* note 43, at 620. The tax and employee benefits experience would suggest the opposite is true, at least beyond a certain level of detail. Quite a few tax and employee benefit lawyers have demonstrated that a very nice living can be wrung from acquiring sellable expertise about an impenetrable thicket of precise rules. See Surrey, *supra* note 35, at 699.

99. Ehrlich & Posner, *supra* note 27, at 265. To similar effect is Surrey: “[I]t appears that the larger the amount of sensible detail that is accumulated and properly organized, the more effective the system will be in view of its ability to provide definite answers with rapidity.” Surrey, *supra* note 35, at 702. For other examples of writers who have disregarded or failed to see the potential cost of perfect precision, see Gifford, *supra* note 27, at 415 (“It is easy to concede the practical inability of a legislator to foresee all of the situations to which a given law might be applicable; it is not so easy to discern, if a legislator were able to foresee all of those

this assertion is a fallacy is reasonably immediately clear. If the number of rules were infinite, then so would be the cost in any specific case of accessing the applicable one.¹⁰⁰

Beyond accessibility, a cost of the “elaborative” approach is a lessened deterrent effect, as anticipated by many writers and described in Part IV.¹⁰¹ Both tax and employee benefits law offer ample illustration of how precision can be a bad thing, from the standpoint of influencing conduct, by reducing deterrence value.¹⁰² For example, the U.S. Treasury’s replacement of the previous brief (but vague) requirement that tax-qualified retirement plans “not discriminate in favor of highly compensated employees” with over one hundred pages of detailed nondiscrimination regulations¹⁰³ answered a number of specific questions that had formerly been left to judges. At the same time, however, the regulations made clear that employers are free to design plans that specifically do so discriminate, up to a precisely drawn point that no one had imagined permissible under the old, ambiguous rule.¹⁰⁴

Aggressive employers and taxpayers arguably do not deserve the certainty of knowing the precise location of a rule’s borders. If the broad ranges of permissible and impermissible behaviors are apparent, it may be a good thing that the exact border between them is not visible. In any case, once a new level of detail has been provided by the government—a higher level of magnification of the fractal border resolved, as it were—practitioners and taxpayers immediately set to

situations, why he should not spell them out in his law.”); Cranston, *supra* note 60, at 884 (“[T]he more precise the legislation, generally the more effective it is likely to be.”).

100. The cost of indexing the rules would be infinite; the cost of searching them would be infinite. Stating those two things differently, the cost would be infinitely great of ever ruling out the possibility in any given situation that there existed some more directly applicable rule, or one with higher precedence, than any rule already found. (This tends in fact to be the time-consuming step when trying to answer a question under an enormous, though finite, law like the Internal Revenue Code.) Complexity has in other hands been indeed *defined* by reference to accessibility costs. Professor Eustice, for example, proposed as a definition of a “simple” law, one that is “knowable by the [regulators] and [regulated], at a reasonable cost.” Eustice, *supra* note 60, at 10.

101. See *supra* notes 60–61 and accompanying text.

102. Surrey, *supra* note 35, at 700.

103. 55 Fed. Reg. 19897 (1990). For background, see generally Bruce Wolk, *Nondiscrimination in Contributions and Benefits: The New Regulations*, 25 GA. L. REV. 71 (1990).

104. See Peter R. Orszag & Norman P. Stein, *Cross-Tested Defined Contribution Plans: A Response to Professor Zelinsky*, 49 BUFF. L. REV. 629 (2001). See also Colliton, *supra* note 50, at 288 (providing a comparable example of rule elaboration’s having enabled more aggressive taxpayer behavior).

work exploiting the new ambiguities brought to the foreground. Thus develops a vicious cycle, whereby detailed rules enable “planning devices” that lead to the need for even more detailed rules, etc.¹⁰⁵

The *coup de grâce* may be the potential cost of the elaborative rule style for substantive policy choices. Not only does excessive detail lead to an explosion in accessibility costs; not only does it encourage aggressive planning: the style also likely helps render certain policy decisions unpopular that might not otherwise be so. This effect occurs because, although rule style is not inherently political or ideological, it often, in contemporary life, appears to be confused or associated with policy or ideology. In particular, excessively lengthy rules are frequently associated with government intrusion and employed as an argument against regulation itself.¹⁰⁶ But this association need not follow. Strict regulation is not ineluctably the same as detailed regulation; strong management is not the same as micromanagement. The principle of rule accessibility is universal.¹⁰⁷

Considering all the costs, what is finally remarkable is the outright, utter futility of over-precision. The length of the tax code has mushroomed and the number and volume of regulations specifically interpreting it have exploded; but *specificity has not reduced the*

105. Colliton, *supra* note 50, at 288. See Bittker, *supra* note 77, at 11 (“Much [statutory complexity] results from the tax expert’s analytic skill in sniffing out the potential abuses and potential inequities that can be generated by general rules, coupled with a utopian passion for eradicating both flaws. These talents are possessed in equal measure by lawyers in the Treasury, on [the congressional staff], in the practicing bar and in the academic world [H]owever divergent their motives and objectives, their common passion is a rule for every conceivable set of circumstances.”). Bittker readily acknowledged that he himself had been a part of this problem. *Id.*

106. For one example, consider the “Contract from America,” the informal platform of the current conservative “Tea Party” movement of the Republican Party, which was “signed” by a number of candidates for political office in 2012. *The Contract from America*, CONTRACT FROM AMERICA, <http://www.thecontract.org/the-contract-from-america/> (last visited Dec. 26, 2012). The Contract contains two different agenda items relating to tax. The first is Item 4, “Enact Fundamental Tax Reform,” which calls upon Congress to “[a]dopt a simple and fair single-rate tax system by scrapping the internal revenue code and replacing it with one that is no longer than 4,543 words—the length of the original Constitution.” *Id.* The second is Item 10, “Stop the Tax Hikes,” which calls for “[p]ermanently repeal[ing] all tax hikes, including those to the income, capital gains, and death taxes, currently scheduled to begin in 2011.” *Id.* Item 10 is ideological, but Item 4 should not be so considered. One could easily be in favor of a massive “death tax hike” and at the same time prefer that tax hike to be codified in an accessible way, which would suggest using the fewest number of words possible. (No judgment is here expressed as to whether the proposed 4543 original-Constitution-word-limit metric makes any sense.)

107. It has also been argued that statutory complexity plays a role in causing or enabling judges to decide cases based on their own “cultural motivation.” See Secunda, *supra* note 83, at 23. If this is right, the judicial “cultural illiberalism” described by Professor Secunda can be counted as yet a further societal cost of elaborative complexity.

*number of tax disputes.*¹⁰⁸ The search for certainty, like the search for the edge of a rainbow or for the border of a fractal, can, provably, never end. The objective will continually recede. Ambiguity is conserved.¹⁰⁹

CONCLUSION

Even more so than other modern legal fields, American tax and employee benefits laws seem to have been written by people who were under the impression both that they could, and that they should, write a rule for every possible fact situation, and this has given rise to seriously unfortunate consequences. If theory did not do so already, the very existence of those two fields disproves, at least beyond a certain point, an assertion such as: “Having many precise rules ‘reduce[s] the cost of organizing and communicating information for use in resolving legal disputes.’”¹¹⁰

Tax and employee benefits law, and by extension all the other heavily detailed, prescriptive rules that characterize much of the modern regulatory state,¹¹¹ tend instead to validate H. L. A. Hart’s view:

[W]e should not cherish, even as an ideal, the conception of a rule so detailed that the question whether it applied or not to a particular case was always settled in advance, and never involved, at the point of actual application, a fresh choice between open alternatives. Put

108. See Colliton, *supra* note 50, at 288 (noting that “the specificity of the statute did not reduce the number of cases before the courts”); Manning, *Conservation of Ambiguity*, *supra* note 49, at 11 (“Elaboration in drafting does not result in reduced ambiguity.”). See also Gordon D. Henderson, *Controlling Hyperlexis—The Most Important “Law and . . .”*, 43 TAX LAW. 177, 187–90 (1989) (describing the many issues the highly elaborative section 382 regulations nonetheless left unanswered).

109. The present Article could be regarded as nothing more than a restatement of Manning’s “Conservation of Ambiguity” thesis—see generally Manning, *Conservation of Ambiguity*, *supra* note 49—the additional objectives hereof being merely to: (1) phrase Manning’s position in slightly different terms with the help of possibly pertinent mathematical analogies, (2) situate the issue in its larger jurisprudential context, and (3) marvel that Manning’s observations have been so completely ignored by rule writers and their audiences.

110. Ehrlich & Posner, *supra* note 27, at 266. These writers acknowledge only the costs of writing and changing detailed rules. *Id.* at 267, 278. To be sure, writing thousands of pages of Code and regulations is costly, and that cost is yet another reason to avoid such detail, but such promulgation costs are surely dwarfed by the costs, to millions of taxpayers and their advisors, of accessing the resulting provisions.

111. Many have suggested that the overall tendency of all modern law is toward the elaborative style that now characterizes the U.S. tax code. See, e.g., Colliton, *supra* note 50, at 329; Cranston, *supra* note 60, at 885–86. Professor Schauer has observed that even national constitutions seem to be getting longer. Frederick Schauer, *The Failure of the Common Law*, 36 ARIZ. ST. L.J. 765, 766–67 (2004). Schauer calls this movement toward elaboration “precisification,” *id.* at 768; Holmes, a “process of specification”—i.e., a “tendency of law to become more and more concrete.” OLIVER WENDELL HOLMES, *THE COMMON LAW* 112–13 (1881).

shortly, the reason is that the necessity for such choice is thrust upon us because we are men, not gods [W]e labour under two connected handicaps whenever we seek to regulate, unambiguously and in advance, some sphere of conduct The first handicap is our relative ignorance of fact; the second is our relative indeterminacy of aim. If the world in which we live were characterized only by a finite number of features, and these together with all the modes in which they could combine were known to us, then provision could be made in advance for every possibility Plainly this world is not our world; human legislators can have no such knowledge of all the possible combinations of circumstances which the future may bring.¹¹²

One of the architects of the modern tax regime, Stanley Surrey, was pessimistic about the prospects for improvement:

The inescapable conclusion from [a] survey of the causes of our present tax complexity is that a very large amount of complexity is inevitable, and that the degree of the complexity will probably increase rather than decrease. The solution thus does not lie in any “simplification” of the tax law. Nor does it lie in a nostalgic search for the “simpler” Internal Revenue Code that is simpler solely because it avoids many of the structural problems that require an answer. The challenge of the future in the tax field is not the attainment of such simplification. Rather, the challenge lies in finding the most efficient way for the *management* of tax complexity.¹¹³

In one sense, there is reason to be even more pessimistic than Surrey.¹¹⁴ The problem he described is not, as he assumed, specific to the U.S. income tax system, but rather is an inherent potential issue with any rule system. On the other hand, notwithstanding Surrey, it does not necessarily have to be an inevitably crippling problem even in the tax context, but instead could, at least in theory, be ameliorated by, among other things, paying attention to rule style.¹¹⁵ Surrey was surely

112. HART, THE CONCEPT OF LAW, *supra* note 9, at 125.

113. Surrey, *supra* note 35, at 708–09 (emphasis added).

114. Upon Surrey, it must be said, has been pinned some of the blame for the elaborative complexity of contemporary American tax law. Miller, *supra* note 32, at 6 n.21. Surrey identified a number of reasons for thinking of tax law as uniquely susceptible of complexity—including its system of annual computation, progressive rates, multiple categories of taxable “character,” and legislative use of the tax code to promote social ends—some, though not all, of which he regarded as unavoidable. Surrey, *supra* note 35, at 673–76. To similar effect, see Bittker, *supra* note 77, at 2–3; Miller, *supra* note 32, at 7–8 n.25.

115. An analysis of rule styles that strike a better balance between specificity and accessibility, in particular focusing on the device of employing “safe harbors,” will be the subject of a future article. The safe harbor (or “unsafe harbor”) construction combines a general, vague principle with a few more precise rules intended to specify the outcome of those situations expected to arise most frequently. Though not a magic bullet, it generally seems to produce a

entirely justified in his pessimism, however, so long as everyone accepts, as he seemed to, that the proper goal in writing rules is to account in advance for every single case.

A difference between law and mathematics or the physical sciences is that we will never be able to create definite, determinate formulas, like Newton's laws of motion, for writing or interpreting legal rules.¹¹⁶ Rules govern, are the product of, and are interpreted by a process involving unremittingly variable and unpredictable human behavior. But it does seem worthwhile for rule writers to *attempt* to take accessibility into account, with due regard for what is known and has long been known about what does and does not "work."¹¹⁷

And style consequences can have policy consequences. At least some political and public antipathy to excessive "government regulation" may really be founded in complaints about micromanagement and simple accessibility. If that is so, we might promote progressive objectives by being more mindful of rule style. It would be unfortunate—perhaps even tragic—for substantive societal objectives to be abandoned in consequence of a quest for certainty that can, demonstrably, never succeed.

more viable result than simple enumeration. Safe harbor rules bear structural similarity to the common law, which has not struck observers as "complex" in the way the tax code is complex. See generally Peter Swire, *Safe Harbors and a Proposal to Improve the Community Reinvestment Act*, 79 VA. L. REV. 349 (1993). It should also be emphasized that the inevitability of some hard cases—because of the fractal quality of every rule—does not mean the number of hard cases cannot in practice be *minimized* by the selection and drafting of a well-conceived rule. (An observation made by Professor Maher, who is pursuing similar ideas in his own work.) For the present, I am only concerned with pointing out that complete elaboration is futile and should not be attempted; and therefore we must all be willing to accept and even prefer some rule vagueness. In doing so, I join others who have offered the same heuristic suggestion. See Miller, *supra* note 32, at 5 ("This Article is intended to bolster the trend toward general rules."); *id.* at 4 n.14 (quoting Secretary for Tax Policy Fred T. Goldberg, Jr.) ("General principles are often better than detailed rules."); Manning, *Hyperlexis: Our National Disease*, *supra* note 48, at 779–80 ("The time has come when a balance between generality and hand-tailoring must be struck nearer to the former. We must learn to legislate by approximation.").

116. Despite the apparent hopes of some, such as Ehrlich and Posner, and other Law and Economics theorists. For a related idea, see Robert S. Summers, *A Note on Symbolic Logic and the Law*, 13 J. LEGAL EDUC. 486 (1961), a devastating critique of Layman Allen's attempt to apply the principles of symbolic logic to rule writing. On the other hand, certain authors have gone so far as effectively to suggest that it is illegitimate—somehow off-limits—for legal writers to draw upon science or math, even by way of analogy. See Dow, *supra* note 1, at 715. This position seems ridiculous. See Lipshaw, *supra* note 1, at 43 ("[A]nalogies . . . cannot possibly fall within the authority of one discipline or another.").

117. In so doing, the rule writers would be accepting Roscoe Pound's long-ago "challenge to lawyers . . . to study the social operation of legislation, the effects it produces, and the means of making it effective." Cranston, *supra* note 60, at 907 (citing POUND, JURISPRUDENCE, *supra* note 58, at 350–55).