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I. Introduction

For thousands of years, the contours of Western legal argument have remained unchanged. Since the time of the ancient Greeks, lawyers have been presenting arguments in the same basic format, with a heavy reliance on the concept of logos, the idea that arguments are most persuasive when presented in a clear deductive logical structure using clean-cut categories.

Forming the basis for the terms that appear in logocentric legal arguments, categories allow humans to group facts and information together into classes.[1] For instance, chairs, tables, and beds occupy the category of furniture, and cars, trucks, and motorcycles occupy the category of vehicle. Since ancient times, humans have conceived of categories using a box metaphor—everything in the box is a member of the category.[2] However, modern cognitive science holds that human categorization choices do not take the shape of a symmetrical box. Rather, categories take a more blurry, radial shape.[3]

When we study how categories affect legal meanings, it becomes apparent that the overuse of boxed-in legal categories can produce distortion and injustice. Although categories are helpful for converting law's messy landscape into a clean linear form, categories can be harmful because they tend to erase important context from the client's story,

1 *Category*, MERRIAM-WEBSTER DICTIONARY, http://www.merriam-webster.com/dictionary/category (last visited March 11, 2016).

2 *See* RICHARD A. POSNER, THE PROBLEMS OF JURISPRUDENCE 38 (1990).

3 *See infra* notes 27–29 and accompanying text.

obscure the power relations that produce category choices, and oversimplify complex problems.[4]

If longstanding approaches to categorization and argumentation do not mirror how we really think and can also produce unjust legal outcomes, why have they remained in our legal culture for so long? Drawing upon legal history, jurisprudential trends, and cognitive science, this article theorizes that ancient legal-thought structures have endured so long because they offer a way to present complex information in a clean and structured way, which is optimal for how humans process information.

This article draws on two separate areas of cognitive science: (1) categorization theory, which relates to how humans categorize facts that exist in the world, and (2) information processing, which explains how humans process information in a presented form. Ironically, the studies on categorization tell us that we do not actually categorize in a neat and orderly form, but the studies on information processing explain that we do respond positively when complex information is presented in a neat and orderly form.

This article proceeds in three parts. Offering both explanation and critique, section I provides an overview of classical legal-thought structures, explains the infrastructural role this type of thinking plays in U.S. legal culture, and considers the potential for injustice when classical legal-thought structures are used uncritically. This section also draws upon the work of cognitive scientists to explain how classical legal thought patterns do not accurately represent how we really think.

Drawing upon a different area of cognitive science, section II theorizes why law's ancient thought structures have remained unchanged for thousands of years. Although they do not mirror how we really think, these reasoning forms are resilient because they provide an optimal structure for the retention and understanding of complex information. Finally, from a professional development perspective, section III explains why critical category skills are necessary for effective legal advocacy and then offers examples designed to engender a critical and empathic understanding of how categories work in a practical legal context.

II. Old-School Rhetoric

Old-School Rhetoric, in the context of this article, refers to three concepts—(a) the format of the argument, (b) the so-called "classical" view

4 *See infra* notes 74–90 and 98–144 and accompanying text.

of categories,[5] and (c) the deployment of categories in a deductive-reasoning structure, i.e., the syllogism. Because these thought structures have been in legal culture for thousands of years, we might think of them as forming an infrastructure for legal reasoning. However, as is often the case with infrastructure, we do not see it, we take it for granted, and we do not stop to critically consider its role.

A. The Enduring Format of Legal Argument

The structure of the legal argument, as we know it today, first emerged two thousand years ago during the Greek Empire. In 466 B.C., on the island of Syracuse, citizens seeking to reclaim property that had been seized by an autocratic ruler sought advice from rhetoric expert Corax, who advised them to structure their arguments with an introduction, narration (statement of facts), argument (both for and anticipation of counterarguments), and a peroration (conclusion).[6]

This argument structure remained in place into the Roman Empire, except that by this time, two new components had been added: (1) the partition (or argument summary)[7] and (2) Cicero's contribution, an introduction framed as a series of questions, which we now refer to as the question presented.[8] Roman rhetoric expert Quintilian posited that the purpose of the question-based introduction was to prime the "audience in such a way that they will be disposed to lend a ready ear to the rest of our speech."[9] Hundreds of years later, Quintilian's perspective has not changed; modern legal writers are encouraged to state the issue "in a way that supports [the] theory of the case. . .[and] suggests the [desired] outcome."[10] As Temple Law Professor Kathryn Stanchi compellingly points out, modern cognitive science supports Quintilian's advice. We know that audiences respond much more favorably when the advocate makes a strong first impression with a persuasive framing of the argument.[11]

5 The classical view of categories holds that categories are simple and easy, based on easily observable, shared properties. GEORGE LAKOFF, WOMEN, FIRE, AND DANGEROUS THINGS: WHAT CATEGORIES REVEAL ABOUT THE MIND 6 (1987); *see also infra* notes 24–25 and accompanying text.

6 EDWARD P.J. CORBETT & ROBERT J. CONNORS, CLASSICAL RHETORIC FOR THE MODERN STUDENT 490 (4th ed. Oxford Univ. Press 1999); KRISTEN KONRAD ROBBINS-TISCIONE, RHETORIC FOR LEGAL WRITERS: THE THEORY AND PRACTICE OF ANALYSIS AND PERSUASION 10 (2009). *See also* Michael Frost, *Introduction to Classical Legal Rhetoric: A Lost Heritage*, 8 S. CAL. INTERDISC. L.J. 613, 616 (2013); Michael Frost, *Brief Rhetoric—A Note on Classical and Modern Theories of Forensic Discourse*, 38 U. KAN. L. REV. 411, 411 (1989–1990) [hereinafter Frost, *Brief Rhetoric*] (all citing EDWARD P.J. CORBETT & ROBERT J. CONNORS, CLASSICAL RHETORIC FOR THE MODERN STUDENT 595 (2d ed. 1971)).

7 Frost, *Brief Rhetoric*, *supra* note 6, at 413.

8 *Id.* at 414–15.

9 *Id.* at 415 (quoting 2 QUINTILIAN, INSTITUTIO ORATORIA 9 (H. Butler trans. 1921).

10 ANTONIN SCALIA & BRYAN A. GARNER, MAKING YOUR CASE: THE ART OF PERSUADING JUDGES 83 (2008).

11 Kathryn M. Stanchi, *The Power of Priming in Legal Advocacy: Using the Science of First Impressions to Persuade the Reader*, 89 OR. L. REV. 305, 307–12 (2010).

Moreover, cognitive science explains how this classic framework optimizes the reader's processing of the argument. We know that readers are in the best position to engage with written material when the writer first provides an overview of the material.[12] The classic format of the legal argument does this—with the questions presented and summary of the argument coming before the substantive portions of the argument. Beyond the basic *format* for the legal argument, parts of which align with modern cognitive science, this article primarily focuses on how and why the basic substantive *structure* of legal argument, especially its logocentric emphasis, has not changed over thousands of years.

B. The Enduring Structure of Legal Argument

By "structure of the legal argument," I mean categories deployed in a syllogistic form to produce arguments about how the rule applies in a given factual situation. This deductive structure is the bedrock of legal reasoning, and, like the format for legal reasoning, it has been around since ancient times. This section of the article provides a historical and jurisprudential background for the concepts that undergird the classic structure of the legal argument—how categories fit into the syllogistic structure of legal reasoning, which then forms the infrastructure of our legal system.

1. Categories

Because the world is made up of so much information, we need categories to help us make sense of it. Categories allow us to obtain "a great deal of information about the environment while conserving finite [cognitive] resources as much as possible."[13] Thus, categories and categorization serve a useful function:

> Every living being categorizes. Even the amoeba categorizes the things it encounters into food and nonfood, what it moves toward or moves away from. The amoeba cannot choose whether to categorize; it just does. The same is true at every level of the animal world.[14]

12 *See* Catherine J. Cameron & Lance N. Long, *The Science Behind the Art of Legal Writing* 79–81 (2015) (citing David P. Ausubel, *The Use of Advance Organizers in the Learning and Retention of Meaningful Verbal Material*, 51 J. EDUC. PSYCHOL. 267, 272 (1960); John Luiten et al., *The Advance Organizer: A Review of Research Using Glass's Technique of Meta-Analysis* (April 1979), *available at* http://files.eric.ed.gov/fulltext/ED171803.pdf.

13 Eleanor Rosch, *Principles of Categorization*, in COGNITION AND CATEGORIZATION 27, 28 (Eleanor Rosch & Barbara Lloyd eds., 1978).

14 GEORGE LAKOFF & MARK JOHNSON, PHILOSOPHY IN THE FLESH: THE EMBODIED MIND AND ITS CHALLENGE TO WESTERN THOUGHT 17 (1999).

Long ago, humans categorized to quickly determine if a thing was good or bad—whether we could eat a thing or whether that thing might eat us. The issue relevant to this article is that how we think we categorize markedly differs from how our brains actually categorize information. Nonetheless, the inaccurate "how we think we think" has become imprinted in our legal culture. In order to understand this point, we need to consider how classical Western philosophers conceptualized categories and categorical thinking.

a. The Classical View of Categories—How We Think We Think

Plato and Aristotle's approach toward "essences" provides the foundation for understanding the integral role that categories play in the classic structure of the legal argument. Plato's theory of essences holds that if something is an "essence," it shares "some thing" with all other essences of that form.[15] Plato believed that the philosopher's task was to discern the essences that underlie all forms of things in the world.[16] Aristotle also believed in Plato's theory of essences, seeing "each thing as having an essence that makes it the kind of thing it is."[17] Whereas Plato believed that essences were ideas constructed in the mind, Aristotle believed the opposite, that essences were things that exist in the material world.[18] Thus, the concept of essences fits into our modern concept of what a category is.

For Aristotle, analytic thinking required one to capture the rational structure of the world, correctly categorize (identify the essence of) the things existing in the world, and then insert those categories into the structure of a syllogism: All men are mortal, Socrates is a man, Socrates is mortal. For Aristotle, the syllogism is the structure that produces new causal knowledge.[19] The principles of bivalence, transitivity, and disembodied rational thought are integral to Aristotle's conception of how categories function in the deductive reasoning process.

The concept of bivalence correlates with the modern concept of mutual exclusivity. For Aristotle, it was not possible for the same attribute to both belong and not belong to something in the same category.[20] It was not possible for Socrates to be both a man and a god, to be both mortal and immortal. The principle of transitivity holds that if two things are

15 *Id.* at 365.

16 *Id.*

17 *Id.* at 373.

18 *Id.* at 374.

19 Aristotle, 1 *Posterior Analytics*, Chapter 2 (G.R.G. Mure trans.), *available at* http://www.logoslibrary.org/aristotle/posterior/102.html.

20 LAKOFF & JOHNSON, *supra* note 14, at 375.

identical to a third, then they must be identical to each other.[21] Implicit within the principle of transitivity is the equality of category members; if two things are members of one category, those two things are similarly situated. All men are the same, in that they are all mortal. Finally, in terms of modes of persuasion, Aristotle referred to syllogistic reasoning as "logos," a mode of thought appealing to logic and reason.[22] Logos was conceptualized as being rational, as being disconnected from emotion and from the body.[23]

Aristotle's understanding of categories, what cognitive scientist George Lakoff refers to as the "classical view of categories," soon dominated all forms of Western thought.[24] The classical view conceives of categories as "well understood and unproblematic[,] . . . assumed to be abstract containers, with things either inside or outside the category."[25]

b. Cognitive Science and Categorization—How We Really Think

For myriad reasons, the classical view of categories does not align with how humans actually categorize information.[26] Instead of neat boxes, categories take on a blurry, circular shape. Moreover, we do not make category choices using an objective process that employs abstract and disembodied thoughts. Our actual process of categorization is embodied, unconscious, subjective, and dependent on cultural and social context.

First, we do not actually formulate categories in clean boxes with everything in the box carrying equal weight. Rather, we construct categories that have a blurry, circular shape. Further, the things that reside within the category may have varying degrees of category membership. In the 1970s, cognitive scientist Eleanor Rosch instructed study subjects to make judgments about categories, which she then visually mapped out based on the data collected. Rosch's groundbreaking research demonstrated that categories are not symmetrical boxes, but instead take the form of a "radial" shape."[27] That is, some members of a category exist in a centralized location, being the best, or prototypical examples of the

21 *See* POSNER, *supra* note 2, at 41.

22 Robbins-Tiscione, *supra* note 6, at 18, 101. In addition to logos, Aristotle also identified pathos (the appeal to emotion) and ethos (the credibility of the speaker) as modes of persuasion.

23 Mark L. Johnson, *Mind, Metaphor, Law*, 58 MERCER L. REV. 845, 846–47 (2007) (explaining that the classical theory of categories derives from a disembodied view of the mind); LAKOFF, *supra* note 5, at 8 ("The [classical] view of reason [conceives of the process as] the disembodied manipulation of abstract symbols . . . .").

24 LAKOFF, *supra* note 5, at 6 (describing how the classical view of categories soon became "part of the background assumptions taken for granted in most scholarly disciplines" and taught as "an unquestionable, definitional truth").

25 *Id.*

26 *Id.* at 8.

27 Eleanor Rosch, *Cognitive Reference Points*, 7 COGNITIVE PSYCHOL. 532, 544–46 (1975) (discussed in LAKOFF, *supra* note 5, at 45, 83–84, and Johnson, *supra* note 23, at 848–49); Rosch, *supra* note 13, at 35–36.

category, while other less "good" category members are situated closer toward the category's outer boundary.[28] For instance, with the category of "bird," a robin would be situated in the middle of the category structure, but a penguin would be located close to the category's border.[29] The radial structure of categories casts doubt on two classical premises: (1) that categories are shaped as symmetrical boxes and (2) that all things in a categorical box are similarly situated (implicit within the principle of transitivity).

Second, we do not construct categories exclusively in our minds, separate from our bodies. Rather, our category choices are informed by how our bodies interact with the world.[30] For example, when we look at a chair, neural pathways of our brain responsible for object identification light up and tell us we are seeing a chair.[31] In addition, the parts of our brain that control the motor functions that we use to interact with a chair (such as sitting in a chair, moving a chair) are activated.[32] Thus, the classical belief that humans categorize apart from the body is also at odds with cognitive science.[33]

Third, because categorization often happens unconsciously and automatically, the classical belief that we make categorical decisions consciously and rationally is also out of sync with how we actually think.[34] We do not have full conscious agency over our category-making process. "Even when we think we are deliberately forming new categories, our unconscious categories enter into our choice of possible conscious categories."[35]

Fourth, the classical view that categorical decisions represent an objective truth about the material world is false. Rather, a category is often based on subjective choices that are products of one's culture and individual experiences. As George Lakoff writes, "the choice of category center and the choices of particular extensions do not have any correlates in objective reality."[36] Different cultures have vastly different schemes for categorizing information. For instance, speakers of the Australian

28 Rosch, *supra* note 13, at 35–36.

29 LAKOFF, *supra* note 5, at 41, 45 (discussing Rosch's theories).

30 *Id.* at 18.

31 *See* Brett Ingram, *Critical Rhetoric in the Age of Neuroscience* 10–11 (2013) (unpublished Ph.D. dissertation, University of Massachusetts–Amherst) *available at* http://scholarworks.umass.edu/open_access_dissertations/690/.

32 *Id.*; *see also* LAKOFF & JOHNSON, *supra* note 14, at 27–28 (explaining that, when a chair is perceived, the brain's sensorimotor system for interacting with a chair activates).

33 LAKOFF & JOHNSON *supra* note 14, at 4 (explaining that the notion of Cartesian dualism—that the mind is separate from the body—is false).

34 *Id.* at 13.

35 *Id.* at 18.

36 LAKOFF, *supra* note 5, at 205.

aboriginal language *Dyirbal* have a word, "balan," which refers to a category that includes women, fire, and dangerous things.[37] To Western individuals, placing women, fire, and dangerous things in a single category seems strange, indicating the very different role that the Australian aboriginal culture plays in the construction of categorization systems. Different individuals, looking at the same situation, will construct categories differently, depending on their own experiences and knowledge of what they are looking at.[38]

Despite the disconnect between how we think we think (the classical view) and what cognitive science tells us about how we really think, the classical view of categories persists in Western culture because, at the "basic level,"[39] our intuitive understandings of categories do accurately capture some truth about the material world. Because a basic category object like a chair raises the mental concept of a chair so easily, humans generated the belief that categories are based on easily observable, shared properties. Moreover, the automaticity of most of our categorizations supports the belief that "we just categorize things as they are, that things come in natural kinds, and that our categories of mind naturally fit the kinds of things there are in the world."[40] As it turns out, the classical theory of categories has heavily influenced U.S. legal culture, so much so that a classically influenced view of legal categories can be considered to form the infrastructure of our law.

2. The Infrastructure of Law: Logocentric Categories and Categorical Thinking

The classical view of categories has both inspired and driven law and legal culture in the U.S. To understand this, one must understand the law as a science movement, in which scientific thought came to pervade legal thinking, just as formal legal education was emerging in the U.S. While using categories to put everything in the world in its place can be traced back to Aristotle, the scientific revolution, in full throttle in the 1700s and 1800s, breathed new life into information organizing.[41]

37 *Id.* at 5.

38 *Id.* at 129.

39 A chair is a thing that exists as a basic-level category. Basic-level categories are easy to perceive in terms of their whole shape (or gestalt); share a specific method of human/body interaction (such as how we interact with a desk chair); easily allow mental images of them to be formed. LAKOFF, *supra* note 5, at 49; *see also* Rosch, *supra* note 13, at 30 (noting that the basic level is "the most inclusive (abstract) level at which the categories can mirror the structure of attributes perceived in the world"). On the other hand, "furniture" would not exist as a basic-level category. LAKOFF, *supra* note 5, at 52.

40 LAKOFF, *supra* note 5, at 6.

41 *See generally*, MICHEL FOUCAULT, THE ORDER OF THINGS 125–32 (Vintage Books ed. 1995) (describing how, beginning in the enlightenment and continuing through the 19th century, scientists began devoting significant energy to the enterprises of describing and categorizing animals, plants, all in an attempt to bring order to disorder).

In the 1870s, when Harvard Law Professor Christopher Columbus Langdell famously declared that law should be treated as a science,[42] he was merely giving voice to an important cultural touchtone of the time: science was understood as developing a taxonomy for things and then applying that system to generate new knowledge about the world.[43] Thus, Langdell's law-as-science concept involved two different, but related enterprises: (1) the project of using categories to impose an order and structure onto the law, and (2) using those categories to reason analytically about the law, usually in a syllogistic form. These two endeavors form the basis for the jurisprudential genre known as legal formalism.[44] This section will address the history of legal categories in the United States (§ *a)* and will explain how the level of depth and criticality of categorical reasoning affects legal decisions (§ *b*) and how categories interact with legal formalism, which foregrounds the use of syllogistic structures (§ *c*). Finally, in (§ *d*), it introduces the theory that the formalist approach to categories remains entrenched in legal culture because it allows lawyers to present complicated information in a simplified form, which, according to information-processing theory, produces optimal results for retention and understanding.

a. The Emergence of Legal Categories

The foundation for the law as a science model revolved around the organization of legal information, an endeavor based on the belief that

> there is a place for everything, and everything would be in its place when sufficiently understood. The causal agent for this organization was either God or nature, and man merely needed to understand the whole of the system to work harmoniously in it. Thus, the system of laws, like systems of biology and geology, could be catalogued once all of the laws were discovered.[45]

42 CHRISTOPHER COLUMBUS LANGDELL, A SELECTION OF CASES ON THE LAW OF CONTRACTS vi (1871) (cited in Stephen Paskey, *The Law is Made of Stories: Erasing the False Dichotomy Between Stories and Legal Rules*, 11 LEGAL COMM. & RHETORIC: JALWD 51, 51 (2014)); *see also* Steve Sheppard, *Casebooks, Commentaries, and Curmudgeons: An Introductory History of Law in the Lecture Hall*, 82 IOWA L. REV. 548, 597 n. 276 (1996–1997) ("Langdell's most specific recorded consideration of law as science are brief remarks delivered in an after-dinner speech." (citing Christopher C. Langdell, *Teaching Law as a Science*, 21 AM. L. REV. 123 (1887))).

43 *See* Sheppard, *supra* note 42, at 583 (discussing parallels between attempts to organize the law and Swedish Scientist Karl Linnaeus's plant classification template).

44 *See* JEAN STEFANCIC & RICHARD DELGADO, HOW LAWYERS LOSE THEIR WAY: A PROFESSION FAILS ITS CREATIVE MINDS 36 (2005) (explaining that, with formalism, a student or lawyer organizes the law into a coherent, ordered system of rules and principles that can be scientifically applied to solve legal problems).

45 Sheppard, *supra* note 42, at 583.

The project of constructing categories to bring order to the law's chaos has deeply impacted our legal system in ways we do not often consider.[46] How did the categories we have in law come to be?

Langdell was not the first legal thinker to attempt to impose a scientific order on the law; by the time of Langdell, the idea of law as a science was centuries old.[47] Indeed, legal historian Steve Sheppard points out that the quest to organize the law can be traced back to 1758, when Blackstone "set out to deliver . . . a complete set of lectures" that would support viewing the law as a "'science . . . to be cultivated, methodized, and explained'" in order to construct English law into a "'species of knowledge.'"[48]

Deeply influenced by Blackstone, early American law professors began the project of organizing U.S. law. In 1774, at the Litchfield Law School, Judge Tapping Reeve presented U.S. law in 48 different categories including master and servant, actions for debt, evidence, trials, insurance, partnership, etc.[49] In 1790, Professor James Wilson at the College of Philadelphia (the precursor to the University of Pennsylvania) also attempted to organize the law in a scientific fashion, organizing his lectures into several categories—"law and obligation, the law of nature, the law of nations, municipal law, man as a member of a community and a state . . . , the common law in general, evidence, corporations, judicial procedure, and property."[50] In 1826, James Kent published his Blackstone-inspired *Commentaries on American Law*, which contained categories such as "the law of nations, United States government, municipal law, personal rights, personal property, and real property."[51]

In 1829, while serving as the Dane Professor at Harvard Law School—concomitantly with his tenure on the Supreme Court—, Justice Joseph Story also applied scientific organizational principles to the law, creating legal categories for "bailments, constitutional law, conflicts of law, equity principles, equity pleadings, agency, partnership, and bills and notes."[52]

46 GEOFFREY C. BOWKER & SUSAN LEIGH STAR, SORTING THINGS OUT 3 (1999) (explaining that for the most part, we do not stop to consider the impact of categorical decisions on society and our daily life).

47 Sheppard, *supra* note 42, at 597.

48 *Id.* at 560 (quoting William Blackstone, *A Discourse on the Study of Law (1758)* in 1 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND (1765–69 facsimile edition, Univ. of Chicago Press 1979); *see also* Catharine Pierce Wells, *Langdell and the Invention of Legal Doctrine*, 58 BUFF. L. REV. 551, 555–56 (2010) (Blackstone's Commentaries were so influential because of the structure they imposed on British law); Robert C. Berring, *Legal Research and the World of Thinkable Thoughts*, 2 J. APP. PRAC. & PROCESS 305, 308 (2000) ("Blackstone took a messy smorgasbord of common law doctrine and practice and organized it into a comprehensible series of propositions.").

49 Sheppard, *supra* note 42, at 564–65.

50 *Id.* at 570 (citing James Wilson, *Of the Study of the Law in the United States*, in BIRD WILSON, THE WORKS OF THE HONOURABLE JAMES WILSON, L.L.D. xv–xvi (Philadelphia, Lorenzo Press 1804).

51 *Id.* at 574 (citing JAMES KENT, COMMENTARIES ON AMERICAN LAW (New York, O. Halsted 1826–1830).

52 *Id.* at 575–76.

Finally, in the 1870s, Langdell strove to impose a better order and structure on contract law, creating a new category, contract formation, which contained two subcategories, offer and acceptance.[53] Thus, it is perhaps unfair to hold Langdell solely accountable for the law as a science theory when he did not originate the concept.[54]

Established legal categories became even more imbricated into our legal system when, in the late 1800s, the West Publishing company (now Westlaw) created the American Digest System, which set out to produce "a subject classification system that purport[ed] to describe every possible legal situation that can exist."[55] U.C. Berkeley law librarian Robert C. Berring observes,

> A quick look at the seven major divisions of the American Digest System shows that they are closely related to Langdell's vision of the law, and, hence, to Blackstone's vision of the law. The breakdowns of key numbers within the topics also correspond to the language and concepts of Blackstone.[56]

Westlaw's American Digest System still controls much legal information today. As legal-research teachers have taught students for years, in researching the law on the Westlaw website, the most efficient way to locate legal information is to access the Key Number system.

Obviously, legal categories are helpful devices.[57] Without some method of organizing the law into categories and subcategories, lawyers would be forever lost in a bramble bush[58] of information anarchy.[59] But the history of our legal categories has led not only to necessary organization, but to shaping legal meanings. When we think about U.S. law as information, categories form a part of law's *infrastructure*.[60] The thing about infrastructure, however, is that it is invisible; we do not see it unless it breaks.[61] The invisibility of infrastructure can obscure the fact that cate-

53 Wells, *supra* note 48, at 566.

54 *See id.* at 552 (explaining that contemporary legal writers have often treated Langdell as a straw man).

55 Berring, *supra* note 48, at 309.

56 *Id.*; *see also* Robert C. Berring, *Legal Research and Legal Concepts: Where Form Molds Substance*, 75 CAL. L. REV. 15, 24–25 (1987).

57 *See* THOMAS S. KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS 16–17 (2d ed. 1970) ("No natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism.").

58 KARL N. LLEWELLYN, THE BRAMBLE BUSH (Oxford Univ. Press 2008).

59 Berring, *supra* note 48, at 314.

60 BOWKER & STAR, *supra* note 46, at 2, 34 (explaining that, from an information science perspective, categories and classification systems can be understood as infrastructure).

61 *Id.* at 2.

gories can valorize one point of view but silence another.[62] And no single classification scheme will be helpful for everyone—for example, red-and-green-light traffic distinctions do not work at all for blind people and do not work well for color-blind people.[63] In law, distinctions based on old norms (such as the historic distinctions between property and contract law) may have worked in medieval times, but no longer work in modernity. For instance, in the common law, property and contracts had long been constructed as mutually exclusive categories, meaning that the contractual concept of a warranty could not apply to real-property leases. But with the advent of modern apartment residences, there arose a need for warranty-like protections for tenants.[64]

Similarly, discriminatory legal categories based on race worked in favor of the dominant group but not at all for those left outside at the margins. As will be explained in more depth below, in the *Plessy v. Ferguson* case, the Court accepted the argument that separate accommodations based on racial categories (white and black) did not render those categories *legally* unequal. This categorical scheme benefited whites by allowing them to maintain their *social* dominance—the white train car would always be better than the black car, because it was comprised of the individuals at the top of the racial hierarchy. When the *Plessy* Court declined to engage with the social reality shaped by the law's discriminatory racial categories, it was able to present its reasoning with a logic of equality. But these categories—black and white, legal and social—engendered years of Jim Crow inequality. It is an example of how categories, carefully constructed to appear equal, work well for the group with social dominance, but can severely oppress those with less power.[65]

Consistent with other forms of informational infrastructure, lawyers often overlook the importance of legal categories.[66] As legal realist Karl Llewellyn noted,[67] it is important to develop a critical view of legal categories, understand how categories can reify existing inequality, and open up our thinking to breathe new life into legal categories, if necessary.[68] Legal categories can legitimize existing power structures. For instance, Duncan Kennedy posits that Blackstone's categorical scheme preserved

62 *Id.* at 5.

63 *Id.* at 41.

64 *See infra* notes 91–97 and surrounding text.

65 *See infra* text accompanying notes 74–79.

66 Duncan Kennedy, *The Structure of Blackstone's Commentaries*, 28 BUFF. L. REV. 205, 215 (1978).

67 Karl Llewellyn, A Realistic Jurisprudence—The Next Step, 30 COLUM. L. REV. 431, 453 1930) (arguing that legal categories should be viewed with skepticism).

68 *See, e.g.*, *infra* sections B(2)(b) and B(2)(c).

and legitimated hierarchical British institutions such as feudal, clerical, and spousal relationships that permeated British society at the time.[69]

Legal categories can also constrain our thoughts. As Professors Richard Delgado and Jean Stefancic write, a search on Westlaw can easily locate ideas related to the category that one is viewing, but "innovative jurisprudence," which might "require entirely new tools" can easily remain "undeveloped."[70] In this way, existing legal categories "function like eyeglasses that we have worn for a long time. They enable us to see better, but conceal the possibility that we might be able to see even better with a different pair."[71] We might think of legal categories as producing a "common stock of ideas," which are highly helpful, but nonetheless constraining when it comes to searching for creative solutions to legal problems.[72]

Finally, with legal categories, we tend to think they have always been that way. But categories can and do change. For instance, as modern apartment dwellings began to permeate American cities, the argument that contract-type warranties could never be applied in a property context began to fall away. Eventually, the property category evolved to include warranty concepts like the warranty of habitability.[73] As the next section explores, the way in which categories are deployed greatly affects the quality of legal reasoning. A fluid and critical approach to categorization can reshape the law and move it in positive directions. However, when categories are used rigidly and uncritically, they generate less-robust legal reasoning and may also become a tool for reproducing injustice in the law.

b. How Categorical Reasoning Influences the Quality of Legal Decisions

The problem with using legal categories in a rigid and decontextualized way is apparent in the harmful legal reasoning used to perpetuate unequal racial distinctions prior to the civil war and during the Jim Crow era. In *Scott v. Sandford*[74] (the *Dred Scott* case), Chief Justice Roger Taney, writing with logic and authority, declared that the category of "citizen" absolutely did not and was not meant to include descendants of slaves. Why? Because when the Constitution was drafted, humans descended

69 Kennedy, *supra* note 66, at 278, 280, 288, 300, 381.

70 Richard Delgado & Jean Stefancic, *Why Do We Tell The Same Stories?: Law Reform, Critical Librarianship, and the Triple Helix Dilemma*, 42 STAN. L. REV. 207, 208 (1989).

71 Richard Delgado & Jean Stefancic, *Why Do We Ask the Same Questions? The Triple Helix Dilemma Revisited*, 99 L. LIBR. J. 307, 308 (2007).

72 *Id.* at 310.

73 *See infra* text accompanying notes 91–97.

74 Scott v. Sandford, 60 U.S. 393 (1856).

from slaves were "considered as a subordinate and inferior class of beings, who had been subjugated by the dominant race, and . . . [accordingly], had no rights or privileges" under the Constitution.[75] Justice Taney could not perceive how the category of citizen might be expanded to include human beings forcibly brought into the jurisdiction of the United States to labor in a violent regime of servitude.

Similarly, in *Plessy v. Ferguson*,[76] two clear and distinct categories supported the Court's holding that separate and equal accommodations did not offend the Constitution's Equal Protection clause. In the majority opinion, Justice Henry Billings Brown constructed a category—*political equality*—that the Fourteenth Amendment was meant to protect.[77] But then Justice Brown categorized the rights of blacks to sit in the same train car with whites as *social equality*. However, Justice Brown placed social equality well outside the walls of the legally protectable political-equality category, reasoning that laws requiring social separation did not necessarily imply the inferiority of one class over the other.[78] Thus, two rigid categories—political equality and social equality—were used to perpetuate the toxic de jure discrimination that afflicted the United States until the *Brown v. Board of Education* Court reconstituted racial categories in a contextual way to hold that separate schools for black children did in fact imply that the black schools (and black school children) were inferior.[79]

Another issue with the classical view of categories, as applied to legal reasoning, is that it can produce overly simplified legal analysis. This is due in part to how we automatically categorize at the basic level. For instance, when we see an object that occupies a category at the basic level, such as a chair, we immediately know, without even thinking, what the thing is and what category it is—it is a chair.[80] However, the automatic way we categorize items at this level produces a sometimes false belief that category choices are always simple and uncomplicated. When an uncritical approach to categories is applied to law, we sometimes end up with reasoning that lacks robustness.

As an example of a judge's intuitive approach to legal categories, in 1931, Justice Oliver Wendell Holmes evaluated whether the relatively new airplane fit into the category of "motor vehicle," contained in a federal anti-

75 *Id.* at 404.

76 Plessy v. Ferguson, 163 U.S. 537 (1896).

77 *Id.* at 544.

78 *See id.*

79 Brown v. Bd. of Educ., 347 U.S. 483, 493–95 (1954). *See also* STEFANCIC & DELGADO, *supra* note 44, at 42–43 (explaining that *Brown* rejected a rigid categorical approach).

80 Lakoff & Johnson, *supra* note 14, at 27.

theft statute.[81] The statute defined motor vehicles as including automobiles, trucks, automobile wagons, and motorcycles.[82] The statute's residual clause then included any "self propelled vehicle not designed for running on rails."[83]

Justice Holmes held that an airplane was not a vehicle because "'vehicle' calls up the picture of a thing moving on land."[84] In reaching this decision, Justice Holmes reasoned that to provide fair notice, criminal categories must be clear and should only include items evoked "in the common mind," of the category's "popular picture," which, in this case, only included vehicles running on land.[85]

The result of this decision, that an airplane was not a motor vehicle, was not incorrect, particularly in the context of criminal liability. However, the legal reasoning—relying on a popular picture and what a word generates in one's mind—could be more rigorous. There was no consideration of the attributes of the vehicle category such as the presence of wheels, a structure, or a mechanical ability to move from one point to another. And there was no consideration of how many of those conditions are actually present in an airplane. Finally, Justice Holmes accepts, without question, that he is in a good position to evaluate what the "popular" understanding is in the "common mind."[86]

Another example of the complexity of seemingly simple categories comes from the recent case of *White City Shopping Center v. PR Restaurants,* which answered the question of whether a burrito is a sandwich.[87] In this case, a shopping center leased space to Panera Bread, a sandwich shop. The shopping center's lease contained an exclusivity clause that prohibited the landlord from renting any shopping center space to another sandwich shop. The landlord subsequently leased shopping center space to Qdoba, a Mexican restaurant specializing in burritos and tacos.[88]

81 McBoyle v. United States, 283 U.S. 25 (1931) (cited in STEVEN WINTER, A CLEARING IN THE FOREST: LAW, LIFE, AND MIND 37 (2011)).

82 *Id.* at 26.

83 *Id.*

84 *Id.*

85 *Id.* at 26–27.

86 *Id.* at 26, 27.

87 White City Shopping Ctr. v. PR Restaurants, 2006 WL 3292641, *1–2 (Sup. Ct. Mass. Oct. 31, 2006). *See also* Stephanie Thompson, *Introduction to Analogical Reasoning—Is a Burrito a Sandwich* (unpublished teaching materials) (available on the 2008 LWI Idea Bank). Quite possibly, the burrito–sandwich problem might overtake H.L.A. Hart's *no vehicle in the park* hypotheticals the most popular legal-analysis hypothetical. *See* H.L.A. Hart, *Positivism and the Separation of Law & Morals*, 71 HARV. L. REV. 593, 607 (1958).

88 *White City Shopping Ctr.*, 2006 WL 3292641, at *1–2.

And hence, the issue presented was whether a burrito is a sandwich. Arguments that *a burrito is not a sandwich* would require a fairly narrow and traditional definition of sandwich—i.e., an item of food with filling (meat, vegetables, etc.) in between two slices of bread. In order to argue that a *burrito is a sandwich*, one must define a sandwich more broadly as an item of food with filling (meat, vegetables, etc.), served within or on top of a grain-based product.

The sandwich–burrito question has captivated jurists Justice Antonin Scalia and Judge Richard Posner. Perhaps not surprisingly, Justice Scalia aligned with an intuitive, narrow, and traditional understanding of what a sandwich is, positing that "no reasonable speaker of English would call a . . . burrito . . . a 'sandwich.'"[89] On the other hand, Judge Posner would advocate a more fluid approach, arguing that a burrito *could be* a sandwich, especially when one considers that an open-faced turkey sandwich is still a sandwich.[90]

When legal categories are deployed in an imaginative and fluid way, they have the capacity to transform the law, moving it in positive directions. *Javins v. First National Realty Corp.* provides proof that long-standing common-law categories can change in response to changing social conditions.[91] In this case, the D.C. Circuit held that a warranty of habitability should be implied in all leases within the District of Columbia.[92] In reaching this holding, Judge J. Skelly Wright used contract law to give a blood transfusion to property law.[93] Specifically, Judge Wright borrowed the doctrine of implied warranties of fitness and merchantability from contract law and applied those doctrines to formulate an implied warranty of habitability for a lease.[94] In so doing, Judge Wright questioned and rethought the basis of the longstanding cate-

89 ANTONIN SCALIA & BRYAN A. GARNER, READING LAW: THE INTERPRETATION OF LEGAL TEXTS 55 (2012).

90 Richard A. Posner, *The Incoherence of Antonin Scalia*, The New Republic (Sept. 13, 2014), http://www.newrepublic.com/article/magazine/books-and-arts/106441/scalia-garner-reading-the-law-textual-originalism. The sandwich–burrito issue also raises interesting questions of culture and context in how legal categories are constructed. For instance, why did Justice Scalia choose to emphasize the meaning of sandwich to a native English speaker? Are the categorization choices of individuals who did not grow up speaking English any less valid than those of native English speakers? Might we conclude that the law's plain meaning analysis privileges a certain kind of knowledge and understanding and excludes other perspectives? Individuals growing up in Mexico or Latin America may very well have a different view of what a sandwich is, or is not. If the purpose of the lease's provision is to prevent undue competition for the Panera sandwich restaurant, why not allow an expanded definition of sandwich to prevent the shopping center from leasing space to the burrito restaurant?

91 This example derives from Professor Tim Terrell's thoughtful article, *The Art of Legal Reasoning and the Angst of Judging: Of Balls, Strikes, and Moments of Truth*, 8 NW. J. L. & SOC. POL'Y 35, 60–61 (2012) (discussing Javins v. First Nat'l Realty Corp., 428 F.2d 1071 (D.C. Cir. 1970)).

92 *Javins*, 428 F.2d at 1072–73, 1080.

93 *Id.* at 1075–77.

94 *Id.*

gorical distinction between property leases and contracts, which was founded upon medieval norms.

Among many judicial opinions that have changed the law, Judge Wright's opinion is remarkable for its lucidity. In it, we have a clear window into the process of how legal categories become reformed. Judge Wright opined that "[c]ourts have a duty to reappraise old doctrines in the light of the facts and values of contemporary life—particularly old common-law doctrines the courts themselves created and developed."[95] Integral to Judge Wright's reasoning was a sense that the old basis for the property–contract distinction no longer applied to modern urban apartment tenants, who receive little to no interest in the land that the apartment building stands on.[96] After thoroughly considering the historical bases for the categorical distinctions, Judge Wright held that the "common law . . . must recognize the landlord's obligation to keep . . . premises in a habitable condition."[97]

The *Javins* opinion shows that critically thinking about categories can reform the law. Although this example shows a judge rethinking categories to move the law forward, in our adversary system, lawyers are the ones who proffer novel category structures for judges to consider. Although longstanding legal categories and dichotomies (like the divisions between property and contract law or tort and contract law) seem entrenched, part of the efficacy of our common-law system is that they can be completely remodeled. Moreover, this case illustrates the value in bringing a sense of imagination to legal categories. One can take doctrine from one category and breathe new life into a different legal category. In this way, new blood transforms aging doctrine.

c. Legal Formalism: Syllogistic Thinking as a Mode of Thought and Culture

Although the rigid and uncritical deployment of legal categories can produce negative outcomes, it is nonetheless a highly respected methodology for common-law reasoning. The belief in the stable structure of categories and their objective veracity pervades American legal culture. Known as legal formalism, this mode of thought emphasizes the use of rigid, dichotomous, and abstract categories to logically solve legal problems.[98] Legal formalism, in the context of this article, is aligned with

95 *Id.* at 1074.

96 *Id.*

97 *Id.*

98 "Nineteenth-century legal thought [the era of legal formalism] was overwhelmingly dominated by categorical thinking—by clear, distinct, bright-line classifications of legal phenomena." MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW 1870–1960: THE CRISIS OF LEGAL ORTHODOXY 17 (Oxford 1992). The judge's job was "to decide whether a dispute fell within one or another of mutually exclusive categories." *Id.* at 18.

the classical (but cognitively inaccurate) view that "[categorical] concepts have strict, fixed boundaries defined by necessary and sufficient conditions."[99]

Legal formalism also embraces a binary and mutually exclusive approach to categories: you either have a lawsuit or you do not; the element is met or it is not; judgment must be either for the plaintiff or the defendant.[100] The goal of legal analysis is to "make legal reasoning seem like mathematics."[101] The tool that allows the advocate to do this is the syllogism.

As discussed above, symmetrical and rigid reasoning helped perpetuate both the violent regime of slavery and the Jim Crow laws that succeeded it. Using the rigid categories within the *Dred Scott* and *Plessy v. Ferguson* decisions discussed above,[102] we can now see how these categories are powerfully deployed in the syllogistic structure. For instance, the *Dred Scott* decision is founded upon the following logical syllogism:

> No person of African descent may be a citizen of the United States.
> Dred Scott is of African descent.
> Dred Scott cannot be a citizen of the United States.[103]

Implicit in the above syllogism is the conclusion that a person of African descent fits best into the category of "property" rather than a "person" or "people" as that word was used in the Constitution.[104] The syllogism is logical, if one accepts the categorical choices that undergird its premises. Modeling formalism's rigidly rationalist persona, Chief Justice Taney cautioned that "it is not the province of the court to decide upon the justice or injustice, the policy or impolicy, of these laws." The same type of faulty syllogism infects the *Plessy v. Ferguson* decision, which instantiated the Jim Crow laws that would soon blanket the South. *Plessy's* majority opinion can be distilled into the following nested syllogism:

99 Johnson, *supra* note 23, at 847; *see also* note 98.

100 Winter, *supra* note 81, at 43–44 (citations omitted).

101 Oliver Wendell Holmes, *Privilege, Malice, and Intent*, 8 HARV. L. REV. 1, 7 (1894).

102 *See supra* notes 74–79 and accompanying text.

103 Scott v. Sandford, 60 U.S. 393, 396–97 (1856). In this case (and in *Plessy v. Ferguson*, *infra* note 105), the syllogism does not appear as three lines, but instead, relies on the enthymeme, a rhetorical device that omits widely accepted premises from the equation. *See* ARISTOTLE, RHETORIC 11, 116 (Filiquarian Publishing 2008); Cara A. Finnegal, *Recognizing Lincoln, Image Vernaculars in Nineteenth-Century Visual Culture*, *in* VISUAL RHETORIC: A READER IN COMMUNICATION AND AMERICAN CULTURE, 61, 63, 74 (Lester C. Olson, Cara A. Finnegan & Diane S. Hope eds., 2008).

104 60 U.S. at 404, 408.

> Only laws that destroy the legal equality between the two races are unconstitutional.
>
> Mere legal distinctions between white and African Americans do not destroy legal equality. The Louisiana statute mandating separate cars for African-American and White riders is a mere legal distinction.
>
> The Louisiana statute is not unconstitutional.[105]

As with the *Dred Scott* case, the *Plessy* decision is highly logical, but only if one accepts the categorical choices of a law that destroys legal equality versus a law that functions merely as a legal distinction. As we will see, although legal formalism suffered losses in twentieth century jurisprudential thought, its influence remains deeply embedded in our legal culture.

Toward the end of the 19th-century, legal thinkers began to assault legal formalism as hopelessly tone-deaf. In 1880, Oliver Wendell Holmes famously quipped that "[t]he life of the law has not been logic; it has been experience," which painted legal formalism as old-fashioned and out of tune with how the real world works.[106] Following in the footsteps of Holmes, the legal-realism movement continued the critique of legal formalism, aiming to replace it with a more balanced and realistic approach to lawmaking.[107]

With respect to categories, prominent legal realist Karl Llewellyn urged lawyers to understand how categories shape legal meanings, to understand that "to classify is to disturb."[108] For Llewellyn, categories "build emphases, . . . create stresses, which obscure some of the data under observation and give fictitious value to others."[109] Llewellyn urged lawyers to take a skeptical view of the "adequacy of the *received* categories" for solving legal problems.[110] If an existing category does not work for a particular legal problem, Llewellyn urged the practitioner to look at the facts with a fresh set of eyes, outside the influence of prior categorical decisions.[111]

The legal realists were successful in moving U.S. law in a different direction. For instance, in some doctrinal areas, legal realists replaced rigid elemental tests with balancing-factor tests.[112] However, legal

105 Plessy v. Ferguson, 163 U.S. 537, 543 (1896). *See also* STEFANCIC & DELGADO, *supra* n. 44, at 40–41 (explaining how the reasoning of Plessy v. Ferguson exemplifies legal formalism).

106 Wells, *supra* note 48, at 592.

107 HORWITZ, *supra* note 98, at 18, 63, 199, 200.

108 Karl Llewellyn, *supra* note 67, at 453.

109 *Id.*

110 *Id.*

111 *Id.*

112 HORWITZ, *supra* note 98, at 18.

formalism never died. In an influential essay penned in 1959, Harvard Professor Herbert Wechsler argued for a return to "neutral principles" to settle legal questions.[113] Neutral principles are "reasons [that can be used to decide] all the issues in the case, reasons that in their generality and their neutrality transcend any immediate result that is involved."[114] Wechsler opined that neutral principles are necessary to avoid judicial bias and subjectivity.[115] Based on his neutral principles theory, Wechsler argued that the Warren court incorrectly decided *Brown v. Board of Education*,[116] reasoning that it elevated the rights of African-Americans over the associational rights of whites, who would choose not to mingle with persons considered "unpleasant or repugnant."[117]

Wechsler's reasoning was highly formalistic, using categories to abstract the question of segregation from its historical and factual reality.[118] Wechsler's error was that he constructed a clean category for "associational rights" and stopped there in his syllogistic analysis. He did not stop to question the power relations that informed the creation of the category. He did not perceive that "associational rights" are not a simple set of rights, but a quite messy category that carried the broad power to subordinate African Americans. In the effort to divide social relations into syllogistic clean categories, Wechsler ignored the reality of Jim Crow violence and inequality.[119]

Wechsler's theory of neutrality greatly influenced U.S. judicial and legal culture, and continues to shape jurisprudential theory today.[120] After Wechsler's article was published, legal theorists continued the argument, with one side advocating for a strictly neutral approach[121] and the other for a more fluid and contextualized method approach.[122] Beginning in the

113 Herbert Wechsler, *Toward Neutral Principles of Constitutional Law*, 73 HARV. L. REV. 1, 1 (1959).

114 *Id.* at 19.

115 *Id.* at 1, 9, 12.

116 347 U.S. 483 (1954).

117 Wechsler, *supra* note 113, at 34.

118 HORWITZ, *supra* note 98, at 268 ("In its un-historical abstractness, neutral principles analysis combines with ethical positivism to produce a new conservative formulation in Orthodox legal thought"); RICHARD A. POSNER, OVERCOMING LAW 73–75 (1995) (describing Wechsler's analysis as "formalist," based on "abstract concepts . . . , arguments from logic, and hypothetical cases").

119 *See* STEFANCIC & DELGADO, *supra* note 44, at 43 ("Wechsler's error demonstrates how little one can achieve by logic and syllogistic reasoning alone.").

120 *See* Dan M. Kahan, *The Supreme Court 2010 Term—Foreword: Neutral Principles, Motivated Cognition, and Some Problems for Constitutional Law*, 125 HARV. L. REV. 1, 3 (2010).

121 *Id.* at 5 nn.13, 16 (citing Alexander M. Bickel, *The Supreme Court 1960 Term—Foreword: The Passive Virtues*, 75 HARV. L. REV. 40, 77 (1961); ROBERT H. BORK, THE TEMPTING OF AMERICA: THE POLITICAL SEDUCTION OF THE LAW 143–86 (1990); Robert H. Bork, *Neutral Principles and Some First Amendment Problems*, 47 IND. L.J. 1, 1–4, 17 (1971); Antonin Scalia, *Originalism: The Lesser Evil*, 57 U. CIN. L. REV. 849 (1989).

1970s, the critical-legal-studies movement raised new doubts about legal formalism, specifically engaging with the hidden ways that power shapes legal categories.[123] Out of the critical-legal-studies movement came critical-feminist theory, critical-queer theory, and critical-race theory, all of which posed strenuous questions about the formation and composition of long held legal categories.[124]

Although legal formalism is no longer the only available mode of jurisprudential thought, it remains firmly embedded in U.S. legal culture. In legal education, we see legal formalism in the nearly universal "IRAC" analytic template.[125] Langdell's Socratic method, still the dominant educational method in law school, relies heavily on formalist principles.[126] When linguistic expert Elizabeth Mertz conducted an ethnographic study of legal education, she concluded that legal training inculcates a formalist mode of thinking about legal questions that "forces students' attention away from a systematic or comprehensive consideration of social context and specificity."[127] "Instead, students are urged to pay attention to more abstract categories of legal (rather than social) contexts, reflecting a quite particular, culturally driven model of justice."[128]

Legal formalism also thrives in the minds of judges. Formalism's conception of rationality appears when judges insist that their job is to merely call "balls and strikes"[129] rather than decide cases in the "messy world of empirical reality."[130] Justice Scalia notes that "[g]ood judges pride themselves on the rationality of their rulings and the suppression of their personal proclivities, including most especially their emotions."[131] Most would agree that in the last thirty years, Supreme Court jurisprudence has

122 *Id.* at 4–5 nn.14–15 (citing JOHN HART ELY, DEMOCRACY AND DISTRUST 73–103 (1981); RONALD DWORKIN, FREEDOM'S LAW: THE MORAL READING OF THE AMERICAN CONSTITUTION (1996)).

123 LINDA H. EDWARDS, LEGAL WRITING AND ANALYSIS 240–41 (3d ed. 2011); STEFANCIC & DELGADO, *supra* note 44, at 37–38 (explaining that the critical legal studies movement is the philosophical descendant of the legal realist movement). *See generally* ROBERTO MANGABEIRA UNGER, KNOWLEDGE AND POLITICS (1975); DUNCAN KENNEDY, LEGAL EDUCATION AND THE REPRODUCTION OF HIERARCHY: A POLEMIC AGAINST THE SYSTEM (2007); Kennedy, *supra* note 66.

124 *See* EDWARDS, *supra* note 123, at 240–41; STEFANCIC & DELGADO, *supra* note 44, at 37–38.

125 The IRAC structure follows the structure of the syllogism. The R is the major premise, the A is the minor premise, and the C is the conclusion.

126 STEFANCIC & DELGADO, *supra* note 44, at 38; *see also* ELIZABETH MERTZ, THE LANGUAGE OF LAW SCHOOL: LEARNING TO "THINK LIKE A LAWYER" (2007).

127 Mertz, *supra* note 126, at 5.

128 *Id.*

129 Terrell, *supra* note 91, at 37 (citing Confirmation Hearing on the Nomination of John G. Roberts, Jr., yo Be Chief Justice of the United States: Hearing Before the S. Comm. on the Judiciary, 109th Cong. 186 (2005) (questioning by Senator Joe Biden)).

130 POSNER, *supra* note 118, at 74.

131 SCALIA & GARNER, *supra* note 10, at 32.

moved away from expanding rights and more toward limited decisions, grounded in formalistic principles.[132]

Moreover, for judges and lawyers, the syllogism remains the "*sine qua non* of legal analysis."[133] Judge Posner opines that "so compelling and familiar is syllogistic reasoning that lawyers and judges, ever desirous of making their activity seem as objective as possible, try hard to make legal reasoning seem as syllogistic as possible."[134] Justice Scalia and legal writing guru Bryan Garner advise that the best legal reasoning takes the following form:

> Given a rule of law that [those] conditions generically described as A produce a certain legal liability or other consequence X, does the specific fact or group of facts *n* fall within the genus A?
>
> You read an authoritative legal text to discover A (a major premise). You find facts to discover *n* (the minor premise). Then you draw your conclusion. [135]

It seems that the goal articulated by Oliver Wendell Holmes—"to make legal reasoning seem like mathematics"[136]—has not changed much. And so, the ancient syllogism and the conception of reason as disembodied endures in our legal culture.

Nonetheless, legal formalism's cultural resilience continues to inspire critiques. James Boyd White writes that formalism misrecognizes the nature of law itself: "The law is not an abstract system or scheme of rules, as we often speak of it, but an inherently unstable structure of thought and expression."[137] In addressing why lawyers are markedly unhappier than members of other professions, critical scholars Richard Delgado and Jean Stefancic argue that legal formalism might be a causal factor, because it takes "the life out of work and the professions, depriving them of juice, richness, concreteness, and anything else that might render them of human interest."[138] Judge Richard Posner, who rejects legal formalism in favor of practical reason, a more worldly mode of analysis, [139] derides legal formalism as the ineffective thought patterns of an out of touch "failed law professor."[140]

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132 *See* STEFANCIC & DELGADO, *supra* note 44, at 38 (explaining that after the Warren court, the Supreme Court has moved toward a more formalist model of jurisprudence).

133 ROBBINS-TISCIONE, *supra* note 6, at 150.

134 POSNER, *supra* note 2, at 39.

135 Scalia & Garner, *supra* note 89, at 54.

136 *See supra* note 101.

137 James Boyd White, *An Old-Fashioned View of the Nature of Law*, 12 THEORETICAL INQUIRIES L. 381, 381 (2011).

138 STEFANCIC & DELGADO, *supra* note 44, at xi.

139 Practical reason requires "setting a goal—pleasure, the good life, whatever—and choosing the means best suited to reaching it." POSNER, *supra* note 2, at 71.

140 POSNER, *supra* note 118, at 76.

As discussed more fully above, the classical view of categories, which legal formalism adopts, is cognitively inaccurate.[141] Categories are not "fixed, stable, [with an] objective structure."[142] Cognitive science tells us that categories are structured in a messy, fluid, radial, and arbitrary way.[143] Moreover, Professor Johnson reminds us that what a thing is, or is not, depends on the "values held by the people who get to decide the issue"—that is, the people with the power to construct categories.[144]

d. Why is Legal Formalism Not Dead?

As the foregoing shows, the classical conception of reason and categories, embraced by legal formalism, does not match with how we think or with how the world really works. Moreover, legal formalism is responsible for terrible things—great injustice and possibly deep unhappiness.[145] Nonetheless, formalist reasoning, especially the syllogism, remains firmly ensconced in legal culture, heralded as the best way to present information. SUNY Buffalo Professor James Gardner writes that "[w]hen presented with the properly framed major and minor premises of a syllogism, the human mind seems to produce the conclusion without any additional prompting."[146] Further, "to deny the syllogism's conclusion is to deny the world itself as we understand it."[147]

So why is the syllogism, with its neat and clean categories, so powerful? What makes these ancient thought structures so resilient? The answer comes from a different corner of cognitive science, that part of the discipline that focuses on how humans process information. As set forth below, ample studies indicate that the human mind responds positively when information is presented clearly and neatly. So, even though formalist reasoning comes with deep faults,[148] its symmetry and structure help audiences engage with and make sense of law's complexity.

141 *See supra* notes 26– 40 and accompanying text.

142 Johnson, *supra* note 23, at 848.

143 *Id.* at 851.

144 *Id.* at 849.

145 *See supra* notes 103–19 and 137–40 and accompanying text.

146 JAMES A. GARDNER, LEGAL ARGUMENT: THE STRUCTURE AND LANGUAGE OF EFFECTIVE ADVOCACY 5 (2d ed. 2007).

147 *Id.*

148 Formalistic reasoning does not always produce negative results. There are occasions when it has been deployed to reshape categories and correct longstanding injustice. One powerful example can be seen in *Brown v. Board of Education*, where appellants skillfully deployed syllogistic reasoning to successfully argue that public-school segregation violated the Equal Protection clause of the Fourteenth Amendment. *See, e.g., infra* notes 232–34 and accompanying text.

III. Cognitive Science Approaches to Information Processing

With respect to arguments, Judge Posner intuits that symmetry and simplicity make an argument more persuasive, convincing the reader that "[*t*]*hat's* how it must be."[149] Posner's intuition is spot on, in terms of what we know about how humans process information. Studies on human-information processing indicate that clean categories deployed in a syllogistic structure make it easier for human minds to engage with legal information. In the context of cognitive approaches to categorization, the human need for order and structure appears in the universal desire to make a "theory of everything."[150] We assume that there is a single right taxonomy of things, in part because of the ease with which we can assign categories to basic objects—like cats, dogs, chairs, and tables.[151]

The attractiveness of order and structure also makes sense from an evolutionary perspective. To avoid information overload in an overwhelmingly complex world, humans attempt to structure the world in a more "simplified, more manageable form."[152] In perceiving information, humans naturally default to the most simple, regular, and symmetrical form that is helpful for perceiving stimuli.[153] In the context of information processing, the principles of cognitive load, fluency, and chunking explain how and why clean-cut legal reasoning is so effective.

A. Cognitive Load and Working-Memory Theory

Where the goal is to persuade, presenting information in an easily digestible form carries many benefits. In Volume 11 of this journal, Arizona State law professor Andrew Carter lucidly describes both cognitive load and working-memory theory. Professor Carter explains that readers have limited resources when it comes to the ability to process information.[154] Cognitive load refers to the amount of information that the mind must hold, but also includes how each piece of information relates to another.[155] In terms of the number of informational items that the brain

149 POSNER, *supra* note 2, at 149–50 (quoting LUDWIG WITTGENSTEIN, ON CERTAINTY 92 (G.E.M. Anscombe & G. H. von Wright eds., 1969).

150 LAKOFF & JOHNSON, *supra* note 14, at 348.

151 LAKOFF, *supra* note 5, at 119.

152 Steven L. Neuberg & Jason T. Newsom, *Personal Need for Structure: Individual Differences in the Desire for Simple Structure*, 65 J. PERSONALITY & SOC. PSYCHOL. 113, 113 (1993).

153 ANNE MARIE SEWARD BARRY, VISUAL INTELLIGENCE, PERCEPTION, IMAGE, AND MANIPULATION IN VISUAL COMMUNICATION 47 (1997).

154 Andrew M. Carter, *The Reader's Limited Capacity: A Working Memory Theory for Legal Writers*, 11 LEGAL COMM. & RHETORIC 31, 41 (2014).

155 *Id.* at 42 (citing JOHN SWELLER, PAUL AYRES & SLAVA KALYUGA, COGNITIVE LOAD THEORY 57–58 (2011)).

can hold, we know that humans have a general capacity to remember and engage with about seven different concepts.[156] Related to cognitive load is working memory, which refers to the type of brainpower that we draw upon when reading and analyzing text.

Working memory "refers to the ability to actively maintain task goals in the face of interference and distraction and to selectively retrieve goal relevant information from long-term memory."[157] In the context of reading, if working memory is taxed too much, the mind will wander.[158] Obviously, if the goal is to persuade our reader about a complex legal issue, we do not want the reader's mind to be wandering as they consider our points. Hence, the goal for legal writers is to present information in a way that draws upon the least amount of working memory, requiring the least amount of cognitive load.[159]

One way to reduce cognitive load is to present information so that it can be processed *automatically*, which draws upon less working memory.[160] Relevant here is the concept of system 1 and system 2 processing. In the mind, system 1 processing is "automatic, effortless and in parallel."[161] On the other hand, system 2 is more analytical, and requires more working-memory sources.[162] Automatic processing occurs within system 1; system 2 requires more mental energy.[163] Automatic processing is engendered when complex pieces of information are "chunked" together and when the text is presented fluently.

1. Chunking

One can increase the number of items that the mind can remember by "chunking" those items together.[164] Chunking involves a process of "recoding," which has the mind "group the input events, apply a new name to the group, and then remember the new name rather than the original

156 George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCHOL. REV. 81 (1956), *reprinted in* 101 PSYCHOL. REV. 343, 348–49 (1994).

157 Nash Unsworth & Brittany D. McMillan, *Mind Wandering and Reading Comprehension: Examining the Roles of Working Memory Capacity, Interest, Motivation, and Topic Experience*, 39 J. EXPERIMENTAL PSYCHOL. 832, 832 (2013).

158 *Id.* at 838.

159 Carter, *supra* note 154, at 41, 44.

160 Nadine Marcus, Martin Cooper & John Sweller, *Understanding Instructions*, 88 J. OF EDUC. PSYCHOL. 49, 49 (1996); K. Kotovsky, J.R. Hayes & H.A. Simon, *Why Are Some Problems Hard? Evidence from Tower of Hanoi*, 17 COGNITIVE PSYCHOL. 248, 292 (1985).

161 Daniel M. Oppenheimer, *The Secret Life of Fluency*, 12 TRENDS IN COGNITIVE SCIENCE 237, 239 (2008) [hereinafter Oppenheimer, *The Secret Life of Fluency*]; *see also* Adam L. Alter, Daniel Oppenheimer, Nicholas Epley & Rebecca Eyre, *Overcoming Intuition: Metacognitive Difficulty Activates Analytic Reasoning*, 136 J. EXPERIMENTAL PSYCHOL. 569, 569 (2007) [hereinafter Alter, Oppenheimer, Epley & Eyre, *Overcoming Intuition*].

162 Oppenheimer, *The Secret Life of Fluency*, *supra* note 161, at 239.

163 *Id.*

164 Miller, *supra* note 156, at 349.

input events."[165] Recoding is an "extremely powerful weapon for increasing the amount of information that we can deal with."[166]

A writer can chunk by stringing together words, which can function as chunks.[167] Nobel Laureate Hebert Simon explains that a chunk of material "is a particular amount [of information] that has specific psychological significance."[168] Simon asks if we can remember these nine words: "Lincoln, milky, criminal, differential, address, way, lawyer, calculus, Gettysburg."[169] Now, try to remember "Lincoln's Gettysburg Address, Milky Way, Criminal Lawyer, and Differential Calculus."[170] As the exercise illustrates, it becomes much easier to remember these words when they are chunked.

Categories are useful units for chunking information. Incorporating complex concepts into a simpler category allows the information to be processed automatically, leading to a lessened cognitive load, which in turn increases understanding.[171] The use of abstract categories to represent complex concepts is known as cognitive structuring.[172] Cognitive structuring is one of the most common strategies humans use to avoid information overload.[173]

2. Fluency

In the context of information processing, cognitive load can also be reduced by presenting it in a fluent form. Fluency is the "subjective experience of ease or difficulty with which we are able to process information."[174] In contrast with less fluent statements and authors, people judge fluent statements as more true, likeable, frequent, and famous and the authors of fluent statements to be more intelligent.[175]

So what exactly is fluent text and disfluent text? Some studies generate disfluency through fonts that are difficult to read.[176] While font choice is important for legal writers,[177] more-substantive concepts of

165 *Id.* at 350.

166 *Id.*

167 Herbert A. Simon, *How Big is a Chunk?*, 183 SCIENCE 482, 483 (1974).

168 *Id.* at 482.

169 *Id.* at 483.

170 *Id.*

171 Marcus, Cooper & Sweller, *supra* note 160, at 49.

172 Neuberg & Newsom, *supra* note 152, at 113.

173 *Id.*

174 Oppenheimer, *The Secret Life of Fluency*, *supra* note 161, at 237; *see also* Christian Unkelbach, *The Learned Interpretation of Cognitive Fluency*, 17 PSYCHOL. SCIENCE 339, 339 (2006) ("Cognitive fluency is the experienced ease of ongoing conceptual or perceptual cognitive processes.").

175 Oppenheimer, *The Secret Life of Fluency*, *supra* note 161, at 237.

176 *See* Alter, Oppenheimer, Epley & Eyre, *Overcoming Intuition*, *supra* note 161, at 570; Adam L. Alter, Daniel M. Oppenheimer & Nicholas Epley, *Disfluency Prompts Analytic Thinking—But Not Always Greater Accuracy: Response to Thompson et al.*, 128 COGNITION 252, 253 (2013) [hereinafter Alter, Oppenheimer & Epley, *Disfluency Prompts Analytic Thinking*]; Daniel M. Oppenheimer & Michael C. Frank, *A Rose in Any Other Font Would Not Smell as Sweet: Effects of Perceptual Fluency on Categorization*, 106 COGNITION 1178, 1183 (2006) [hereinafter Oppenheimer & Frank, *A Rose in Any Other Font*].

177 *See, e.g.*, MATTHEW BUTTERICK, TYPOGRAPHY FOR LAWYERS: ESSENTIAL TOOLS FOR POLISHED AND PERSUASIVE DOCUMENTS (2010).

fluency are of greater relevance to this article. For instance, symmetry produces a fluency effect. Study subjects judged the phrase "woes unite foes" to be more true than "woes unite enemies."[178] One can also generate fluency through repetition, because repeating something makes a thing seem more familiar.[179] The more we see something, the more we like it.[180]

Categories also produce fluency. This kind of fluency[181] is related to the familiarity that comes from repetition. Categories existing at the most basic level (the most typical exemplar of a category) promote the most amount of fluency. As fluency expert Daniel Oppenheimer and his colleagues explain,

> The most typical exemplars of a category are often the most frequent in our experience, the most easily accessible in our memories, and the most primed by recent experiences. Because of this, the experience of fluency and the judgment of good category membership frequently co-occur over the course of a lifetime's experience.[182]

In terms of the writing itself, simplified syntax, shorter words, and transition words promote fluency. For instance, in the context of students taking tests, cognitive load was reduced (demonstrated by faster response times) in the tests that employed simplified syntax: shorter sentences, less-compound construction, and less use of infrequent syntactic forms such as the passive voice.[183] Transition words were also found to reduce the reader's cognitive load, because they made it easier for the mind to process the connections between words.[184] Daniel Oppenheimer and his associates reached similar results when they presented test subjects with two versions of a translated Descartes essay.[185] One essay was written with complex words and a sophisticated grammatical structure, while the other relied on more simple wording and syntax.[186] Participants who read the simpler version rated the author as more intelligent than those who read

178 Hyunjin Song & Norbert Schwartz, *If It's Easy to Read, It's Easy to Do, Pretty, Good, and True*, 23 THE PSYCHOLOGIST 108, 111 (2010) (citing M.S. McGlone & J. Tofighbakhsh, *Birds of a Feather Flock Conjointly(?): Rhyme as Reason in Aphorisms*, 11 PSYCHOL. SCIENCE 424 (2000)).

179 *Id.* at 110, 111.

180 *Id.* at 111.

181 Categories function as a method of chunking information. *See supra* notes 171–73 and surrounding text.

182 Oppenheimer & Frank, *A Rose In Any Other Font*, *supra* note 176, at 1179.

183 *See* Bruce K. Britton, Shawn M. Glynn, Bonnie J. Meyer & M. J. Penland, *Effects of Text Structure on Use of Cognitive Capacity During Reading*, 74 J. EDUC. PSYCHOL. 51, 54–56, 58 (1982).

184 *Id.* at 56, 58.

185 Daniel M. Oppenheimer, *Consequences of Erudite Vernacular Utilized Irrespective of Necessity: Problems With Using Long Words Needlessly*, 20 APPLIED COGNITIVE PSYCHOL. 139, 142–44 (2006).

186 *Id.* at 144.

the more complex version.[187] In a slight variation of the study, the negative judgments about the author's intelligence remained unequal, even when the participants were told that the author was Rene Descartes.[188]

Readers interested in what fluency theory tells us about the plain-language debate should read Julie Baker's informative article *And The Winner Is: How Principles of Cognitive Science Resolve the Plain Language Debate*.[189] Professor Baker concludes that fluency principles mandate that we use plain language to better engage legal readers.[190] And, with respect to cognitive load, Professor Carter reaches similar conclusions in his 2014 article in this journal.[191]

There is one wrinkle within fluency theory. In one study, Princeton University students taking a difficult test *performed better* when the text was printed in a difficult-to-read font.[192] The theory is that the difficult font triggered more system 2 (analytical thinking) than system 1 (intuitive thinking) in the test subjects, which generated better answers.[193] However, a subsequent study replicated the results for test subjects with high IQs (such as the original subjects) but not for subjects with lower IQs.[194]

It is doubtful whether this study can be applied to a professional legal setting. First, the disfluency created through font may not be equivalent to disfluency created by complex text (which is the most common form of disfluency in legal writing). Second, the study setting (students taking a test) is not analogous to a reader processing a legal argument. Third, I would not recommend purposely presenting an argument in a disfluent form when I know that my reader is busy, impatient, and highly intelligent (i.e., a typical judge). There would be great risk that the judge would react negatively and judge the writer intellectually incompetent. And finally, we hope that judges will first intuitively grasp our arguments, but eventually activate their analytical faculties to complete the decisionmaking process.

B. What The Theories of Cognitive Load and Fluency Tell Us About Law's Ancient Logocentric Thought Structures

From the cognitive science of information processing, theories of cognitive load and fluency explain why ancient legal-thought structures, which rely on formal analysis, syllogisms, and clean-cut categories, have remained in our legal culture so long. These forms have stayed with us for

187 *Id.*

188 *Id.*

189 Julie A. Baker, *And The Winner Is: How Principles of Cognitive Science Resolve the Plain Language Debate*, 80 UMKC L. Rev. 287 (2011–2012).

190 *Id.* at 301–04.

191 *See* Carter, *supra* note 154, at 50.

192 Alter, Oppenheimer, Epley & Eyre, *Overcoming Intuition*, *supra* note 161, at 570.

193 *Id.* at 570–71.

194 Alter, Oppenheimer & Epley, *Disfluency Prompts Analytic Thinking*, *supra* note 176, at 254.

so long because they allow us to efficiently process complex legal information. The tools of legal formalism help lawyers present the law's intricate and voluminous complexities in the most engaging way possible. This section explains how legal syllogisms and categories help reduce the reader's cognitive load and increase the fluency of the text—rendering arguments more accessible and, ultimately, more persuasive. In order to mitigate the potential harm produced by deploying categories in an overly rigid way, this section suggests a metaphor of translation, which can help lawyers bridge the gap between the messy way that the facts and law collide with the client and the clean and neat way that these law and facts should be presented to the court.

The syllogism, the bedrock of formal legal reasoning, allows the legal author to present highly complex information in a shorthand way. In so doing, the syllogism fosters both chunking and fluency. The syllogism breaks a point of argument into three lines, with three different categorical terms:

> Publication of information in a newsletter is dissemination to the public.
> The defendant published information in a newsletter.
> The defendant disseminated the information to the public.[195]

Here, the three terms are (1) publication of information in a newsletter, (2) the defendant's specific conduct of publishing information in a newsletter, and (3) the legal conclusion, dissemination to the public. The first line of the syllogism sets up the rule (or major premise) setting forth the category (publication of information in a newsletter) that is a necessary and sufficient condition for the legal conclusion (dissemination to the public). The second line of the syllogism is concerned with equating the defendant's specific conduct with the condition necessary to establish the legal conclusion. The third line of the syllogism then concludes the formula in a way that cannot be denied.

The syllogism allows legal authors to chunk complicated information and present it in a clean way. For instance, the legal element of "dissemination to the public" carries a lot more weight than the literal meaning of its four words. It is an element of a privacy tort; it is something that plaintiff must demonstrate to the court to prove his or her prima facie case; and it references pages of legal precedents that have defined the element over the years. Yet, in the syllogism, the writer can refer to all of these competing pieces of information with four simple words, the words of the category. In this way, the syllogism functions as a recoding device,

195 ROBBINS-TISCIONE, *supra* note 6, at 156.

which allows the lawyer to increase the amount of information the audience is able to grapple with.[196] It enables the reader to process the crux of the argument in an automated way, reducing his or her cognitive load.[197]

The syllogism is also fluent because it is symmetrical and repetitive. The symmetry occurs from the three lines and the way that the legal conclusion is stated at both the end of the major premise (first line) and the end of the conclusion (third line). Further, each of the three terms in a syllogism is repeated twice. Each of these three terms qualify as a "phrase that pays," those valuable terms that should be distributed throughout a written legal argument.[198] From the information-processing studies such as those by Oppenheimer and Simon, we know that both symmetry[199] and repetition[200] engender the reader's perception of fluency. Finally, the syllogism's reliance on elemental legal categories stated the same way in case after case (i.e., *dissemination to the public* is an element of a privacy tort) creates fluency because legal terms of art function as the most typical exemplar of a category.[201] Thus, the accessibility of meaning that flows from using the well-known name of the legal element produces a fluency effect.

The science of human information processing also explains how concision, simplified structure, and clear transitive relationships promote fluency effects.[202] Information-processing theories also have advice for *where* the writer should deploy syllogisms in his or her writing. In their enlightening book, *The Science Behind the Art of Legal Writing*, Professors Lance Long and Catherine Cameron explain that learners enjoy a higher retention rate if material is presented to them in an "advance organizer" overview form, before presenting the more-intricate substantive portions of the argument.[203]

The "advance organizer" studies tell us that a short and simple syllogism should appear in the beginning sections of a legal argument. The core syllogisms should be embedded within the questions presented[204]

196 *See supra* notes 164–73 and accompanying text.

197 *See supra* notes 160–63 and 171–73 and accompanying text.

198 Mary Beth Beazley, A Practical Guide to Appellate Advocacy 205 (3d ed. 2010).

199 *See supra* note 178 and accompanying text (explaining how "woes unite foes" was judged to be truer than "woes unite enemies").

200 *See supra* notes 179–180 and accompanying text.

201 *See supra* note 182 and accompanying text.

202 *See supra* notes 183–188.

203 Cameron & Long, *supra* note 12, at 79–81.

204 *See* Bryan Garner, The Winning Brief 85–91 (2d ed. 2004) (advocating that writers use a syllogistic framework to draft the question presented).

and woven throughout the summary of the argument. And then, throughout the rest of the brief, the author should refer to his or her syllogisms in point headings and paragraph topic sentences. Interestingly, the studies that Long and Cameron cite also explain why the format of the legal argument has remained unchanged for thousands of years. This longstanding format, which places the questions presented, facts, and summary of the argument first, easily enables lawyers to use advanced organizers to present their clients' cases. The ancients were so in tune with modern cognitive science!

While the syllogism models legal formalism at the micro level, we can broaden our scope to discern why formal reasoning with abstract categories remains so entrenched in Western legal culture. Cognitively, clean and neat categories help us find our way through a mass of complicated legal information. Again, the classical understanding of reason is eerily aligned with modern cognitive science's understanding of information processing.

Though categories are useful and necessary, there are serious drawbacks. For instance, as addressed above with the *Dred Scott* and *Plessy v. Ferguson* cases, the use of logocentric categories make it easy to draft facile arguments in support of injustice.[205] The formal use of abstract, clean categories does not reflect how we really think.[206] Moreover, abstract categories tend to screen out messy facts that are not compliant with the gestalt vision for what the category is or should be. And these messy facts often relate to emotion, justice, dignity, and other concepts that do not fit into the disembodied, rational norm for legal thinking.[207]

Despite the negatives, clean categories are a necessary component of legal analysis. In thinking about forms of legal analysis and making legal analysis look more similar to how humans really think, Professor Winter explains that

> [n]o one who has studied the Talmud could possibly question its analytical rigor. Yet, its style of reasoning and organization—which, tracking oral changes in the Talmudic academies of Palestine and Babylonia, sometimes borders on stream of consciousness—stands as a

205 *See supra* notes 74–78 and 102–05 and accompanying text (discussing the *Dred Scott* and *Plessy v. Ferguson* cases).

206 *See supra* section I(B)(i)(b).

207 Clark D. Cunningham, *The Lawyer as Translator, Representation as Text: Towards an Ethnography of Legal Discourse*, 77 CORNELL L. REV. 1298, 1303–31 (1992) (explaining the story of obtaining a good result for a client through dismissal of his criminal case, yet leaving the client feeling dissatisfied because the legal system did not allow his voice to be heard or his dignity to be restored.).

> sixty-volume tribute to the intricate, often convoluted rhythms of the human mind.[208]

Mark Johnson writes that "we should think of our ethical and legal concepts as, for the most part, having complex radial structures, manifesting prototype effects."[209] Professors Winter and Johnson have a great point—perhaps we should *think* about the law in a more nonlinear way. But in terms of writing legal arguments, a stream-of-consciousness and radially structured argument will not work. As legal writing experts Steven Armstrong and Tim Terrell explain, effective legal writers must be able to turn the rocky and hilly terrain of Western Colorado into terrain that looks more like the flat plains of Kansas.[210]

Translation provides a helpful metaphor for bridging the distance between a cognitively realistic approach to the law (messy) and the way we must present the law to legal audiences (neat). The lawyer's job should be to translate the client's facts into the categorical forms that the law recognizes.[211] But, as with any kind of translation, meanings valued by the client often get lost in the process.[212] A good legal translator should strive to collaborate with and translate the client's story in a way that amplifies the client's voice in a legal setting, without changing the story's core meaning.[213] In order to become effective translators for clients, lawyers must first learn how to formally reason with legal categories. However, it is also important for attorneys to come to these skills with a certain amount of criticality and empathy. From a professional-development perspective, the next section explains why it is so important for lawyers to acquire specific knowledge and skills in category identification and construction. It then describes a series of thought exercises that can be used to deepen one's understanding legal categories.

208 WINTER, *supra* note 81, at 61.

209 Johnson, *supra* note 23, at 852.

210 STEVEN ARMSTRONG & TIMOTHY TERRELL, THINKING LIKE A WRITER 4 (3d ed. 2009).

211 Cunningham, *supra* note 207, at 1299–300; White, *An Old-Fashioned View of the Nature of Law*, *supra* note 137, at 329–31.

212 *See* Cunningham, *supra* note 207, at 1303–31; *see also* Lucie E. White, *Seeking "... The Faces of Otherness ...": A Response to Professors Sarat, Felstiner, and Cahn*, 77 CORNELL L. REV. 1499, 1507 n.35 (1992) (explaining that advocacy is a "practice of translation" but "translation is also replacement of the other's voice").

213 Cunningham, *supra* note 207, at 1303–31.

IV. What Lawyers Should Know: Mastering Categories as a Method for Developing Professional Expertise

From a professional-development perspective, there are three reasons why every legal writer should gain a critical understanding of how legal categories work. First, after mastering the basic meaning of a legal text, a critical view of categories enables the advocate to gain metacognitive knowledge. Metacognitive knowledge is higher order "thinking about thinking."[214] A common kind of metacognitive strategy, for reading, is a self-questioning process. If the reader can pose and answer his or her own questions about the text, then he or she will be able to discern whether or not she has grasped the material.[215] In terms of learning theory, students who practice metacognition tend to be better learners and enjoy higher learning outcomes.[216] If we apply this learning theory concept to law practice, we can predict that lawyers with metacognitive knowledge will obtain a deeper mastery of legal texts, which will then lead to facile uses of those texts for advocacy purposes.

To use a cooking metaphor, metacognitive thinking functions as a kind of prepping, slicing and dicing legal texts to shape them for optimal use in a particular argument. In the context of interfacing with case opinions, metacognition forms after the legal reader comprehends the basic meanings of the text—rule, holding, facts, etc. At this point, the reader can reverse-engineer the categorization process the judge used to reach his or her holding and determine if those category choices were sound.[217] In so doing, the reader gains a deeper understanding of how the judge manipulated the categories underlying the text and gains a vantage point into how the text might be manipulated (prepped) in the future. When this legal reader sits down to write on his or her client's behalf, he or she can deploy the categorization process to craft the most sophisticated and workable argument for her client's needs.

Second, the skill of manipulating categories is an adaptive skill, a skill that can be transferred to a variety of different legal settings.[218] Practitioners with adaptive expertise function as expert virtuosos; practi-

214 John H. Flavell, *Metacognition and Cognitive Monitoring A New Area of Cognitive-Developmental Inquiry*, 34 AM. PSYCHOLOGIST 906, 906 (1979); Jennifer A. Livingston, *Metacognition: An Overview* 2 (2003) (unpublished paper), *available at* http://files.eric.ed.gov/fulltext/ED474273.pdf).

215 Livingston, supra note 214, at 4.

216 *Id.* at 5.

217 This analytical process is highly similar to Karl Llewellyn's advice to critically question pre-existing legal categories. *See supra* notes 108–11 and accompanying text.

218 COMMITTEE ON DEVELOPMENTS IN THE SCIENCE OF LEARNING, HOW PEOPLE LEARN: BRAIN, MIND, EXPERIENCE, AND SCHOOL 45 (2004).

tioners without it operate as mere artisans.[219] Artisans model competence, whereas virtuosos innovate.[220] Adaptive expertise is fueled by a deep-seated metacognitive knowledge, the ability to monitor current understanding of a problem and determine when it is not adequate.[221] In contrast to nonexperts, experts often do not stop analyzing a problem when they have reached an initial understanding. Experts keep evaluating the problem from different angles until they have a better conception of the problem and can develop more-creative ways of solving it.[222]

In the context of categories, the lawyer with adaptive expertise continues to wrestle with the text, even after he or she has grasped its basic meaning. She or he will consider categorization choices and determine whether different choices might produce different or better outcomes. Lawyers armed with categorization skills will be able to perceive innovative legal solutions that other lawyers may not see. Becoming facile with categories pushes the lawyer toward the level of a virtuoso, moving beyond the seemingly immovable legal text in a verbatim case opinion.

Third, as Professor Melissa Weresh points out in her article, categorization is a skill that enables individuals to journey through the knowledge portal that separates lay people from lawyers.[223] Legal categories convey knowledge about malleability in the law, a threshold concept in law.[224] Threshold concepts are unique to a discipline, cause an irreversible change in a person's cognitive understanding of the discipline, are difficult and challenging (troublesome) to master, and are transformative.[225] Professor Weresh persuasively theorizes that malleability of the law is a threshold concept for law because it marks the difference between law and other disciplines; it integrates several foundational concepts (such as stare decisis, rule of law, and jurisdiction); it is irreversible once it is mastered; it is troublesome (difficult); and, once it is mastered, it permanently transforms a person's understanding of how the law works within institutions and society.[226] In order to effectively enter the portal into law's

219 *Id.*

220 *Id.* at 46.

221 *Id.* at 47.

222 *See id.*

223 Melissa H. Weresh, *Stargate: Malleability as a Threshold Concept in Legal Education*, 63 J. OF LEG. EDUC. 689, 691 (2014).

224 *Id.* at 707–08.

225 *Id.* at 690 n.6, 710–11 (citing Ray Land, Glynis Cousin, Jan H.F. Meyer & Peter Davies, *Threshold Concepts and Troublesome Knowledge: Implications for Course Design and Evaluation*, *in* IMPROVING STUDENT LEARNING: DIVERSITY AND INCLUSIVITY 53, 54 (Chris Rust ed., 2005).

226 *Id.* at 710–11.

professional community, lawyers should master the skill of category manipulation and shaping.

Expert advocates should be able to discern how categories shape the law's landscape as well as effectively use legal categories to customize legal meanings for specific client situations. Expert advocates will choose language that will affect the shape of legal categories, assert control over legal texts, and influence the way that rules interact with the facts on the ground. As illustrated below, the explicit manipulation of categories aids advocates in constructing favorable rules and in developing effective argument structures.

A. Rule Construction and Categories

To understand how to fluidly approach categories in constructing a rule, consider the following simplified holding from a case on entrapment:[227]

> Case A: Held, an undercover police officer posing as a drug dealer did entrap the defendant because the officer waved a revolver at the defendant when he asked the defendant to buy drugs. But for the gun, the defendant would not have committed the crime.

In crafting a standard, advocates for the defense would craft a fairly broad rule with broad categories—an entrapment occurs when police coerce with *sufficient force* to overcome the defendant's reluctance to commit the crime. Prosecutors would craft a narrower rule with more distinct categories—a defendant is entrapped when police pressure him or her at gunpoint or with other *threat of bodily harm* to commit a crime. In this way, advocates use language to affect the size of a rule's categorical borders, which then affects the scope of the rule's applicability. In order to maintain credibility, however, the category must be situated within the "reasonable zone of interpretation," in alignment with the case holding.[228]

B. Categories, Enthymemes, and Syllogisms

Expert legal advocates should also master the art and craft of persuasive syllogistic reasoning, the ability to deftly manipulate the categories in a simple structure to create intuitively persuasive arguments. For

227 David Romantz, Associate Dean of Academic Affairs at the University of Memphis School of Law, authored this exercise. Professor Romantz presented this hypothetical during a presentation at the 2006 Legal Writing Institute Conference in Indianapolis, Indiana.

228 Weresh, *supra* note 223, at 714, 726. *See also id.* at 710 n.131 (explaining that, in order for a legal interpretation to be reasonable, it must comply with ethical and professional norms).

instance, the masterful brief that appellants filed in *Brown v. Board of Education shows* how syllogistic reasoning and category manipulation can be used in tandem to create a shift in the law, in how legal categories are understood. It also illustrates how the ancient form of the syllogism can be used to craft an excellent, game-changing question presented.[229]

The other rhetorical device used in the *Brown v. Board of Education* brief is the *enthymeme*, a rhetorical device that truncates a syllogism. Because the enthymeme relies on a premise that everyone can agree with, the reader fills in the missing piece of the syllogism in his or her mind.[230] Consider the following sentence: *we cannot trust her because she is a politician*. That sentence is a shortened form of the below syllogism:

> Politicians are not trustworthy. [the omitted major premise]
>
> This woman is a politician.
>
> Therefore, we cannot trust this woman.[231]

In the appellants' brief submitted in the *Brown v. Board of Education*[232] case, the advocates structured the second question presented as follows:

> Whether the finding of the court below—that racial segregation in public elementary schools has the detrimental effect of retarding the mental and educational development of [African American] children and connotes governmental acceptance of the conception of racial inferiority—compels the conclusion that appellants here are deprived of their rights to share equally in educational opportunities in violation of the equal protection clause of the Fourteenth Amendment.[233]

When one attempts to extrapolate the syllogism within the above question presented, the following syllogism emerges:

> If a government policy imposes a detrimental effect on the education and mental development of African American children and connotes governmental acceptance of their racial inferiority in an educational context, that policy deprives African American children of their rights to share equally in educational opportunities, in violation of the Fourteenth Amendment.

229 *See* GARNER, *supra* note 204, at 85–91 (advocating that legal writers should cast each question presented as a syllogism).

230 For an explanation and supporting citations for the enthymeme, see *supra* note 103.

231 *See* IAN BOGOST, PERSUASIVE GAMES: THE EXPRESSIVE POWER OF VIDEOGAMES 18 (2007).

232 Brown v. Bd. of Educ., 347 U.S. 483 (1954).

> Kansas City's segregation policy both imposes a detrimental effect on the educational and mental development of African American children and connotes governmental acceptance of the inferiority of African American children.
>
> Kansas City's segregation policy violates the Fourteenth Amendment.

In this example, the authors masterfully used the syllogistic form to reshape the boundaries for equal-protection violations. The conjunctive form of the syllogism—two separate sufficient conditions supporting a constitutional violation—give the argument depth. The syllogistic foundation provides elegance and symmetry, making it seem like the appellants' proposed answer to the question is the only one possible. As further context for this example, it is helpful to review *Plessy v. Ferguson*[234] and analyze its use of formalistic reasoning. Viewing these two precedents together demonstrates the overall effectiveness of fighting logos with logos to bring about a seismic shift in furtherance of social justice.

Expert legal advocates might also use policy to define categories and then amplify their power by slotting them into the classic syllogistic structure.[235] As policy necessarily engages with value judgments and value judgments are themselves based on emotion, this technique allows the legal writer to combine pathos and logos in a highly effective way.[236] Moreover, this device introduces emotional reasoning into the argument in a subtle way so as to "engage the judge's emotions uninvited."[237] The ability to silently inject pathos into logos is ever important in an appellate context where judges greatly resent overt appeals to emotions.[238]

For an example of this technique, consider the Supreme Court's opinion in the *Koretmatsu* case, which took place in a dark period of U.S. history. Fred Toyosaburo Korematsu, an American citizen, refused to comply with a military exclusion order that prohibited his presence in San Leandro, California.[239] Related to the exclusion order, the case also

233 Appellants' Br. at 2, *Brown v. Bd. of Educ.*, 347 U.S. 483 (1954).

234 *See infra* note 105 and accompanying text.

235 Here, I credit and thank Professor Kathleen Burch at Atlanta's John Marshall Law School, who shared this exercise and her enthusiasm for syllogisms with me nearly a decade ago.

236 Legal writing that combines logos and pathos produces optimal results. *See* Kenneth D. Chestek, *Judging by the Numbers: An Empirical Study of the Power of Story*, 7 J. ALWD 1, 10–22 (2010) (describing study in which, when presented with two styles of briefs, one purely based on logos and one based on logos and pathos, judges uniformly preferred the logos-and-pathos brief).

237 SCALIA & GARNER, *supra* note 10, at 32.

238 *See id.* at 32 ("Appealing to judges' emotions is misguided . . . . It can have a nasty backlash.").

239 Korematsu v. United States, 323 U.S. 214, 215–16 (1944) (rehearing denied February 12, 1945).

involved the corralling of Japanese American citizens in detention camps.[240] Two competing syllogisms are discernible within both Justice Hugo Black's majority opinion and Justice Frank Murphy's dissent.[241]

Justice Black uses the following syllogism to frame his decision:[242]

> During war, the government may take measures to prevent sabotage and espionage as long as those measures have a definite and close relationship to the prevention of sabotage and espionage.
>
> Excluding all persons of Japanese descent has a definite and close relationship to espionage and sabotage.
>
> The exclusion order is valid.

Justice Murphy's dissent is structured with this syllogism:[243]

> Military orders that limit civil rights in war must be reasonably related to immediate public danger.
>
> The exclusion order is not reasonably related to public danger (because it assumes that all persons of Japanese descent pose a security risk as per se subversive and political enemies).
>
> The exclusion order is not proper.

When these two syllogisms are viewed side by side, one can see how policy informs the author's category choices. In this case, both jurists are defining the boundaries for the category of justified constraints on a citizen's liberty. Stressing the interest of protecting safety and security during wartime, Justice Black chose to include the prevention of espionage and sabotage within his category.[244] He also cast the category broadly, merely requiring a "definite and close relationship" to the goal of preventing espionage and sabotage.[245] Justice Murphy emphasized the civil rights of American citizens, and constructed the category more narrowly. Rejecting the amorphous "definite and close relationship"

240 *Id.* at 225–26 (Roberts, J., dissenting).

241 Other justices also filed dissenting opinions in the case, but those opinions are less syllogistically structured.

242 *Id.* at 215–24 (majority opinion).

243 Id. at 233–42 (Murphy, J., dissenting).

244 *Id.* at 218 (majority opinion).

245 *Id.*

standard, Justice Murphy would have required an "'immediate, imminent, and impending' public danger" before allowing the military to limit a citizen's civil rights during wartime.[246] In completing this review, one appreciates how underlying policy choices (safety and security vs. civil liberties) influence how a writer decides to structure the categories in her formal legal argument.

V. Conclusion

The roots of our logocentric legal culture reach back thousands of years. Cognitive science challenges two precepts of Western thought—a belief in reason as a detached process that exists separate from the body and a belief in clean-cut categories as mirroring the objective structure of the external world. These two premises are not in line with how humans actually reason and actually categorize information. Although these precepts do not mirror *how we think*, they do reflect *how we think we think*. The science on information processing then takes us to the conclusion that how we think we think (clean categories) closely approximates how we best respond when complex information is presented to us.

In devising these forms so long ago, the ancient sages were remarkably in tune with how our minds interact with information. While the use of dichotomous categories can produce a fallacious sense of certainty for legal conclusions, this style of reasoning is useful for its powerful ability to persuade legal audiences. For lawyers, the skill of category manipulation provides fuel for the journey from layperson to professional lawyer. However, because of the unique power embedded within categories, practitioners should be cognizant of the hidden relationships that can exist between category choices and unjust and unequal outcomes.

246 *Id.* at 234 (Murphy, J., dissenting).