



# BROOKLYN LAW REVIEW

SYMPOSIUM: COGNITIVE LEGAL STUDIES:  
CATEGORIZATION AND IMAGINATION IN  
THE MIND OF LAW

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NOTE AND COMMENTS

## LAW INCARNATE\*

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It is only in the last decade or so that there has been significant work on cognitive science and law. Before that, there was no such field as the “cognitive science of law.” The reason for this is quite simple. First-generation cognitive science had nothing interesting to say about law because it was based on erroneous assumptions about mind, thought, and language. First-generation cognitive science, which emerged in the 1960s, grew out of work in computer science and artificial intelligence that assumed that the mind was disembodied and that thought could be modeled as a functional computational program. This view of cognitive science, which still remains quite influential today, drew on views of thought and meaning that were prevalent in information processing psychology, analytic philosophy, and generative linguistics. Nothing in this paradigm either challenges or contributes to methods and analyses that are available in traditional legal theory. Consequently, that brand of cognitive science simply does not have much to offer to the study of law (nor, I might add, to the study of the mind).<sup>1</sup>

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<sup>1</sup> Excellent accounts of the nature of, and problems with, first-generation cognitive science are given in TERRY WINOGRAD & FERNANDO FLORES, *UNDERSTANDING COMPUTERS AND COGNITION: A NEW FOUNDATION FOR DESIGN* (1986) and FRANCISCO VARELA ET AL., *THE EMBODIED MIND: COGNITIVE SCIENCE AND HUMAN EXPERIENCE* (1991).

Another reason why there is so little good work to date on cognitive science and law is that it is so difficult to acquire the requisite interdisciplinary background in all of the relevant fields of study. Only a handful of people have been able to master the cognitive science research and also know enough about the law and legal theory to draw out the relevant implications.<sup>2</sup> Indeed, even within cognitive science, very few have the interest and breadth of learning to gain an appropriate knowledge of linguistics, developmental psychology, cognitive psychology, and cognitive neuroscience, and I suspect that none of the people in this small group has any substantial knowledge of law. To make matters even worse, an equally small number of people trained in the law have even a superficial knowledge of what is going on in the vast and ever-expanding fields of cognitive science today.

Happily, things have changed dramatically over the last decade. The reason for this transformation is the emergence of a second generation of cognitive science that challenged, on empirical grounds, many of the fundamental assumptions of first-generation cognitive science.<sup>3</sup> This new approach produced a growing body of empirical evidence that required a new view of mind, thought, and language as both embodied and imaginative. Instead of seeing the mind as disembodied, the evidence revealed that our conceptualization and reasoning are grounded in our bodily experience, shaped by patterns of perception and action. Instead of seeing thought as algorithmic, the evidence revealed that thought is at once constrained by the logic of our bodily experience and at the same time dependent on various structures of imagination. These imaginative processes are shaped by the nature of our bodies, our brains, and the patterns of our interactions with our environment. Imagination is therefore constrained and orderly, rather than unruly and irrational.

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<sup>2</sup> Examples of the analysis of conceptual metaphor in legal reasoning include Carl S. Bjerre, *Secured Transactions Inside Out: Negative Pledge Covenant, Property and Perfection*, 84 CORNELL L. REV. 305, 353-64 (1999); F. Stephen Knippenberg, *Future Nonadvance Obligations: Preferences Lost in Metaphor*, 72 WASH. U. L.Q. 1537 (1994).

<sup>3</sup> The assumptions and results of second-generation cognitive science are summarized in GEORGE LAKOFF & MARK JOHNSON, *PHILOSOPHY IN THE FLESH: THE EMBODIED MIND AND ITS CHALLENGE TO WESTERN THOUGHT* 3-117 (1999).

If you apply these new results of contemporary cognitive science to questions about the nature of legal reasoning, you get stunning results. That is precisely what Steven Winter has done in *A Clearing in the Forest*.<sup>4</sup> With an unparalleled breadth and depth, he explores the way recent empirical research from the sciences of mind gives us a new understanding of legal reasoning as embodied, situated, and imaginative. Winter's most impressive achievement is the way he shows how embodied organisms like us, interacting continually with our physical, social, and cultural environments, come up with laws and legal institutions that are at once constrained by our embodiment and at the same time are imaginative, creative, and flexible in their application to our ever-changing experience.

What distinguishes Winter's work is that it exhibits a depth of understanding of cognitive science that is nearly equal to the depth and breadth of his understanding of, and experience with, the practice of law and legal theory. This places Winter in a small and highly elite group of legal scholars who understand, in a profound and detailed way, why cognitive science today requires us to rethink some of our most cherished ideas about law. Winter's project is to develop a genuinely productive dialogue between cognitive research (including cognitive neuroscience), the work of philosophers ranging from J.L. Austin to Merleau-Ponty to Heidegger to Foucault, and the mountains of legal theory (and practice) that have arisen over the past hundred years.

The application of cognitive science to law rests on the following assumption: Law is a human creation of human minds dwelling in human bodies, in human societies, operating within human cultural practices. And so, to understand how law works, one must know how all these aspects of human experience and thought work. To oversimplify, we have got to know how the "mind" works, and that is precisely the focus of the cognitive sciences. Hence, the cognitive sciences are indispensable for a comprehensive and deep understanding of law.

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<sup>4</sup> STEVEN L. WINTER, *A CLEARING IN THE FOREST: LAW, LIFE, AND MIND* (2001).

Now, one is entitled to know why any of this should matter. My answer is this: It humanizes law. It makes legal reasoning comprehensible by explaining it as the result of basic human capacities for meaning-making and for deliberation and judgment. The picture that emerges from these analyses is that legal concepts are, for the most part, not static, literal, context-free principles, and yet neither are they arbitrary or radically subjective social constructions. Winter traces a middle way between the extremes of objectivism and subjectivism. We do not simply "discover" legal concepts and apply them to cases; nor do we construct them out of thin air, driven only by our interests and our pursuit of power. Instead, they grow out of our problematic, historically and culturally situated communal practices and institutions. They are at once constrained by communally embedded understandings and practices, and yet they are open-ended in important ways that make it possible for law to grow in response to significant changes in human history. As Winter so eloquently expresses this, "what actually stands behind the majestic curtain of Law's rationality and impartiality is nothing other than ourselves and our own, often unruly social practices."<sup>9</sup> And the cognitive sciences have much to teach us about ourselves, our social practices, and law.

When I say that Winter's work "humanizes" law, what I mean is that, by showing how law is the result of ordinary human processes of conceptualization and reasoning (many of which are unconscious), we discover both why law is so important for us (why it can work the way it does) and also what its limitations are. One of the most important lessons we can learn from this work is how dangerous legal fundamentalism is. By "fundamentalism" I mean the view that all meaning is specifiable in sets of literal concepts and propositions that can apply directly to our given experience, and that reasoning is a rule-like activity that operates logically and linearly with these concepts. In our culture, fundamentalism is understood to be a religious and theological doctrine about the nature of religious belief and revealed truth. But it is, in fact, a literalism and objectivism about knowledge

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<sup>9</sup> *Id.* at xiv.

and understanding that extends to all aspects of our lives, from religion to morality to law to politics to science to art.<sup>6</sup>

It is important to see that the fundamentalism (which Winter calls the "rationalist" or "objectivist" model) is not limited only to traditional foundationalist accounts of meaning and knowledge. He shows why many so-called "postmodern" views of concepts, reasoning, and law are equally fundamentalist in their own way. Here there are two main versions of postmodern fundamentalism: First, there are those who assume that, if there are no absolute foundations, then our only alternative is subjectivism and relativism, which they complacently embrace. They thus buy into objectivism's either/or view of knowledge and meaning. They implicitly accept the fundamentalist idea that the only knowledge there is must be based on absolute literal foundations. Second, there are liberal Wittgensteinians who pride themselves on having understood that all our thought is framed by language games, but who then naively proceed to analyze aspects of various language games using objectivist tools and assumptions. Their very method of analysis is based on fundamentalist views of thought and language, and so this stains their insights about the context-dependence of our conceptual systems and practices. In short, the fundamentalism that Winter carefully dismantles and replaces with a cognitively realistic orientation, is a pervasive objectivism that can be found throughout many of our most popular views of meaning, thought, and language.

In some of my earlier work,<sup>7</sup> I focused my criticism mostly on the ethical version of fundamentalism, which I named the Moral Law Folk Theory. According to the Moral Law Folk Theory of ethics, morality is a system of universal rules, ascertainable by human reason, and supposedly supplying strict guidance for ethically correct action.<sup>8</sup> Reason, according to this objectivist view, guides the will by giving it moral laws—laws that specify which acts are morally

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<sup>6</sup> Analyses and criticisms of the objectivist views of meaning, reason, and truth that underlie such fundamentalism can be found in MARK JOHNSON, *THE BODY IN THE MIND* at xix-xxxviii, 1-17, 173-212 (1987); GEORGE LAKOFF, *WOMEN, FIRE, AND DANGEROUS THINGS* 157-218 (1987).

<sup>7</sup> See generally MARK JOHNSON, *MORAL IMAGINATION: IMPLICATIONS OF COGNITIVE SCIENCE FOR ETHICS* (1993).

<sup>8</sup> *Id.* at 1-12.

prohibited, which are morally required, and which are simply permissible. Universal reason not only is the source of all moral laws but also tells us how to apply those principles to concrete situations. Moral reasoning, based on this view, is thus principally a matter of getting the correct description of a situation, determining which moral law pertains to it, and figuring out what action moral law requires for the given situation. The corresponding fundamentalist version of this in legal theory is, I assume, fairly obvious.

One of the important things Winter has done is to show why such a fundamentalism is both psychologically unrealistic and also dangerous. The massive evidence for its psychological unreality comes mostly from studies of category formation, conceptual structure, and reasoning. The fundamentalist view requires what is known as the classical theory of categories, according to which a given concept is defined by a precise set of necessary and sufficient conditions, that is, a set of properties or features that jointly define membership in a particular category. Concepts of this classical sort are thought by objectivists to provide the basis for moral and legal rules that can be applied to concrete situations. As Winter explains:

All of the perceived advantages of rules derive from their categorical quality. The clarity, certainty, and predictability for which rules are prized are (on this view) a function of the conclusive and unconditional nature of their coverage: If the posted speed limit is fifty-five, then one may drive at fifty-five miles per hour. So, too, it is the absolute character of a rule—i.e., its status as a categorical reason for decision—that enables a decisionmaker to absolve herself of responsibility by pointing to the rule as complete justification.<sup>9</sup>

Winter then proceeds to show that rules do not work this way, partly because the concepts that make up the rules do not work the way they are required to, and partly because rules only work relative to a context of social and cultural practices, institutions, and cognitive models.<sup>10</sup>

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<sup>9</sup> WINTER, *supra* note 4, at 187.

<sup>10</sup> *Id.* at 186-222.

The philosopher John Searle has given some nice examples of the situatedness of meaning that Winter is arguing for.<sup>11</sup> Now Searle is an objectivist and a literalist, so his analysis of the cases he discusses is misguided, I believe. But his humorous examples can be appropriated in support of Winter's account. What Searle gets right is that the truth of even the most straightforward propositions and directives rests on a vast background of models, practices, and assumptions that make it possible for us to understand and evaluate those statements. Consider his example of the old philosophical chestnut, "The cat is on the mat," used by countless generations of unimaginative philosophers as an illustration of literal meaning and truth conditions. "The cat is on the mat" is true, if and only if *the cat is on the mat*.<sup>12</sup> What could be more obvious? However, as Searle points out, there is really nothing obvious about this at all, for, in fact, our seemingly facile determination of when the statement "The cat is on the mat" is true depends on a large set of background assumptions.<sup>13</sup>

Consider a simple picture we could draw of my cat, Beta, sleeping happily on a woven mat. Here, it is uncontroversially true that *the cat is on the mat*. But what would the case be, for example, if the cat and mat had the same orientation as in the picture of Beta and the mat, yet with cat and mat floating in outer space beyond the Milky Way galaxy?

Oh, you will say, everybody knows that we meant that the truth conditions apply only within our gravitational field, at or near the earth's surface. So that would be like saying that we render the sentence as "The cat is on the mat (this sentence only applies at or near the surface of the earth or in some similar gravitational field)." The idea here is that we would just have to build in the relevant contextual conditions as part of a background presupposed any time we make truth claims. This is the view held by many who think that legal rules and their concepts are completely determinate. They think that what we're really doing in applying a law is just "making

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<sup>11</sup> John Searle, *Literal Meaning*, in *EXPRESSION AND MEANING: STUDIES IN THE THEORY OF SPEECH ACTS* 117-36 (1979).

<sup>12</sup> One can almost hear the nefarious Dr. Evil, of Austin Powers' fame, expostulating "Cat . . . mat . . . , Cat on mat, riiiiiiight." *AUSTIN POWERS* (New Line Cinema 1997)

<sup>13</sup> Searle, *supra* note 11, at 120-26.



explicit" what was "implicit" in the concept all along. But this won't do, even for the cat on mat scenario. Searle asks, what if we are in a rocket ship in outer space and we see cat/mat pairs floating by in various orientations.<sup>14</sup> Some float by in the canonical *cat on top of mat* orientation, while others have the mat turned vertically, but with the cat touching the mat. It might be correct to affirm that the cat is on the mat in certain orientations (including some non-canonical ones), even though we are outside the gravitational field near the earth. But this would be a matter of what our purposes and interests were in stating truths about cats and mats. We cannot eliminate the pragmatic concerns and interests of the people to whom such utterances make sense and who use such utterances to accomplish certain coordinated communicative ends.

You can see the same point, Searle argues, in considering not just true or false descriptive assertions, but also "performative" speech acts like directives and orders. What if I order a hamburger, and you deliver it to me at the restaurant encased in a two pound block of clear lucite plastic. Did I fulfill your order, or not? Should you have said to me, "hamburger with tomato and mayo, and hold the lucite." No, you shouldn't have to say that, you don't have to say that, and there is a good reason why. Ordering a hamburger is an act performed within what Schank and Abelson call a *restaurant script*.<sup>15</sup> Members of a certain culture share idealized cognitive models and frameworks or scripts concerning what typically happens in restaurants. There are various agents (customers, waiters, cooks, bus boys, cashiers), various objects (food, silverware, dishes, tables, chairs, money), and various typical action sequences (entering the restaurant, being seated, ordering, being served, paying the bill, leaving). These scripted activities and conceptual models vary depending on type of restaurant, time of day, socio-economic class, etc. Some restaurants have plastic "silverware," some have the cashier identical with one of the waiters, some have no waiters at all (as in fast food restaurants). We have highly articulated cognitive models of what it means to order specific foods.

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<sup>14</sup> *Id.* at 121.

<sup>15</sup> ROGER C. SCHANK & ROBERT P. ABELSON, *SCRIPTS, PLANS, GOALS, AND UNDERSTANDING* ch. 3, 42-61 (1977).

Such examples are not just silly nitpickings or entertaining mind-teasers. Behind their humor and entertainment value lies an important point, even if Searle mis-analyzes those cases and does not fully appreciate their significance and scope. The important point is that any statements we make, any directives we give, any rules we lay down are applicable, not because the concepts specify their own determinate conditions of satisfaction, but rather because we understand these concepts and rules relative to shared idealized cognitive models, scripts, and narratives that are tied to embodied experiences, communal histories, practices, and values. The rules can work, when they work, precisely because of these framing cognitive models and practices. They are not, as Searle mistakenly thinks, merely non-propositional, non-semantic background assumptions. Rather, they are part of our conceptual apparatus by which we make sense of and act purposively within concrete situations.

One of the central accomplishments of *A Clearing in the Forest*<sup>16</sup> is that it mounts a massive empirical challenge to the traditional objectivist, fundamentalist theory of law as rule application. Winter sums this up as follows:

Thus, rules *do* work; it is just that they do not work in the rule-like way supposed by the conventional view. . . . Tacit knowledge of a rule's motivating context is both what makes a rule readable and what governs its reach. Because motivation acts as a frame for the rule's component categories, it also characterizes prototypes under the rule.<sup>17</sup>

The key notion here is *motivation*, where "motivation is a function of the existing background of sedimented cultural practice and social experience: the customs, conventions, roles, routines, institutions, objects and other artifacts that comprise the repertoire of which a society is constituted."<sup>18</sup> Winter concludes:

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<sup>16</sup> WINTER, *supra* note 4.

<sup>17</sup> *Id.* at 191.

<sup>18</sup> *Id.* at 191-92.

In other words, the ability to create cultural meanings that will be understood as *law* is contingent on the available social practices, expectations, and mores. Law, then, is the unmistakable product of human interactions as they are institutionalized first in social practice and then as cultural and legal norms.<sup>19</sup>

Winter then proceeds to apply this view of situated, embodied, imaginative meaning and reasoning to the analysis of aspects of various well-known legal cases. In his treatment of the Hart-Fuller debate over the interpretation of a rule prohibiting the use of wheeled vehicles in a public park, he shows that, however "indeterminate" the concept *vehicle* may appear to be in particular cases, our shared cultural, historically-evolving conceptions of the nature, purpose, and meaning of parks allow us to apply this rule with all the specificity we could ever need.<sup>20</sup> Winter's analyses show that the total inadequacy of the conventional objectivist view of laws as rationalist rules in no way undermines our ability to apply laws, because laws are given meaning, purpose, and force by virtue of the shared meanings, practices, and values that make up our evolving cultural experience.

Notice, however, that acknowledging the role of human practices in the understanding and application of law in no way leads to subjectivism and relativism. The reason for this is that human understanding and practices are constrained by our embodied interactions with our environment. Using the results about human thought that are coming out of the cognitive sciences, Winter is thus able to explain both the relative determinacy and the relative indeterminacy of law. Law appears to be completely determinate, and to fit the conventional objectivist or rationalist view of rules, whenever the case in question straightforwardly matches some prototype within the key concepts. Those are the easy cases—the cases at the "core" of the concept—that give us the feeling of certainty, clarity, and ease about what the law means. People out for a Sunday drive are not allowed to take their car for a cruise along the park pathways. Non-prototypical cases can be settled insofar as they can be related to various noncentral members of the category. This requires understanding the principles of

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<sup>19</sup> *Id.* at 193.

<sup>20</sup> *Id.* at 202-06.

extension from the central members, and it requires extensive knowledge of background cognitive models. Because members of a culture will have some shared views about the purposes of parks, at least partial agreement about interpretation of laws pertaining to parks will be possible. Yet there will always be a relative indeterminacy and openness for any rules and laws we construct. This is not a problem to be lamented, as if it undermines law; rather, it simply recognizes the indeterminacy that makes it possible for law to be continuously renewed, relative to changing conditions, values, purposes, interests, and expectations of societies.

As an example of this embodied, situated nature of concepts and rules, consider the spirited and acrimonious public debate over the rules for counting votes that arose in the U.S. presidential election of 2000. One poll conducted shortly after the legal battle over whether a recount should be undertaken indicated that a majority of the American voters were of the opinion that the events surrounding the election show that "the system is broken and needs to be fixed." But was anything "broken?" Perhaps not.

What I found particularly interesting about this argument was the ways it illustrated our cultural reflections on key concepts, leading to their evolution, for better or worse. Maybe what this entire debate showed is just how it is that law grows and evolves according to ordinary cognitive mechanisms. For example, the election debate revealed the complex prototype effects associated with our category *counting*. With an objectivist view of concepts and rules, *counting* should be a category defined by necessary and sufficient conditions. The rules should specify what makes for, to use the Democratic slogan, "a full, fair, and accurate count." But what counts as *counting*? The interpretation of this concept was precisely the issue. One of the things that became quite clear is how much our purposes, interests, and values play a key role in the certification of votes. The concept of a "fair and accurate count" is defined relative to our values, which are themselves the subject of ongoing dispute. When the vote is not close, such issues never arise. But what happens when the election is on the line?

Consider, for example, why many Republicans were infuriated that we would have, as they said repeatedly, "a count, a recount, and another recount," while Democrats could find this perfectly sane and reasonable. One of the things at stake here, among many things, was our cognitive model of *counting*. If, using an objectivist view of concepts and reason, you conceive of counting as an algorithmic procedure carried out on discrete concrete or abstract objects, according to rules operating over classical literal concepts, then one count should be enough. The last thing such a person would want is so-called human "subjectivity" brought into the counting process. But if you think of this as a matter of discerning a voter's intention, then you will think it not only appropriate, but necessary, to make individual judgments concerning whether a dimpled, pregnant, or hanging chad on a ballot indicates a voter's intention.

Although I was distressed by all the ugliness, nastiness, and hostility that this election spawned, I think that this debate and the associated proceedings are an important part of what goes into the transformation of our electoral process. This is precisely how we go about reconsidering our understanding of our fundamental concepts about elections. In spite of all the nastiness and animosity that arose around these issues, this situated process of reflection is a fine example of healthy conceptual expansion and revision of the sort that Winter examines so perceptively and profoundly in law.

In subsequent chapters, Winter goes on to explore this more creative, constructive, adaptive character of law. Once again, using what we are learning about various imaginative structures such as conceptual metaphor, prototypes, blending, analogy, and narrative, he gives an account of the possible growth of law as a dynamic process. Chapter nine explains the cognitive capacities and principles that give analogical reasoning the important role it has in law. In what is to me one of the most compelling chapters in the book, he then proceeds to explain how innovation is possible by means of the cognitive devices he has explored earlier.<sup>21</sup> On this cognitively oriented view, innovation is not, as Richard Rorty and Donald Davidson

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<sup>21</sup> WINTER, *supra* note 4, at ch. 9.

mistakenly believe,<sup>22</sup> merely an irrational, unmotivated, radical leap in thought that somehow reshuffles our entire conceptualization of a phenomenon. Instead, as Mark Turner has argued in several of his books,<sup>23</sup> originality is possible because of ordinary cognitive mechanisms and imaginative structures, such as images, image schemas, conceptual metaphors and metonymies, prototypes, and radial categories. One of the things Winter does so beautifully is to show how now-famous legal arguments were able to transform our understanding of key legal concepts in ways that *now* make perfect sense, once we understand the background conditions and assumptions that can retrospectively be seen to be relevant to the cases in question.<sup>24</sup>

In certain ways, the chapter on innovation is the culmination of Winter's argument for the whole book, which he summarizes as follows:

[(1)] that, despite the fact that it is conventional to think of imagination as random, unpredictable, or indeterminate, it is actually orderly and systematic in operation; and (2) that, because legal concepts (like all concepts) depend for their coherence on the motivating contexts that ground meaning, legal change (no less than stability) is contingent on the larger social practices and forms of life that give the law its shape and meaning.<sup>25</sup>

Consequently, legal fundamentalism is both wrong and dangerous. It is *wrong* because it depends on a seriously mistaken view of how the mind works. It cannot explain what actually goes on in legal reasoning, because it is based on false literalist and objectivist theories of thought and language. It is *dangerous* because it tries to force law into dichotomous modes of thought and absolutist models that ignore the embodied social and cultural bases of human understanding and value. This is a serious error committed both by foundationalists and

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<sup>22</sup> Donald Davidson, *What Metaphors Mean*, 5 *CRITICAL INQUIRY* 31 (1978); Richard Rorty, *The Contingency of Language*, in *RICHARD RORTY, CONTINGENCY, IRONY, AND SOLIDARITY* 3-22 (1989).

<sup>23</sup> Turner's most thorough treatment of innovation and originality is found in his book, *MARK TURNER, READING MINDS: THE STUDY OF ENGLISH IN THE AGE OF COGNITIVE SCIENCE* chs. 3, 7-9 (1979).

<sup>24</sup> WINTER, *supra* note 4, at chs. 9-11.

<sup>25</sup> *Id.* at 259-60.

by post-modern relativists. By humanizing law—that is, by showing its human cognitive roots—Winter makes law more humane and responsive to the complexities of human existence.

So, law is a many-splendored, ongoing human accomplishment. To understand law and legal reasoning, we have to understand who we are, how we develop our cognitive capacities, how our minds work, and how what we can think depends crucially on our shared embodiment and our shared social and cultural practices, values, and institutions. There is, I repeat, nothing subjectivist about this view. It is not law in the service of arbitrary power. Rather, it sees law as situated and constrained by traditions of debate, protest, resistance, suffering, and cooperation. In understanding everything that goes into this process of law-making, cognitive science becomes not merely relevant, but indispensable. Steve Winter lays out for us, in a stunning manner, what the ground plan for such an application of cognitive science for law would look like. And he does it with sensitivity and humanity. His book sets the standard for what will become known as “the cognitive science of law.”