Metaphors and Models in Legal Theory

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Résumé de l'article
Dans l'article qui suit, l'auteur avance que les métaphores peuvent servir de fondement à la création de modèles en théorie du droit. S'inspirant de la littérature philosophique portant sur la métaphore, il soumet d'abord que les métaphores doivent être comprises comme étant des actes de langage par lesquels une relation de similitude est proposée entre deux domaines distincts. Ensuite, il soutient que ce procédé de transposition est à la base de plusieurs modèles scientifiques. De tels modèles permettraient de traduire les connaissances de phénomènes bien connus à d'autres champs d'études. En conclusion, l'auteur prétend que les métaphores sont loin d'être de simples figures rhétoriques. Elles seraient plutôt des outils méthodologiques importants pour la construction et la critique de théories juridiques.

Citer cet article
In this article, the author argues that metaphors can be used as the basis for creating models in legal theory. Drawing on the literature on metaphor from the philosophy of language, he contends that metaphors are best understood as speech acts that propose a hypothesis of similarity between two separate domains. This kind of domain mapping, he argues, is the same procedure that underlies many scientific models, which allow us to transpose our understanding of well-understood phenomena to other areas of inquiry. He concludes with the assertion that — far from being merely ornamental uses of language or rhetorical devices — metaphors are important methodological tools in both the construction and critique of legal theory.
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SHREK: For your information, there’s a lot more to ogres than people think.

DONKEY: Example?

SHREK: Example? Okay, um, ogres are like onions. (he holds out his onion)

DONKEY: (sniffs the onion) They stink?

SHREK: Yes – No!

DONKEY: They make you cry?

SHREK: No!

DONKEY: You leave them in the sun, they get all brown, start sproutin’ little white hairs.

SHREK: No! Layers! Onions have layers. Ogres have layers! Onions have layers. You get it? We both have layers. (he heaves a sigh and then walks off).

DONKEY: (trailing after Shrek) Oh, you both have layers. Oh. [Sniffs] You know, not everybody likes onions. Cake! Everybody loves cakes! Cakes have layers.

SHREK: I don’t care… what everyone likes. Ogres are not like cakes.

DONKEY: You know what else everybody likes? Parfait. Have you ever met a person, you say, “Let’s get some parfait,” they say, “Hell no, I don’t like no parfait”? Parfaits are delicious.

SHREK: No! You dense, irritating, miniature beast of burden! Ogres are like onions! End of story.

Bye-bye. See ya later.

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What can we do when confronted with the claim that law has layers\(^2\)? Or that as the law evolves its form is tending more towards that of a network than of a pyramid\(^3\)? That these are examples of metaphors about the law is clear enough. But how we are to evaluate metaphorical claims about the law is less clear.

Often when we come across a metaphor about the law, it is simply a rhetorical device—a convincing or memorable way to make a point that could be made otherwise. At least sometimes, however, the use of metaphor in the analysis of the law goes beyond a clever turn of phrase. The purpose of this article is to interrogate just such cases. In the first substantive section I draw some distinctions that clarify some of the different ways we can think about metaphor and the law. The remainder of the article is aimed at identifying a working theory of the role of metaphors—and their more systematic cousins, models—in legal theory.

1 Four Relationships Between Metaphor and Law

A metaphor is “[a] figure of speech in which a name or descriptive term is transferred to some object different from, but analogous to, that which it is properly applicable to”. What is the relationship between these figures of speech and law? The answer to this question will vary depending on the context in which metaphor is mobilized and thus there is no single phenomenon covered by the rubric “metaphor and the law”. Rather, this field of inquiry covers a multiplicity of phenomena. Upon reflection, we can see

4. The Oxford English Dictionary, Oxford, Clarendon Press, s.v. “metaphor”. See also: John A. Cuddon, A Dictionary of Literary Terms and Literary Theory, 4th ed., Oxford, Blackwell, 1998, s.v. “metaphor”: “A figure of speech in which one thing is described in terms of another”; William Harmon and Hugh Holman, A Handbook to Literature, 11th ed., Upper Saddle River, Prentice Hall, 2009, s.v. “metaphor”: “An analogy identifying one object with another and ascribing to the first object one or more of the qualities of the second.” These are all definitions of “metaphor” in a narrow sense. The term is also used as a class that groups other figures of speech such as metonymy (one word substituted for another with which it is closely associated), simile (an explicit comparison using the words “like” or “as”), and synecdoche (use of a part to represent the whole). On the narrow and broad senses of “metaphor”, see Edward Quinn, A Dictionary of Literary and Thematic Terms, 2nd ed., New York, Facts On File, 2006, s.v. “metaphor”. As I use the word “metaphor” in this article as a term of art rather than a general concept, I mean to use it in the narrow sense.
that there are at least four distinct ways in which we might be interested in the relationship between metaphors and law.

First, we might look at what could be called “legal metaphors”. The object of interest would be how the law figures as a metaphor in non-legal texts. For example, Shakespeare’s Sonnet 46 is structured as litigation between the author’s heart and his eye, complete with pleadings and verdict\(^5\). Another example is Kant’s claim that the Critique of Pure Reason is a “tribunal” that will apply the laws of reason and make it “secure in its rightful claims\(^6\). From this perspective, the objects of study include metaphor itself as a literary device, as well as the ways in which the symbolism of the law frames our thoughts about any number of subjects, from love to reason.

Second, we may take an interest in metaphors in law, that is, how metaphors are used to illustrate points within legal texts. Here, the study of metaphor is subsumed under a larger category of analysis: the use of rhetoric in legal reasoning\(^7\). From this perspective, legal texts are a “literary genre\(^8\)” and metaphor is one technique—among others—that the author uses to “discharge the […] persuasive burden\(^9\). Consider, for example, Viscount Sankey’s famous remark in Woolmington v. Director of Public Prosecutions: “Throughout the web of the English Criminal Law one golden thread is always to be seen, that it is the duty of the prosecution


\(^7\) See e.g. Haig A. Bosmajian, Metaphor and Reason in Judicial Opinions, Carbondale, Southern Illinois Press, 1992.


to prove the prisoner’s guilt subject to what I have already said as to the defence of insanity and subject also to any statutory exception."

The metaphor of a “golden thread” running through the “web” of the law convincingly illustrates the point that a single principle unites the disparate norms of the common law in criminal matters. Furthermore, the metaphor functions to restrict subsequent judicial interpretations by framing later analysis. A later judgement that denied the claim that in criminal matters the Crown must prove the requisite mens rea beyond a reasonable doubt would be open to the charge that it was thereby “severing” the “single golden thread”.

Conversely, a metaphor may be used rhetorically to allow for expansive interpretation. For instance Viscount Sankey (who clearly had a penchant for such metaphors) supplied Canadian constitutional law with the principle that the Constitution should be given a “large and liberal interpretation” by stating that: “[t]he British North America Act planted in Canada a living tree capable of growth and expansion within its natural limits.”

A third relationship between metaphor and law that may be of interest could be called metaphors of law. The inquiry here focuses on how legal reasoning itself is metaphorical and how the very concepts and categories of the law are shot through with metaphors. This approach can be distinguished from the analysis of metaphors in law in so far as metaphor is taken not just as a rhetorical trope that helps make a legal point persuasive, but as a constitutive element of the law. This perspective draws from cognitive science, to which we owe “cognitive metaphor theory.”

The fundamental thesis of cognitive metaphor theory can be stated as follows: “This theory reconstructs the foundation in which metaphor was seen as merely literary or rhetorical in contrast with the “real” literal and scientific world. In cognitive theory, metaphor is not only a way of seeing or saying; it is a way of thinking and knowing, the method by which we structure and reason, and it is fundamental, not ornamental.”

In contrast to metaphors in law, metaphors of law are not concepts that are metaphorically stated for rhetorical reasons, but metaphorical concepts. For instance, the notion of “standing” is defined as “[a] party’s right to make a legal claim or seek judicial enforcement of a duty or right”. Derived from the Latin locus standi (literally “place of standing”), the concept appeals to the image of standing up before the tribunal. A whole complex of metaphors in English relate this image of physical presence by standing to the vindication of a right or claim (“stand up and be heard”, “I won’t stand for it”, “stand one’s ground”, etc.). Unlike Viscount Sankey’s “single golden thread” or “living tree”, the metaphor of “standing” is not a persuasive way to describe a legal concept; it is the legal concept.

Metaphors of law are not limited to its concepts, but also the relationships between them. Marie-Claude Prémont argues that the entire structure of the law is inextricable from the tree metaphor, with the roots representing the sources of the law and the branches representing its divisions:

Il est tout à fait remarquable que le droit ait réussi à déployer son organisation arborescente à partir d’un minimum de métaphores structurantes, sans être obligé de nommer explicitement la grande métaphore de l’arbre. La conception métaphorique du droit en synthétise l’organisation interne à partir de la seule description structurale, organisationnelle et fonctionnelle des racines, des branches et des relations qui les unissent. Les notions de racines et de branches ne sont pas seulement des outils de la raison juridique, elles la fondent et la définissent.


It is clear that Prémont understands the tree metaphor to be conceptual and not purely linguistic or rhetorical, as evidenced by her claim that the metaphor needn’t be named (though of course, it may be).

Finally—and most importantly, for my purposes—there are metaphors about the law. A metaphor about the law is a way of making claims regarding law (or a part of the law) as a phenomenon per se. Consider the following well-known passage from the preface to Marx’s *Contribution to the Critique of Political Economy*:

> In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness.

Marx’s architectural metaphor has all the rhetorical advantages of the literary trope; it uses a simple and concrete image to convey a complex and abstract claim. But it is more than just a persuasive way of stating what could easily be stated literally. The metaphor of foundation and superstructure makes a substantive claim about the law. Marx posits an ontology of the law: the legal and the political are not like a superstructure, they are a superstructure. We can thus say that the metaphor does not merely fulfill an aesthetic function, but also an epistemic one in so far as it serves to generate knowledge about the world.

From Marx’s simple metaphor, a large number of conclusions can be drawn about the law. Whether we (metaphorically!) describe the metaphor as a framework, a lens or a map, it serves to organize our experience by highlighting some features of the world while overlooking others.

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18. The “celebrated exception” to this tacitness, according to M.-C. Prémont, is *Edwards v. Attorney General of Canada*, supra, note 10, see the omitted footnote from the passage cited: supra, note 17.
20. The same point is made in Max Black, “More about Metaphor”, *Dialectica*, vol. 31, Nos. 3&4, December 1977, p. 431, at pages 445 and 446, using the example “I didn’t say that he is like an echo; I said and meant that he is an echo!”.
Furthermore, this organizing function allows us to compare, contrast and order empirical observations about the law using the metaphor as a standard. For example, we might notice that freedom of contract is an important principle of most modern legal systems. From this observation, we can ask what features of the economic base correspond to or determine this feature of the legal superstructure. We can then go on to ask whether these features are also related to other features of the same legal system, for instance the law of successions\(^24\). In other words, Marx’s metaphor provides us with an elementary model for understanding the law. It is this relationship between metaphors about the law and models of law — and in particular how understanding this relationship is important for legal theory\(^25\) — that I want to explore in the remainder of this article\(^26\).

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\(^25\) The use of metaphors about the law is certainly not limited to legal theory. Metaphors about the law can be found in judgements, legal treatises, and indeed anywhere where a particular view of the nature of the law, or of legal processes and institutions, is advanced. However, this article is limited to metaphors about the law in the context of legal theory.

\(^26\) One could argue that the difference between metaphors in law and metaphors of law is merely one of degree. On this view, metaphors of law are simply those metaphors in law that have been so often repeated that they have “died”; E. QUINN, supra, note 4, s.v. “dead metaphors” are “phrases whose original, metaphorical character has been blunted by everyday use”. Though my personal view is that the cognitivist approach describes something deeper and epistemologically more important than the passage from “live” to “dead” metaphors, I am not prepared to defend this intuition here. For a critical discussion of the notion of “dead metaphor”, see George LAKOFF, “The Death of Dead Metaphor”, Metaphor and Symbolic Activity, vol. 2, No. 2, 1987, p. 143. See also M. BLACK, “Metaphor”, supra, note 23, at pages 32-34, describing the view that dead metaphors are a species of catachresis, i.e. “the use of a word to remedy a gap in the vocabulary”. Similarly, one could make the argument that (some) metaphors of law that are sufficiently important ground (some) metaphors about law. Thus, M.-C. Prémont’s account of the role of the tree metaphor is not just a description of the use of a conceptual metaphor within legal reasoning, but a positive claim about the (tree-like) nature of the law. I think that this argument involves the same category mistake that I discuss at the beginning of the next section. In any case, I do not advance that the fourfold typology I have proposed in the analysis of the relationship between metaphor and law is anything other than a heuristic device.
2 Metaphors and Models: What They Mean and What They Do

While there is a substantial literature on (what I have called) legal metaphors, metaphors in law and metaphors of law, there is little published research that theorizes metaphors about law. This is not to say that theorists do not make abundant use of metaphors in thinking about the law; legal theory is rife with metaphor. Typically, however, metaphor is mobilized without an explicit defence of its use. In the few works that do defend the use of metaphor, the defence is based either (a) on a general claim that metaphors are important to thought, or (b) on a claim that law is an inherently discursive phenomenon. Whereas (a) is true, it is not particularly satisfying as a defence of methodology. On the other hand, (b) constitutes essentially a category mistake. It is a non sequitur to claim that since some X has a property Y that a theory of X should also have property Y. Dogs may bark, but it would be absurd to claim that therefore a theory of canine communication barks!

This does not mean, however, that we are without any resources for thinking about the role of metaphor in legal theory. Significant work has been done on the analysis of metaphor generally and on the relationship between metaphors and models in particular. In the remainder of this section I provide a brief overview of the state of (some aspects of) metaphor theory, ultimately arguing that metaphors are best understood as a kind of speech act. Drawing primarily on the work of the philosopher Max Black, I then provide a sketch of the relationship between metaphors and models, paying particular attention to their role in legal theory.

2.1 The Meaning of Metaphor

The standard view of metaphor is that it involves the transfer of a term from the object to which it designates to another object that it designates

30. See e.g. J.B. WHITE, supra, note 9, p. 2.
by analogy or comparison\textsuperscript{31}. According to this “comparison view”, which is attributed to Aristotle\textsuperscript{32}, a metaphor is essentially an ellipsis of a simile\textsuperscript{33}. Like metaphor, simile is a figure of speech that compares one thing to another, but unlike metaphors similes are explicit comparisons, generally indicated by the use of the words “like” or “as”\textsuperscript{34}. In asserting that metaphors are (just) elliptical similes, the comparison view thus advances not only a definition of metaphor, but also a theory of metaphor meaning. Indeed, the comparison view is a special case of a more general perspective, according to which a metaphor means something other than the literal words out of which it is composed\textsuperscript{35}.

Returning to our example, the comparison view would hold that Marx’s architectural metaphor is simply a way of saying (something like): “the economic is like a foundation; the political and the legal are like a superstructure; and furthermore the relationship between the economic, the political, and the legal, is like the relationship between a foundation and a superstructure”.

\textsuperscript{31} See supra, note 4. This is consonant with the philology of the word “metaphor”, which derives from the Greek \textit{metaphorē} – “transfer.”

\textsuperscript{32} “Poetics”, in ARISTOTLE, \textit{Rhetoric. Poetics}, translated by W. Rhys ROBERTS and Ingram BYWATER, New York, Modern Library, 1954, p. 251 (1457b lines 8-11): “Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, or on grounds of analogy.”

\textsuperscript{33} See e.g.: John R. SEARLE, “Metaphor”, in Andrew ORTONY (ed.), \textit{Metaphor and Thought}, 2nd ed., Cambridge, Cambridge University Press, 1993, p. 83, at pages 95 ff., describing “the comparison theory […] goes back to Aristotle and […] says all metaphor is really a literal simile with the “like” or “as” deleted”; M. BLACK, “Metaphor”, supra, note 23, at pages 35 ff., stating that this view of metaphor, as condensed simile or comparison, has been very popular. See also Donald DAVIDSON, “What Metaphors Mean”, in Aloysius P. MARTINICH (ed.), The Philosophy of Language, 4th ed., Oxford, Oxford University Press, 2001, p. 435, at pages 439-441.

\textsuperscript{34} J.A. CUDDON, supra, note 4, s.v. “simile”. See also: E. QUINN, supra, note 4, s.v. “simile”: “A comparison between two dissimilar things, usually connected by the words \textit{like} or \textit{as}”; W. HARMON and H. HOLMAN, supra, note 4, s.v. “simile”: “A figure in which a similarity between two objects is directly expressed […] Most \textit{similes} are introduced by \textit{as} or \textit{like}.”

\textsuperscript{35} M. BLACK, “More about Metaphor”, supra, note 20, at page 441, calls the more general perspective “the substitution view”. Citing Ivor A. RICHARDS, \textit{The Philosophy of Rhetoric}, Oxford, Oxford University Press, 1936, he claims that “the substitution view regards ‘the entire sentence that is the locus of the metaphor as replacing some set of literal sentences’; while the comparison view takes the imputed literal paraphrase to be a statement of some similarity or analogy, and so takes every metaphor to be a condensed or elliptic \textit{simile}”. 
The comparison view suffers from several problems, the most serious of which is its vacuity. To gloss “the law is a superstructure” as “the law is like a superstructure” tells us nothing about the relation of similarity between the two. For the metaphor to have meaning, on the comparison view, would require us to know in what respects the law is like a superstructure.\(^36\). Thus the gloss would have to be something like: “the law has some set of properties (P\(_1\), P\(_2\), \ldots P\(_n\)) and it is like a superstructure in that superstructures also have that set of properties\(^37\)." But this gloss demonstrates the vacuity of the comparison view as a theory of metaphor meaning, since whatever set of properties that the law shares with a superstructure is not contained in the metaphor, but requires the interpreter to supply them\(^38\). Furthermore, the metaphor provides no guidance, in principle, for what set of properties should be used as comprising the similarity relation, since, as Donald Davidson put it: “everything is like everything\(^39\),” and in endless ways.

### 2.2 Beyond Meaning: The Pragmatics of Metaphor

Some philosophers have attempted to retain a theory of metaphor based on metaphor meaning, either by rehabilitating the comparison view\(^40\) or by proposing another theory of meaning\(^41\). A more promising approach—in my view—is to refocus the analysis of metaphor from what metaphors mean to what metaphors do; that is, to analyse the pragmatics of metaphor.

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36. If this criticism is well-founded then (if one holds the comparison view) it must also apply to any theory of simile meaning. I think it does. Note, however, that the criticism also applies to other theories of metaphor meaning that aren’t based on the comparison view. See D. Davidson, supra, note 33, at pages 445 and 446.

37. Note that I am not claiming that this gloss of the metaphor would be adequate, nor indeed that metaphors can ever be correctly glossed as similes. I am simply positing what a gloss of the metaphor might look like if one held the comparison view; which I don’t. My view is that metaphors and similes are conceptually distinct and that, in any event, to analyze metaphor in terms of meaning is to bark up the wrong tree. Glossing the “barking up trees” metaphor as a simile is left as an exercise for the reader that should highlight some of the problems I have raised.

38. D. Davidson, supra, note 33, at pages 436 and 437.

39. Id., at page 441.


41. See e.g. M. Black, “Metaphor”, supra, note 23, proposing an “interactive” view of metaphor that abandons the comparison view but maintains the centrality of metaphorical meaning. See also M. Black, “More about Metaphor”, supra, note 20, further fleshing out the interactive view.
Pragmatics is that part of linguistic theory which focuses on what words do, rather than what they mean. Thus “[a] pragmatic treatment of a feature of the use of a language would explain the feature in terms of general principles governing appropriate utterance, rather than in terms of a semantic rule.”

Typical cases of utterances that are not satisfactorily accounted for by semantic rules but which are readily explained by pragmatics include “performative” utterances (such as orders, threats and promises) and indirect speech acts (such as rhetorical questions and irony). Some philosophers have suggested that metaphor should be added to this list. Davidson states this view—which we can call “the speech act theory of metaphor”—in its strongest form:

No theory of metaphorical meaning or metaphorical truth can help explain how metaphor works. Metaphor runs on the same familiar linguistic tracks that the plainest sentences do […] What distinguishes metaphor is not meaning but use—in this it is like assertion, hinting, lying, promising, or criticizing. And the special use to which we put language in metaphor is not—the utterer of a metaphor says only what shows on its face.

Note that this approach need not do violence to our common-sense intuitions about metaphor. Certainly, one of the things metaphors do (and perhaps what they do best) is to invite the hearer to make comparisons. Perhaps the best way to think about this is to say that the utterer of a metaphor is posing a hypothesis. This hypothesis can lead the hearer to see things differently, to notice relationships, analogies and similarities, etc. The metaphor doesn’t do this by bearing some special metaphorical

43. See “Performative Utterances”, in John L. Austin, Philosophical Papers, 3rd ed. by James O. Urmson and Geoffrey J. Warnock, New York, Oxford University Press, 1979, p. 233. As Austin remarks, the law is rife with performative utterances, of which legislation and jury verdicts are just two obvious examples.
47. D. Davidson, supra, note 33, at page 442. J.R. Searle, supra, note 33, at page 90, makes a nearly identical point: “strictly speaking, in metaphor there is never a change of meaning”.
48. In this section I use the standard terminology of pragmatics, including “speaker”, “hearer”, and “utterance”. Of course this also applies to written metaphors.
meaning, but precisely because of its literal meaning. The fact that the utterance would be defective if interpreted literally acts as an indicator to the hearer that she should embark upon such an interpretative exercise.

Another advantage of the speech-act theory is that, in jettisoning the search for a literal meaning that can be inferred by “correctly” glossing a metaphor, it allows for the open-ended nature of metaphor. If, pace the comparison view, metaphors are just elliptical similes waiting to be translated into literal assertions, then metaphors have no particular creative role to play. And yet metaphors do play such a role, as Max Black explains:

A memorable metaphor has the power to bring two separate domains into cognitive and emotional relation by using language directly appropriate to the one as a lens for seeing the other; the implications, suggestions, and supporting values entwined with the literal use of the metaphorical expression enable us to see a new subject matter in a new way. The extended meanings that result, the relations between initially disparate realms created, can neither be antecedently predicted nor subsequently paraphrased in prose. We can comment upon the metaphor, but the metaphor itself neither needs nor invites explanation and paraphrase. Metaphorical thought is a distinctive mode of achieving insight, not to be construed as an ornamental substitute for plain thought.

It is arguably this creative role that distinguishes metaphor from other speech-acts that rely upon hearer recognition of defectiveness as interpretative indicators (such as irony).

Though the speech-act theory of metaphor provides a more satisfying explanation for metaphor than the comparison theory, it does not clearly account for metaphors about law like Marx’s base/superstructure description. On the speech-act view, Marx’s metaphor needn’t be glossed in order to discover an elliptical simile that will reveal the literal meaning for which the metaphor is a substitute. But if the “implications, suggestions, and supporting values” that the base/superstructure metaphor conjures are to genuinely provide a “distinctive insight”, then something more systematic is required. Marx’s metaphor functions as a rudimentary model.

49. For instance because if understood literally the utterance would be patently absurd, obviously false, or trivially true. See D. Davidson, supra, note 33, at pages 441 and 442. See also J.R. Searle, supra, note 33, at page 103.


51. See J.R. Searle, supra, note 33, at pages 108 and 109, claiming that metaphors function in a fashion similar to irony.
2.3 From Metaphor to Model

Models and metaphors appear to work in a similar fashion. In both cases, insight is achieved by the projection of a phenomenon or set of phenomena onto another. But how does this projection function? As I proposed above, we can say that a metaphor proposes a hypothesis to the hearer, who then interprets its literal meaning to see a new subject matter in a new way. This is achieved by the projection of the complex of “implications, suggestions, and supporting values” beyond the literal meaning of the utterance. Following Max Black, I think a similar phenomenon is at work in the construction of models, with the primary difference being their systematic nature.

In the case of a scale model (of an airplane, for example), the relationship between the modelled object and the model is one of isomorphism. Two objects are isomorphic—from Greek “isos” (equal) and “morphē” (form)—when they are identical in form and proportion, though not necessarily in size. Similarly, in mathematical logic, two logical languages are isomorphic when all the possible statements in one language have an equivalent in the second. When two languages are isomorphic, we say that the second language models the first.

In a general sense, isomorphism also characterizes theoretical models. We can say that X models Y in so far as the structure of X is reproduced in Y. Of particular interest is the structure of inference or of implication. This allows us to “move” from a (relatively) well-known domain to a (relatively) unknown one. Thus, if X is some phenomenon about which we know that whenever it has property a it also has property b, then if Y is a model of X and we know that Y has property a, we can hypothesize that Y also has property b.

52. This is what is often called “classical model theory” in mathematical logic. It is the basis of Gödel’s proof of the completeness theorem, in which he proved that no additional inference rules are required to prove all the logically valid formulas in a deductive system of first-order predicate calculus—i.e. first-order predicate calculus is “complete”. For a simpler proof of the same theorem, see Leon Henkin, “The Completeness of the First-Order Functional Calculus”, Journal of Symbolic Logic, vol. 14, No. 3, September 1949, p. 159. On model theory in general, see Alain Badiou, Le concept de modèle, Introduction à une épistémologie matérialiste des mathématiques, Paris, Fayard, 2007. For a discussion of model theory and law, see William H. Widen, “Forcing Analogies in Law: Badiou, Set Theory, and Models”, (2007-08) 29 Cardozo L. Rev. 2407.


54. M. Black, “Models and Archetypes”, supra, note 50, at page 223: “The analogue model shares with its original not a set of features or an identical proportionality of magnitudes but, more abstractly, the same structure or pattern of relationships.”
How can this conception of a model be applied to theories of law? And what is the relationship to metaphor? An example is in order. I have hypothesized elsewhere that, in some cases, legal norms transmission is viral\textsuperscript{55}. This is clearly a metaphor; legal norms are no more viruses than ogres are onions. But it also suggests that some of the features of virus transmission (a field about which there is a significant amount of detailed knowledge) are also features of unintentional norm transmission between jurisdictions (a field about which we know very little): “[e]very metaphor is the tip of a submerged model\textsuperscript{56}”. Of course, a substantial amount of work needs to be done before the metaphor becomes a model. Max Black describes the difference between the two as follows:

Use of theoretical models resembles the use of metaphors in requiring analogical transfer of a vocabulary. Metaphor and model-making reveal new relationships; both are attempts to pour new content into old bottles. But a metaphor operates largely with \textit{commonplace} implications. You need only proverbial knowledge, as it were, to have your metaphor understood; but the maker of a scientific model must have prior control of a well-knit scientific theory if he is to do more than hang an attractive picture on an algebraic formula. Systematic complexity of the source of the model and capacity for analogical development are of the essence\textsuperscript{57}.

Thus, the metaphor “legal norms are viruses”, which is based on the “proverbial knowledge” that viruses are self-replicating organisms that spread across a host population through a process of infection can be transformed into a model. What is required is (a) a deeper understanding of the various entities and relationships that constitute viral epidemiology, and (b) “projection” of these entities and relationships onto empirical observations of legal norm transmission\textsuperscript{58}.

This move from an initial metaphor, which creatively suggests a similarity relation, to a full-blown model, which links a defined pair of domains using a mapping function, is commonplace in scientific reasoning\textsuperscript{59}. A standard example is the Rutherford-Bohr model of the atom. Ernest Rutherford

\begin{footnotesize}
\textsuperscript{56.} M. \textsc{Black}, \textit{supra}, note 20, at page 445.
\textsuperscript{57.} M. \textsc{Black}, \textit{supra}, note 50, at pages 238 and 239.
\textsuperscript{58.} Further work along precisely these lines can be found in Finn \textsc{Makela}, \textit{Explaining Legal Norm Transmission Using an Epidemiological Model: The Case of Employment Drug Testing}, LL.D. Thesis, Montreal, Faculty of Law, University of Montreal, 2010 [Online] [https://papyrus.bib.umontreal.ca/jspui/handle/1866/4793] (August 4\textsuperscript{th}, 2011).
\textsuperscript{59.} The relationship between metaphors and scientific models set out in this paragraph and the following one is not intended as a novel contribution, but an introduction using two examples for the unacquainted. A useful overview can be found in Daniela M. \textsc{Bailer-Jones}, “Models, Metaphors and Analogies”, in Peter \textsc{Machamer} and Michael \textsc{Silberstein} (eds.), \textit{The Blackwell Guide to the Philosophy of Science}, Oxford, Blackwell, 2002, p. 108.
\end{footnotesize}
proposed to replace J.J. Thompson’s “plum pudding” metaphor of the atom, with that of the solar system. The atom, Rutherford hypothesized, is a tiny solar system, with electrons occupying the role of planets and a nucleus standing in for the sun. Niels Bohr went on to “project” properties of orbiting bodies from the well-known (in this respect) domain of astronomy onto the target domain of atomic physics. This allowed him to discover and (mathematically) describe electron orbit paths.

Other examples of the use of metaphors to create models in the natural sciences abound. For instance, Darwin’s use of the “tree of life” metaphor to describe the evolution of species by natural selection, forms the basis of much more systematic models in evolutionary biology. As with Bohr’s solar system model of the atom, the tree of life is not just a way to communicate existing knowledge, but a method for generating new understanding.

Some provisos apply to this sketch of a methodology of moving from metaphor to model. First, it must be admitted that the process of projection implies a choice. Just as metaphors do not have a single meaning just waiting to be translated into literal speech, the different domains of knowledge related by a model do not have a single set of mapping or translating functions just waiting to be discovered. Every model carries with it “risks of fallacious inferences from inevitable irrelevancies”. Though the choices involved in proposing a mapping function carry risks, they are also what make the modelling methodology a rich one, since an explicit articulation


61. Tellingly, the branching tree is the only diagram in Charles Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, London, John Murray, 1859, p. 117.


63. For an accessible review, see David A. Baum, Stacey Dewitt Smith and Samuel S.S. Donovan, “The Tree-Thinking Challenge”, *Science*, vol. 310, No. 5750, November 11, 2005, p. 979, at page 979, claiming that phylogenetics as a field is “complex and rapidly changing, replete with a dense statistical literature, impassioned philosophical debates, and an abundance of highly technical computer programs [but that] [o]ne cannot really understand phylogenetics if one is not clear what an evolutionary tree is”.

64. M. Black, *supra*, note 50, p. 219, at page 223.
and defence of these choices allows us to further apprehend the domains under investigation. In qualifying the analogies proposed in a model, we engage in what Wilfrid Sellars calls a “commentary” on it:

[T]he fundamental assumptions of a theory are usually developed not by constructing uninterpreted calculi which might correlate in the desired manner with observational discourse, but rather by attempting to find a model, i.e. to describe a domain of familiar objects behaving in familiar ways such that we can see how the phenomena to be explained would arise if they consisted of this sort of thing. The essential thing about a model is that it is accompanied, so to speak, by a commentary which qualifies or limits – but not precisely nor in all respects – the analogy between the familiar objects and the entities which are being introduced by the theory.\(^65\)

Much of qualifying commentary is often implicit because it is obvious; of course the Rutherford-Bohr model doesn’t contend that an atom’s nucleus gives off light (like the sun) nor that electrons might support life (as at least one planet does). Where commentary adds to the model is precisely those areas in which we choose to overlook disanalogies between the primary and secondary domains that are not obviously irrelevant. Thus, to return to the metaphor “legal norms are viruses”, in constructing our model we might choose to overlook the mechanisms of infection and replication in an individual host (virology) in order to focus on the concepts of transmission and spread across a host population (epidemiology).\(^66\) A priori, neither domain offers a “better” theory, but an accompanying commentary serves to explain — and to justify — the chosen domain.

Another proviso is that, just as a metaphor proposes a hypothesis to the interpreter, so a model proposes a set of hypotheses about the target domain. These hypotheses must still be tested.\(^67\) In other words, a model is a methodology of hypothesis generation that allows us to “see connections”

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66. For such a defence, see F. Makela, *supra*, note 58, p. 136-138.
67. The examples that I have used herein might be taken as supporting the charge that I hold a restrictive definition of legal theory that privileges “scientistic” reasoning about empirically verifiable claims over purely conceptual work. I do not wish to commit myself to that view. Indeed, I believe models that generate entirely conceptual hypotheses whose verification proceeds entirely by thought experiment or by evaluation according to a standard of internal coherence can be accounted for by the description of models that I have set out. If it turns out that this is not the case, then so much the worse for models, but it is not a position that I intend to defend in this article.
that would otherwise be overlooked\textsuperscript{68}; it is not a methodology of hypothesis verification\textsuperscript{69}.

Finally, in choosing to extend a metaphor to a model, one must be prepared to run the risk that the expected isomorphism does not reveal itself. Not every secondary domain “fits” the domain on which we would like to model it\textsuperscript{70}.

2.4 Metaphors, Models and Critique

Understanding the role that metaphors and models can play in legal theory building can also ground critiques of existing literature. For example, one of the most successful set of models applied to legal phenomena are those developed and espoused by the law and economics movement. These models are an extension of a series of metaphors that could be described as: “all human interactions are market transactions”. The movement from this collection of metaphors to law and economics models is extremely complex, however, and involves multiple steps. Take the argument that the common law maximizes the efficiency of rules through litigation, for instance\textsuperscript{71}. This relies on the metaphor that competition between potential rules is like competition between firms in a marketplace. The idealized version of competition between firms in a marketplace is itself an extension of the metaphor whereby reproductive success is analogized to the teleological notion of “fitness” for a purpose, which in turn comes from Darwinian or quasi-Darwinian theories of evolution. This metaphor of competition in a contest where the prize is survival was itself borrowed by Darwin from Malthus\textsuperscript{72}. My point here is not to mount a critique of the law and economics movement, nor of the models that are mobilized by its proponents, but to draw attention to the ways in which those models are developed from metaphors.

\textsuperscript{68} M. Black, supra, note 50, at page 237.

\textsuperscript{69} Though in the case of a very strong model, in which many hypotheses are confirmed, the model’s other predictions may constitute, in themselves, \textit{prima facie} evidence for further hypotheses.

\textsuperscript{70} M. Black, supra, note 50, at page 238.


\textsuperscript{72} See \textit{e.g.} Sandra Herbert, “Darwin, Malthus, and Selection”, \textit{Journal of the History of Biology}, vol. 4, No. 1, Spring 1971, p. 209; but see also Peter J. Bowler, “Malthus, Darwin, and the Concept of Struggle”, \textit{Journal of the History of Ideas}, vol. 37, No. 4, October-December 1976, p. 631, arguing that there were significant differences in the way Malthus and Darwin mobilized the concept of “struggle".
Recognizing that a model has its roots in the metaphor is the first step in mounting a critique thereof. I do not think that identifying the use of the metaphor-to-model methodology is a critique in itself. Indeed, this article is predicated upon my firm conviction that the methodology is both useful and intellectually defensible. For any given model, however, one must ask relevant questions about the choice of primary and secondary domains and the choice of mapping functions between their analogous concepts. This is especially important when the model is not accompanied by a commentary (in Sellars’ sense) and provides a constructive way of reacting when “confronted by a theory which purports merely to describe, when it not only plainly prescribes, but owes its special prescriptive powers precisely to the fact that it disclaims prescriptive intentions”.

Conclusion

Legal scholars who venture beyond the doctrinal exposition and analysis of “black letter law” tend to think of themselves as engaging in some form of social science or philosophy. As such, we tend to view metaphors with some suspicion. After all, metaphors are the realm of literature and rhetoric; reliance upon them to do substantive intellectual work smacks of methodological sloppiness. Models, on the other hand, have the ring of rigour, and most of us would readily admit to using them—if only we could figure out what they were.

What I hope to have shown in this article is that there is no need to look askance at metaphor. Metaphor can be a powerful methodological tool, both as a method for generating new understanding and as a basis upon which models may be constructed. Finally, there is nothing mysterious about models. Properly understood, they can be useful both in generating new hypotheses about the law and critiquing existing theories.

73. This quote from Lon L. Fuller, “Positivism and Fidelity to Law – A Reply to Professor Hart”, (1957-58) 71 Harv. L. Rev. 630, 632, is with reference to positivism, not to law and economics. Any doubt that the quote applies also to law and economics may be easily extinguished by consulting recent reports by the OECD and World Bank on the relative efficiency of legal systems. For an overview of these reports, see Claude Ménard and Bertrand du Marsais, “Can We Rank Legal Systems According to their Economic Efficiency?”, (2008) 26 Wash. U.J.L. & Pol’y 55.