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MODELS AND GAMES: THE DIFFERENCE BETWEEN EXPLANATION AND UNDERSTANDING FOR LAWYERS AND ETHICISTS

JEFFREY M. LIPSHAW*

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ABSTRACT

There is value for lawyers in thinking about constructs of rules as games on one hand, or models on the other. Games are real in a way models are not. Games have

*Associate Professor, Suffolk University Law School. I acknowledge input and helpful comments from June Carbone, Bill Black, Jonathan Nash, Bill Fisher, Ed Sherman, Larry Ponoroff, Ray Diamond, Gabe Feldman, Brooke Overby, Eric Blumenson, Andy Perlman, Miguel Schor, Dennis Patterson, Michael Madison, Patrick Shin, and Andrew Sutter. I also appreciate the comments of participants in the Midwestern Law and Economics Association 2007 Annual Conference at the University of Minnesota Law School.

“thingness”—an independent reality—and they can be played. Models have “aboutness”—they map onto something else that is real for the sake of simplification and explanation. But models and games are not dichotomous as the preceding claim makes them out to be. Sometimes models look just like games, and sometimes games can serve as models. Because models look like games, we may come to believe they are real—that the models have thingness rather than aboutness. People are prone to think some of the models they deal in all the time are real, like games, and perhaps even more real than the reality the models are supposed to represent. When that happens unreflectively in business, ethical and legal problems can ensue.

There is also a relationship between games and models as a way of thinking, and the position of the thinker as modeler, game creator, or game player. To engage in any of those acts is to use the legally trained mind to make sense of what is going on, and to act on it. But there are different ways of making sense, either by explaining or understanding, and it is not common in legal education to undertake the exercise of thinking about thinking, or theorizing about theory. I explore the consequence of confusing games and models in two contexts, financial accounting and contract interpretation, and consider the possibility of co-optation from models into games and vice versa. I conclude that practicing lawyers (or law professors) need to think about *thinking itself* or face the possibility of being misled by precisely the same context facing their clients. In short, lawyers need to be pragmatic ontologists.

I. INTRODUCTION

Mine is an unusual pragmatic agenda, because I am not as interested in the particular problems lawyers face as much as I am in how they think about the problems. With all due respect to Edward Levi's classic tome,¹ I have never been quite sure what it means to reason (or think) like a lawyer.² Langdellian legal formalism, or legal realist contextualism, critical legal theory, and the variants of law and economics that currently dominate the legal academy are all ways of making sense of what is going on around us. They are the “theories” we use to organize the

¹EDWARD H. LEVI, AN INTRODUCTION TO LEGAL REASONING (1948).

²I would wager that most lawyers, if asked for a quick answer, would call analogy their core reasoning competency, at least in the analysis of case law. See Cass R. Sunstein, *On Analogical Reasoning*, 106 HARV. L. REV. 741 (1993). Professor Sunstein provides a compilation of analyses of legal reasoning at footnote 3, the most important of which is Edward Levi's contribution. Beyond legal analogy, there is a wealth of work in cognitive science on the pre-cognitive role pattern recognition (i.e., modeling) and analogy play in the very way we make sense of the world. See Joseph Agassi, *Analogies Hard and Soft*, in ANALOGICAL REASONING: PERSPECTIVES OF ARTIFICIAL INTELLIGENCE, COGNITIVE SCIENCE, AND PHILOSOPHY (David H. Helman ed., 1988); Max Black, *Models and Archetypes*, in MODELS AND METAPHORS: STUDIES IN LANGUAGE AND PHILOSOPHY (1962); DOUGLAS HOFSTADTER & THE FLUID ANALOGIES RESEARCH GROUP, FLUID CONCEPTS AND CREATIVE ANALOGIES: COMPUTER MODELS OF THE FUNDAMENTAL MECHANISMS OF THOUGHT (1995); Mark Johnson, *Some Constraints on Embodied Analogical Understanding*, in ANALOGICAL REASONING: PERSPECTIVES OF ARTIFICIAL INTELLIGENCE, COGNITIVE SCIENCE, AND PHILOSOPHY (David H. Helman ed., 1988); JOHN SEARLE, EXPRESSION AND MEANING: STUDIES IN THE THEORY OF SPEECH ACTS (1979); JOHN SEARLE, INTENTIONALITY: AN ESSAY IN THE PHILOSOPHY OF MIND (1983); Mark Turner, *Categories and Analogies*, in ANALOGICAL REASONING: PERSPECTIVES OF ARTIFICIAL INTELLIGENCE, COGNITIVE SCIENCE, AND PHILOSOPHY (David H. Helman ed., 1988). I leave that for another time.

data. In those cases, the theory (we hope) has academic rigor, but we have colloquial “theories” all the time in everyday life. “Here’s my theory why so-and-so got denied tenure” is not a statement of scientific theory, but it is an attempt at explanation of human behavior in a causal sense—we are amateur historians trying to make sense why something happened.

I propose to organize “thinking like a lawyer” in terms of our approach to complex constructs of rules that appear to us in some instances to be games and in other instances to be models. A lawyer can be modeler, game creator, or game player. A lawyer writing the provision of a business acquisition agreement that describes the business being sold is a *modeler*. A lawyer writing the procedural rules in the agreement for resolving the post-closing price adjustment, or for determining whose counsel will have primary responsibility for defending a third party claim under the indemnification provision is a *game creator*. The lawyer litigating these issues in arbitration or in court is a *game player*.³ To engage in any of those acts is to use the legally trained mind to make sense of what is going on, and to act on it. But there are different ways of making sense, and it is not common in legal education to undertake the exercise of thinking about thinking, or theorizing about theory. That is what I intend to do here.

There is certainly nothing wrong with modeling—legal formalism, or law and economics, being examples—as a way of making sense of human behavior. But lawyers, it seems to me, need to recognize that “thinking like a lawyer” (at least in the formal or economic way) is very much a cultural phenomenon of the last 150 years or so. Indeed, thinking of the law as a science, as Langdell did when he developed the case method, means that the lawyer thinks as objectively about human affairs as a physicist might about atomic particles. The French philosopher Gabriel Marceau described this mindset, and it strikes me as one we might well want in our legal advisor:

[T]he scientist, in his conception of the external world, is and must be completely a realist; he is concerned with an order of truths which he must consider as wholly outside of, and completely distinct from, his own self. . . . With the scientist, the self has, in so far as it possibly can, vanished away. His task is to bring order into a world which is as little as possible *his own* particular world, which is as much as possible *the* world in general; and from his own point of view, it is certainly not up to him to ask whether this notion of “the world in general” is a fiction.⁴

But what if the world of the lawyer as scientist turns out to be a fiction? If the lawyer has bought into the notion that the world really is governed by the assumptions of rational actor economics, or that the business is in reality nothing more than a particular arithmetic result one gets by pushing revenue and cost data into the model created by generally accepted accounting principles, can something go wrong?

³For a discussion of the game aspect of litigation, and its significance for legal ethics, see Jack L. Sammons, “Cheater!”: *The Central Moral Admonition of Legal Ethics, Games, Lusory Attitudes, Internal Perspectives, and Justice*, 39 IDAHO L. REV. 273 (2003).

⁴1 GABRIEL MARCEL, *THE MYSTERY OF BEING: REFLECTION AND MYSTERY* 215-16 (G.S. Fraser trans., St. Augustine’s Press 2001) (1950).

My answer is “yes.” There are games we can play that are not a fiction. Trying a case or playing football is real. Negotiating a business acquisition is real. There are models we can create (including using games as models) that are fictions in the sense that we understand, generally, that they mimic or illuminate, but are not the real thing. If we are being responsible in public company disclosure practice, we understand that generally accepted accounting principles (“GAAP”) create just such a model. But what if we lose that sense of objectivity about GAAP, and it *becomes* the game? That is, we attribute thingness to the financial statements. What if we lose sight of the places in which the business acquisition *models* an understanding, and begin to believe it *creates* an understanding?

The business ethics literature is replete with evidence that unethical behavior often has less to do with conscious moral choice than with the perceptual frames in which people make decisions. Professors Tenbrunsel and Messick argue, for example, that “ethical fading” is the “process by which the moral colors of an ethical decision fade into bleached hues that are void of moral implications.”⁵ What many businesses call “ethics training” is useless because “individuals do not ‘see’ the moral components of an ethical decision”; instead “psychological processes fade the ‘ethics’ from an ethical dilemma.”⁶

Like other observers of ethical behavior, I see no route to ethics other than theorizing how our minds frame and rationalize moral decisions.⁷ My contribution is that the lawyer’s or the ethicist’s skill in identifying legal constructs as games or models is one route to effective ethical, moral, and legal counseling in the business and transactional environment. In psychological terms, it questions the decision-making frames. In philosophical terms, it poses the ontological question, What is real? Practicing lawyers (or law professors) need to think about *thinking itself* or face the possibility of being misled by precisely the same context facing their clients.⁸ In short, lawyers need to be pragmatic ontologists.

There are two polarities that lead me to games and models as one way of thinking about thinking. The first is a first person-third person polarity. This is another way of stating H.L.A. Hart’s seminal treatment of the internal versus external point of view. Hart contended that rules are something more than mere habits that an external observer could record; rules are matters of obligation and not merely

⁵Ann E. Tenbrunsel & David M. Messick, *Ethical Fading: The Role of Self-Deception in Unethical Behavior*, 17 SOC. JUST. RES. 223, 224 (2004).

⁶*Id.*

⁷*Id.* at 226 (“Understanding the mechanisms by which self-deception is exacerbated, the ‘enablers’ if you will, becomes the necessary next step.”). See also David M. Messick & Max H. Bazerman, *Ethical Leadership and the Psychology of Decision-Making*, 37 SLOAN MGMT. REV. 9 (1996).

⁸Tenbrunsel & Messick, *supra* note 5, at 234 (citations omitted):

We must condition ourselves to be aware of the enablers of self-deception; furthermore, we must be more critical of our judgments and motives driving both our actions and our judgments of others’ behaviors. Given the connection between justification and unethical behavior, we must also question the justifications that we concoct to rationalize our actions. By confronting the tendency toward self-deception head on, we will be more likely to reduce its prevalence than if we ignore it and act as if it did not exist.

patterns of regularity. It is not merely an observable habit that chess players move particularly pieces in particular ways; the players themselves “have a reflective critical attitude to this pattern of behavior: they regard it as a standard for all who play the game.”⁹ The rules of conduct in chess, for example, have a *meaning* for the game players that might not be readily apparent to the external observer.¹⁰ Take the example of a traffic light. The external point of view observes the regularities of behavior, and begins to make predictions about whether conduct will meet with hostile reaction or punishment. We begin to observe that cars facing red lights stop, and those that do not stop cause accidents, or get tickets, or are honked at by other drivers. To the internal point of view, the red light or green light is more than prediction of behavior; it means something (red = stop or green = go) with regard to their own behavior.¹¹ Michael Moore distinguishes explanation (in Hart’s external sense) from non-natural meaning (in Hart’s internal sense), even though we can say, externally, red lights *mean* that cars will stop, in the same way we can use the phrase “clouds *mean* rain” to suggest a predictive natural relationship.¹²

The second polarity has to do with how some constructs of rules differ from others in their relative “thingness” or “aboutness.” There have been occasional references to this in the academic literature. June Carbone quoted an unidentified Stanford professor to the effect that what distinguishes the law of property is the “thingness of it.”¹³ Another commentator coined the concept of “aboutness” with regard to contracts.¹⁴ In his classic essay, Arthur Leff observed that the “paper with words” that accompanies a consumer product really is a *thing* in the nature of a label or a warning, rather than a contract to which the ill-fitting precepts of contract law apply.¹⁵ Leff as well saw something different about property; he observed that Hohfeld’s vocabulary of claims, privileges, powers, and immunities in property failed to take hold not because of any failure in the analysis, “but more of the fact that a farm, for instance, bundle of powers, privileges, rights, etc. or not, persists in the consciousness as ‘dirt with boundaries.’”¹⁶ Perhaps the most extensive treatment of “thingness” is Michael Madison’s consideration of the ways in which the law

⁹H.L.A. HART, *THE CONCEPT OF LAW* 56-57 (1961).

¹⁰*Id.* at 89-90. The internal point of view entails a “critical reflective attitude” that make a rule “a standard of behaviour and an obligation.”

¹¹*Id.* The observer with an external point of view sees not rules as such, but “observable regularities of conduct, predictions, probabilities, and signs.”

¹²Michael Moore, *Interpreting Interpretation*, in *LAW AND INTERPRETATION: ESSAYS IN LEGAL PHILOSOPHY* 1, 3 (Andrei Marmor ed., 1997) (1995).

¹³June Carbone, *Back to the Future: Intellectual Property and the Rediscovery of Property Rights – and Wrongs*, 46 ST. LOUIS U. L.J. 629, 630 (2002).

¹⁴Jonathan Yovel, *What is Contract Law “About”? Speech Act Theory and a Critique of “Skeletal Promises,”* 94 NW. U. L. REV. 937 (2000).

¹⁵Arthur Allen Leff, *Contract as Thing*, 19 AM. U. L. REV. 131 (1970).

¹⁶*Id.* at 157.

should treat intangible things that come into being as the result of design, contract, practice or policy.¹⁷

Neither polarity, it seems to me, fully accounts for the way lawyers in practice interact with rules. My thesis is that the two polarities—first person-third person and aboutness-thingness—come together if we think about constructs of rules as games versus models. Games and models, including legal games and models, are both constructs of rules. Games are real in a way that models are not. Games have thingness—an independent reality, and models have aboutness—they map onto something else that is real. But models and games are not dichotomous as the preceding claim makes them out to be. Sometimes models look just like games, and sometimes games can serve as models. Because models look like games, we may come to believe they are real—that the models have thingness rather than aboutness. People are prone to think some of the models they deal in all the time are real, like games, and perhaps even more real than the reality the models are supposed to represent. When that happens unreflectively in business, ethical and legal problems can ensue.

While I believe the distinction between games and models ultimately comports with our common intuitions, and is helpful in making sense of what lawyers do, I also acknowledge this is an ambitious recasting of the philosophy of rules, and thus need to provide some concrete examples in law and business.¹⁸ In Part II, I explore

¹⁷Michael J. Madison, *Law as Design: Objects, Concepts, and Digital Things*, 56 CASE W. RES. L. REV. 381 (2005).

¹⁸John Searle begins his seminal monograph on speech acts with an analysis that capsules my dilemma. He criticizes skepticism about concepts like analyticity and synonymy. Searle's point is elegant and ironic. The critics of the use of the concept say it lacks criteria, and hence the notion is "illegitimate, defective, incoherent, unempirical, or the like." John R. Searle, *Speech Acts: An Essay in the Philosophy of Language* 5 (Cambridge University Press 1970) (1969). Hence the skeptics about the concept will pose a proposition that is borderline between analytic and synthetic, noting that the criteria are insufficient to categorize it. Searle observes that our very "recognition of it as a puzzling case, far from showing that we do not have any adequate notion of analyticity, tends to show precisely the reverse. We could not recognize borderline cases of a concept as borderline cases if we did not grasp the concept to begin with." *Id.* at 8. Searle's point is that our inability to explain our intuition about the validity of a concept with existing criteria does not necessarily lead to the conclusion that it is the concept that is lacking; it may be the criteria.

We have encountered a more mundane example of this puzzle in studying one of the canons of securities law, the Supreme Court's decision in *SEC v. Howey*, 328 U.S. 293 (1946), and its progeny on the interpretation of the definition of a "security" under § 2(a)(1) of the Securities Act of 1933 and the Securities Exchange Act of 1934. The definition has three parts: (1) an "unless the context requires otherwise" disclaimer, (2) a laundry list of things like stocks, notes, bonds, and debentures, and (3) two catch-alls, "investment contracts" and "any interest or instrument commonly known as a 'security.'" *Howey* announced the rule by which a transaction would be deemed an "investment contract" and hence a security within the purview of the regulatory system: it is one in which a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party. There is a wonderful circularity here. We have a list of things that are per se "securities" without need of further definition, but we need to put in the words of a rule or definition the common thread that gives them *security-ness* for purposes of defining what goes into the catch-all. We know what a security is even before we embark on the process of defining it, and the law professor's game is to point out those paradoxes where application of the

the idea of contrasting legal constructs as games and legal constructs as models in more depth. First, what do I mean by “game” and what do I mean by “model”? Second, what does it mean to claim that a game is real and has “thingness” or that a model is not real and has “aboutness”? How does the complexity of games and models contribute to confusion between the two? Finally, what kinds of legal constructs have more “thingness” than other areas of the law that have model-like “aboutness”? I use examples from commercial law (Article 2 is model-like; Article 9 is game-like), business association law (corporations are somewhat more game-like and partnerships are somewhat more model-like), and contracts (those elements of a business acquisition agreement, like the description of the business being sold, that are model-like, and those, like the post-closing price adjustment or the indemnification rules, that are game-like).

In Part III, I explore the consequence of confusing games and models in two contexts, and consider the co-optation from models into games and vice versa. The first context is financial accounting. Language itself is a kind of game (so the philosophers of language teach us) reflecting shared understandings of linguistic communities. The language of accounting is complex and nuanced, but, I contend, ultimately intended to assist business managers in creating financial models of their businesses. But the power of the language game is such that participants in the financial reporting process can be co-opting into the game of accounting rather than using accounting to model, as accurately as possible, the reality of an underlying business. The second context is contract interpretation. I consider how a law-and-economics approach to contract interpretation uses a model versus a game approach, and hence fails to appreciate that modelers and game players often view differently what constitutes a satisfactory statement why something happened the way it did.

In Part IV, I explore the consequences for lawyers of failing to distinguish between legal games and legal models, or more positively, the benefits they bring as compliance officers and transaction counselors when they are able to assess the patterns—game or model—they and other participants in the bigger game of business are using to organize their sensory data. I address this in two different aspects: effectiveness as a transactional lawyer, and the possibility of the tainting of ethical or compliance judgment. In Part V, I attempt to reconcile my game-model distinction, and its attendant concerns about scientific explanation and attributive cause-and-effect, into the intellectual history of the social sciences of the last hundred years.

II. LEGAL CONSTRUCTS AS GAMES AND MODELS

Someone says to me: “Shew the children a game.” I teach them gaming with dice, and the other says “That sort of game isn’t what I meant.”¹⁹

definition (e.g., a neighbor’s pooling and sale of cherries off the trees in our northern Michigan subdivision) leads us to call something a security that we already know, intuitively, is not.

So for the time being, I will use terms like “aboutness” and “thingness” as I look for more rigorous ways of getting at the difference.

¹⁹LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS*, 28^c (G.E.M. Anscombe trans., 2001).

A. What Makes a Game?

Are the following games or models? Football. Marginal revenue and cost curves. Financial statements prepared in accordance with generally accepted accounting principles. Business acquisition agreements. The prisoner's dilemma.

We need to start by being as clear as we can about what a game is. Consider, merely for the range, the number of alternative dictionary definitions: "activity engaged in for diversion or amusement"; "a procedure for gaining an end: TACTIC"; "a physical or mental competition conducted according to rules with the participants in direct opposition to each other"; "a field of gainful activity: LINE <the newspaper game>"; "any activity undertaken or regarded as a contest involving rivalry, strategy, or struggle <the dating game>."²⁰ In his explication of what he called the language game, Wittgenstein used the word "game" itself to demonstrate that all the ways we use the word game resemble each other as do members of a family. Solitaire is a game, so the definition cannot turn wholly on there being more than one participant; tic-tac-toe is a game, but it is hardly amusing; being in the newspaper or the investment banking game is one's life, not a diversion. We need to take Wittgenstein's advice that there is nothing common to every usage of "game," but instead there are "similarities, relationships, and a whole series of them at that."²¹ Each example bears a similarity to the last, but each is slightly different.²²

Where does our willingness to call something a game stop? Picking up the dog dishes, taking them to the basement, filling them with kibble, and setting them back down in front of the dogs is not a game. We could agree something that looks like feeding the dogs is a game (the first dog to reach the dish gets fed first), but the point is the absence of a defined frontier to the concept.²³ But if language (according to Wittgenstein) is practice, then there must be something we understand to be game-like not just in Scrabble®, but in the ways we go about our lives.

Therefore, after Wittgenstein, we should know better than to attempt to find a common thread or denominator for all usages of "game" or for all usages of "model." Nevertheless, I have asserted that games are real and have thingness in a way that models do not. So I must be saying that something common to some usages of games is that they are real, and that something common to some usages of models is that they are not. Put another way, board games are real. A marginal cost and revenue graph is a model in the sense of being a system of postulates, data and inferences are representations of something else, but it does not have thingness in the same way that a board game does. But the usages blur at the edges. The prisoner's dilemma,²⁴ undoubtedly a game (particularly if you happen to be one of the

²⁰MERRIAM-WEBSTER'S DELUXE DICTIONARY 753 (10th ed. 1998).

²¹WITTGENSTEIN, *supra* note 19, at 27^c.

²²Arthur Leff undertook this exercise of "family resemblances" in his analysis of the critical definitional components of "contract," including that it be interpersonal, be more or less communicative, bear on the future, be limited in the extent of the relationship and so on. Leff, *supra* note 15, at 137-39.

²³*Id.* at 28^c-29^c.

²⁴The prisoner's dilemma is the classic example in game theory of the paradoxical result occurring where the two players' dominant strategies result in each of them being worse off

prisoners), is used as a model, and the dictionary definition of a model includes the person or thing that serves as the object of the artist's work.²⁵

Let me first work from the core idea of game toward the idea of model. John Searle's seminal work in *Speech Acts*²⁶ provides a source for making at least some distinction between games and models. Searle's thesis is that language is a game, and it operates according to an implicit mutually accepted set of rules. But what makes it a game has to do with the nature of the rules that establish the game. The key concept is the difference between constitutive and regulative rules.²⁷ While regulative rules "regulate antecedently or independently existing forms of behavior," constitutive rules "do not merely regulate, they create or define new rules of behavior."²⁸ The classic examples of constitutive rules are those of a game like football or chess. The rule that crossing the goal line is a touchdown creates the concept of *touchdown*; the rule that we may not turn right on a red light merely regulates the antecedently created behavior of driving.²⁹ New forms of activity

than if they stopped playing strategically and cooperated. DOUGLAS G. BAIRD, ROBERT H. GERTNER & RANDAL C. PICKER, *GAME THEORY AND THE LAW* 33-35 (1994).

²⁵What about the game of life? Is it a real game, or are we here using "game" as a model or allusion to something game-like about life?

²⁶JOHN R. SEARLE, *SPEECH ACTS: AN ESSAY IN THE PHILOSOPHY OF LANGUAGE* 33-42 (1970).

²⁷For other treatments of this distinction, see FREDERICK SCHAUER, *PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND LIFE* (2002); Max Black, *The Analysis of Rules*, in *MODELS AND METAPHORS*, *supra* note 2, at 95; H.L.A. Hart, *Definition and Theory in Jurisprudence*, in *ESSAYS IN JURISPRUDENCE AND PHILOSOPHY* 21 (1983); David Lewis, *Scorekeeping in a Language Game*, in *PHILOSOPHICAL PAPERS* 233 (1983); JOSEPH RAZ, *PRACTICAL REASON AND NORMS* (Princeton Univ. Press 1999) (1975).

²⁸Kant used the adjectives in a somewhat different way. He distinguished between constitutive principles that might be the subject of knowledge, and the regulative principle, which is reason itself. IMMANUEL KANT, *CRITIQUE OF PURE REASON* 520-24 (Paul Guyer & Allen W. Wood trans., Cambridge University Press, 1998) (1787).

²⁹The concept of "constitutiveness" (and its illustration by means of games) arises in the debate about the source of the rule of recognition in H.L.A. Hart's positive law jurisprudence. Most positivists accept that the rule of recognition, the secondary rule that tells officials what primary rules constitute valid law, is a matter of common practice of recognizing some rules as law, and some as not. The more controversial issue is whether the fact of the common practice—that it is "conventional"—is part of the *legal* reason why people consider the rule of recognition to be binding. See Julie Dickson, *Is the Rule of Recognition Really Conventional?*, 27 OXFORD J. LEG. STUD. 373, 375-76 (2007). Some of the debate swirls around what Hart meant, particularly in his response in the "Postscript" to the Second Edition of *THE CONCEPT OF LAW* (1961), *supra* note 9. The "non-conventional" position is that the point of the rule of recognition is that it validates other rules, but there is no further rule that validates it. Dickson, *supra*, at 377.

I do not here take a position on the debate, but observe merely that one of the "conventionalists" is Andrei Marmor, who takes the position that "there are constitutive conventions of autonomous social practices, of which the rule of recognition is one." *Id.* at 391 (quoting ANDREI MARMOR, *POSITIVE LAW AND OBJECTIVE VALUES* 12 (2001)). Marmor's point is that the set of rules constituting the practice creates its own reason for being, and for being followed:

created by constitutive rules may contain regulative rules. Fred Schauer uses the example of clipping in football. It is a constitutive rule to call hitting someone from behind *clipping*. It is a regulative rule to make it illegal.³⁰

If we begin by anchoring ourselves in the concept of games, for example, board games, the constitutive rules are clear. The rules of Scrabble® are set forth in a booklet or printed on the inside of the box cover. The rules can change, but only if we make express accommodations (ground rules, so to speak). As we move from the core of a game as concrete and real as something like Scrabble® or football to language as a game, we gain and lose attributes of what makes something game-like. My point here is that even when we are talking about something as ephemeral as the language game, the game still involves players and not mere observers. The rules of the language game are real, but far more fluid, and we accommodate the fluidity by changing the rules.³¹ Nevertheless, players in the language game are not modelers. I have in mind the 1982 Disney movie *Tron*, in which Jeff Bridges' character hacks into a computer game, is sucked into the program, and becomes an actual participant in the virtual battle. He transformed from modeler (programmer) to player (gladiator).³² In short, in addition to rules, we can say the game is real if we have

People who play chess follow the rules of the game because by doing so they can engage in an activity they regard as, say, intellectually rewarding. Whatever the reason for having the game might be, or whatever "problem" it was invented to solve, would have little bearing on the reasons people have for playing it. Once the game is there to play, it establishes, as it were, its own point.

Id. at 13.

³⁰SCHAUER, *supra* note 27, at 6-7. The constitutive rules of football create the concept of a defensive back's *chuck* of a receiver, but in recent years a change in the regulative rules made a chuck more than five yards from the line of scrimmage illegal. Compare that to the change in rules under which the American League adopted the designated hitter in 1973. That was a change in the constitutive rules, and I think the reaction to the change has to do with something more than its magnitude or its impact. To this day, there is a sense among some baseball fans that the designated hitter rule fundamentally changed baseball in a way that, say, that raising or lowering the pitcher's mound did not.

³¹As David Lewis points out, the constitutive rules in language games move and adapt themselves—they accommodate—in a way that the constitutive rules of a board game or a sport do not. Lewis posits "rules of accommodation" for presuppositions and permissibility in language games. As to presupposition, if you say "all Suffolk Law School's professors are leaders in their respective disciplines" you do not need to add, "and Suffolk has professors." The listener will accommodate the speaker by immediately presupposing, even if she does not already know, that Suffolk Law School indeed must have professors. As to permissibility, the rule depends upon the speaker being the master, and the master being in control of what is permissible. The master is able to change what is permissible and impermissible. In other words, there is a boundary, but the master can change it. The rule of accommodation is that if the master says something to the listener:

about permissibility . . . that requires for its truth the permissibility or impermissibility of certain course[s] of action, and if just before [the time of the statement] the boundary is such as to make the master's statement false, then . . . the boundary shifts [at the time of the statement] so as to make the master's statement true.

Lewis, *supra* note 27, at 234-35.

³²Internet Movie Data Base, *TRON*, <http://www.imdb.com/title/tt0084827/> (last visited Oct. 20, 2007).

players *in* it, and not merely using the idea of a game as a model to explain something else.

B. What Makes a Model?

If we are going to compare games and models, we should also start from the core idea of a model and work the other way toward a game. We begin with the same observation about the various usages for the word “model.” The dictionary says a model is, alternatively, “a usu. miniature representation of something; also: a pattern of something to be made”; “a person or thing that serves as a pattern for an artist; esp: one who poses for an artist”; “a description or analogy used to help visualize something (as an atom) that cannot be directly observed”; “a system of postulates, data, and inferences presented as a mathematical description of an entity or state of affairs[.]”³³ The core of a model is that it is a representation or a pattern of something else, but the essence of a scientific model is that the model is simpler than the reality, and somehow manages to capture what is important about the reality in a way that helps us make sense.

It may be helpful to understand models by first understanding something about the complex systems they seek to represent. One insight of a body of work called complexity theory is that highly complex systems can, counter intuitively, arise from very simple initial states, and even with a limited number of simple algorithms.³⁴ But as complexity theorists have acknowledged, it is far easier to generate a complex system from simple assumptions than it is to look at a complex system and reduce it to its fundamental axioms; in short, to create a model.³⁵ Given a complex system, the question is whether a less complex model (i.e., one more efficient in space and time) can determine the initial states from which the system grew. As the theorists note, there are theoretical limitations to modeling systems. If the system being modeled can itself act as a universal computer, then the model needs to be more efficient in space and time than the system, which is not possible. This is called “computational irreducibility.” As an example,

³³MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 746 (10th ed. 2002).

³⁴See, e.g., JOHN VON NEUMANN & ARTHUR W. BURKS, *THEORY OF SELF-REPRODUCING AUTOMATA* (1966); W. Brian Arthur, *Complexity and the Economy*, 284 *SCIENCE* 107 (Apr. 2, 1999); W. Brian Arthur, *The End of Economic Certainty*, in *THE BIOLOGY OF BUSINESS* 31 (J.H. Clippinger, ed., 1999); Stephen Wolfram, *Complex System Theory* (1984), <http://www.stephenwolfram.com/publications/articles/ca/84-complex/index.html>. Peter Alces has explored complexity theory as a metaphor for the ways in which we think about legal concepts like justice, and summarizes Wolfram’s generation of cellular automata. Peter Alces, *On Discovering Doctrine: “Justice” in Contract Agreement*, 83 *WASH. U. L.Q.* 471, 507-19 (2005).

³⁵STEPHEN WOLFRAM, *A NEW KIND OF SCIENCE* 551 (2002). According to Wolfram: [I]t is rather easy to generate complex behavior by starting from simple initial conditions and then following simple sets of rules. But the point is that if one starts from some particular piece of behavior there are in general no such simple rules that allow one to go backwards and find out how this behavior can be produced. Typically the problem is similar to trying to find solutions that will satisfy certain constraints. *Id.*; Alces, *supra* note 34, at 512 n.164.

[t]he development of an organism from its genetic code may well be a computational irreducible process. Effectively the only way to find out the overall characteristics of the organism may be to grow it explicitly. This would make large-scale computer-aided design of biological organisms, or “biological engineering,” effectively impossible: only explicit search methods analogous to Darwinian evolution could be used.³⁶

Thus, filtering out the non-relevant data is the essence of modeling and prediction. Modeling from complexity to simplicity is most apparent in the most deductive of systems: computer science. There, the complexity of a sequence is an indicator of the cost of generating the sequence in memory storage (space) and in central processing unit expenditure (time).³⁷ The point of a model is to take the many bits of information available in a universe, and to construct an explanation (algorithmic in the case of a computer) that has a fair probability, in far fewer bits, of being able to replicate the actual universe of inputs.³⁸

Game theory is a less deductive but typical form of modeling. The leading work on the application of game theory in the law observes:

Game theory, like all economic modeling, works by simplifying a given social situation and stepping back from the many details that are irrelevant to the problem at hand. The test of a model is whether it can hone our intuition by illuminating the basic forces that are at work but not plainly visible when we look at an actual case in all its detail. The spirit of the enterprise is to write down the game with the fewest elements that captures the essence of the problem. The use of the word “game” is appropriate because one can reduce the basic elements of complicated social and economic interactions to forms that resemble parlor games.³⁹

³⁶Wolfram, *supra* note 34.

³⁷F.T. Arecchi, *Complexity, Complex Systems, and Adaptation*, 879 ANNALS N.Y. ACAD. SCI. 45, 46 (1999). A problem is computationally intractable (or irreducible) when there is no known algorithm that can model the problem short of recreating the problem. *Id.* One example is the “traveling salesman problem,” in which a salesperson must make calls in a number of cities, but visit each one of them just once, and return to the starting point, and minimize the total distance:

It turns out that as the number of cities on the list grows, the problem becomes increasingly difficult; the number of route combinations grows exponentially with the number of cities in the salesman’s tour. No solution more efficient than simply enumerating all the possible combinations of travel routes is known (though no one has proved such a solution does not exist).

Joseph F. Traub, *The Unknown and the Unknowable*, THE SCIENCES, Jan.- Feb. 1999, at 39, 43-44.

³⁸Arecchi, *supra* note 37, at 48 (“The virtue of the explanation X is to have a bit length $\|x\| = \|m\|$ [m is the explanatory model] + $\|e\|$ [e is an error signal representing the probability of the model being wrong] much shorter than the sequence length $\|s\|$. [T]his amounts to extracting a relevant semantics out of the redundant features of s .”).

³⁹DOUGLAS G. BAIRD, ROBERT H. GERTNER & RANDAL C. PICKER, GAME THEORY AND THE LAW 7 (1994).

Note how models are also based in rules, and, indeed, in constitutive rules that create the model. But the essence of a model is third person objectivity. The modeler is not a game player—she is observing a complex slice of reality, and using a tool to reduce it to something shorter, simpler, and more understandable, at least as to the point the modeler wants to make. It seems to me no coincidence that we often use games as models, first because seeing a particular complex reality in the form of the game simplifies and explains it, and second because using the game as a model permits the objective observer-modeler to teach or explain the actions of the subjective player.⁴⁰

C. Games, Models, Complexity, and Thingness

My thesis here is that complex constructs of rules, whether games or models, take on a relative “thingness.” When they are sufficiently complex, models look like games, and games look like models.

I want to juxtapose two views of “thingness.” In *Law’s Quandary*, Steven D. Smith wonders why we talk about the law almost as a living thing with its own independent intentionality:

We acknowledge . . . that of course lawyers (and many non-lawyers) constantly and routinely refer to “the law” as if it were some entity, or some thing that exists independently of us and possesses some more or less definite content that is somehow authoritative for us. We describe a situation or problem and then ask, “What’s ‘the law’ on that?” Or we make assertions about “what ‘the law’ requires.”⁴¹

The quandary is that we continue to speak of the law this way, even though we would be inclined to the realist view that law is only what legislators and judges say it is, and not “the ‘brooding omnipresence in the sky’ of Holmes’ derision.”⁴²

⁴⁰One of the leading complexity theorists in economics, W. Brian Arthur, made this observation about the problems inherent in trying to create an objective model of the economy:

In the standard view of the economy, which has an intellectual lineage that goes back to the Enlightenment, the economy is mechanistic. It can be viewed as a complicated set of objects (products, markets, resources, technologies, demands) with linkages between them. Subject and object—agents and the economy in which they perform—can be neatly separated. The view I am giving here is different. It says that the economy itself emerges from our subjective beliefs. These subjective beliefs, taken in the aggregate, structure the micro economy. They give rise to the character of financial markets. They direct flows of capital and govern strategic behavior and negotiations. They are the DNA of the economy. These subjective beliefs are a priori or deductively indeterminate in advance. They co-evolve, arise, decay, change, mutually reinforce, and mutually negate. Subject and object cannot be neatly separated. And so the economy shows behavior that we can best describe as organic, rather than mechanistic. It is not a gigantic, well-ordered machine. It is organic. At all levels it contains pockets of indeterminacy. It emerges from subjectivity and falls back into subjectivity.

Arthur, *The End of Certainty in Economics*, *supra* note 34, at 44-45.

⁴¹STEVEN D. SMITH, *LAW’S QUANDARY* 52 (2004).

⁴²*Id.* at 155.

Professor Smith's answer to the question is to suggest hopefully and gingerly that perhaps there is some kind of immanence, a "Transcendental Author," so to speak, that is speaking through the texts that constitute "the law."⁴³

Smith sees a complex construct (put aside for now whether it is a game or a model) that by all accounts is without individual intentionality, and hopes to find intentionality. At the other end of the complex thingness spectrum, Douglas Hofstadter (reflecting the views, I believe, of Daniel Dennett and other evolutionary and cognitive scientists) suggests that intentionality, at least intentionality having its source in "transcendence" is an illusion, or, better put, a consequence of complexity.⁴⁴ On this view, there is no difference between a mechanical universal computing machine and a biological version. The appearance of intentionality arises at the point where systems are able to turn and reflect upon themselves—a "threshold of complexity and memory size."⁴⁵ "In the world of living things, the magic threshold of representational universality is crossed whenever a system's repertoire of symbols becomes extensible without any obvious limit. This threshold was crossed . . . somewhere along the way from earlier primates to ourselves."⁴⁶

Both Smith and Hofstadter are grappling with the same issue, albeit from wholly opposing starting points. Each is concerned with the apparent purposiveness of the order we perceive in the world, whether in Smith's case, it is the construct of rules we call "the law," or, in Hofstadter's case, the perception of "the self." The major difference between the two is the willingness to accept something transcendental as an explanation.

If we see the construct of rules as a game, at least some variations of the concept will include an *explicit* purpose: to win or to succeed under whatever conditions constitute success in the game. But complex models have a more subtle relationship to purposiveness. We need not resolve the question of whether a system like the law actually has a Transcendent Author any more than we need resolve the question of whether intentionality is nothing more than the result of a sufficiently complex system whose development will ultimately be describable in the science of evolutionary biology. That a construct of rules, like the Internal Revenue Code, or GAAP, or Article 9, can be viewed as implicitly purposive means that the construct, whether it is a game *or* a model, is capable of being viewed as a game. Without engaging in too much amateur psychology, it is entirely reasonable that the competitive sorts who become lawyers might equate achieving the implicit purpose of the model, whatever that is, with the achievement of success in the game.⁴⁷

D. Comparing Games and Models in the Law

We could create a parlor game of identifying games and models in the law; the following are my initial contributions.

Commercial law. For reasons (with which I agree) that have been articulated elsewhere, I have never been enamored with Article 2 of the Uniform Commercial

⁴³*Id.* at 172-79.

⁴⁴DOUGLAS HOFSTADTER, I AM A STRANGE LOOP 319-31 (2007).

⁴⁵*Id.* at 243.

⁴⁶*Id.* at 246.

⁴⁷See Appendix A *infra*.

Code.⁴⁸ The drafters' attempt to address the downside of formal rules by forsaking clear default rules for fuzzy but realistic business principles (like "reasonableness") resulted in law neither admired for its realism nor useful as a set of default rules. Even teaching Article 2 (and, to a large extent, contracts) is, to a long-time practitioner like me, a somewhat archaic exercise. In my experience, most real business disputes are about interpretation, and not things like offer and acceptance or consideration or defenses. In contrast, I had never taken a secured transactions course in law school, and dealt with Article 9 only cursorily in practice. To my surprise, I found the process of learning it and teaching it to be immensely satisfying, far more so than Article 2.

I concluded that the reason had to do with Article 9 being a game with thingness. The rules in Article 9 actually create a thing, a game, out of whole cloth. The key construct in the game is the security interest, which would not exist but for its definitional creation in the UCC.⁴⁹ Depending on your particular interest as debtor, secured creditor, unsecured creditor, or trustee in bankruptcy, you win the game by creating an enforceable security interest, or by defeating the security interest.⁵⁰ The game has rules of conduct and procedure, but it is as much a game as football, which would not exist but for the establishment of foundational rules that set the field, the points for a touchdown, what constitutes a first down or clipping, and so on.

In contrast, the rules of Article 2, and, indeed, of the law of contracts generally, are "about" an antecedent and independently existing practice—the social relationship of promising—and therefore more like a model of something else. Take section 2-207, the infamous provision dealing with the "battle of the forms" as an example. The drafters of the UCC observed a morass of communications out of which the parties might well have thought they had an agreement, but courts applying the classical rules of offer and acceptance (the "mirror image") would not. Section 2-207 does not say "this is what you must do to create a contract" in the same way Article 9 spells out precisely what you must do to create, attach, and perfect a security interest. Instead, section 2-207 tries to create a model of what is going on, and to interpret the parties' moves and counter-moves in the context of the model.

Business association law. Corporate law has a game-like quality in much the same way. What we do in setting up the corporation is not unlike arranging the playing pieces when we begin a board game like Monopoly®. With a set of constitutive rules, we create the playing field (incorporating the corporation, designating the number of seats on the board, creating offices, authorizing and issuing shares), identify the players by role (officer, director, shareholder), and give

⁴⁸See Lisa Bernstein, *The Questionable Empirical Basis of Article 2's Incorporation Strategy: A Preliminary Study*, 66 U. CHI. L. REV. 710 (1999); Franklin G. Snyder, *Clouds of Mystery: Dispelling the Realist Rhetoric of the Uniform Commercial Code*, 68 OHIO ST. L.J. 11 (2007).

⁴⁹A "[s]ecurity interest" means an interest in personal property or fixtures which secures payment or performance of an obligation." U.C.C. § 1-201(35) (1977).

⁵⁰For example, U.C.C. § 9-336(a) (2000) defines commingled goods as those "physically united with other goods in such a manner that their identity is lost in a product or mass." The rules of the game are that the secured party loses its security interest in goods that become commingled goods.

them their playing pieces (shares). There are plenty of regulative rules authorizing, permitting, and prohibiting particular acts by particular players; they are found in the state and federal corporate law, the charter, and the bylaws.

In contrast, partnership law begins, at least, with model-like aboutness. The law has an image of what it means to be a partner, and imposes legal obligations on the parties if what they do is to act like partners, whether or not they intend to do so.⁵¹ Interestingly, partnership law illuminates some of the nuance in the game-model distinction. Partnership law does not forbid the parties from opting out of the model and into games they create themselves. As we will see, it is certainly possible for lawyers as game-creators to construct a more game-like arrangement through the partnership agreement. But in the default situation, partnership is something of a game-model hybrid, because only by having been so deemed does the arrangement takes on some “thingness.” Hence, we have the long-standing debate over whether partnerships are entities (i.e., things in themselves) or merely contractual aggregations of assets (i.e., a legal model that is about what the parties have done).

Contracts. Contracts are the most interesting subject of the game. Like an electron, which sometimes looks like a wave and sometimes looks like a particle, a contract is an elusive thing. Sometimes it is a model and not real. Sometimes it creates a game, and is a thing and is real. And sometimes it is (or becomes) a playing piece in a bigger game like a negotiation or litigation.⁵² As an example, a typical business acquisition will have a provision called the post-closing price adjustment. The buyer will undertake due diligence on the present state of the business it is buying, and the centerpiece of that effort is usually a balance sheet (called the “reference balance sheet”) from the most recent year or quarter end (because the seller will have usually prepared one in the ordinary course of its business), subject to agreed adjustments. But the parties recognize that the balance sheet, along with the description of business assets being sold and liabilities being transferred, all as described in the contract, are a model.

In theory, at least, the net book equity in the most recent balance sheet becomes a numerical proxy for the value of the business, regardless of the price negotiated between the parties.⁵³ There is, invariably, a delay between the balance sheet used in negotiating the contract and the actual closing date, so the parties often include what is known as a post-closing adjustment provision. Typically, the parties prepare a balance sheet as of the closing date, and the net difference in book equity will

⁵¹ “[T]he association of two or more persons to carry on as co-owners a business for profit forms a partnership, *whether or not the parties intend to form a partnership*.” UNIF. P’SHIP ACT § 202(a) (1997) (emphasis added).

⁵² I am distinguishing between the idea of contract as a game (and games have thingness) and the idea of contract as a thing, which was the point of Arthur Leff’s article. He saw the “paper with words” accompanying a product as a physical thing, not as a legal contract, whatever that meant. *See generally* Leff, *supra* note 15. I am not concerned about the physical contract itself, but about the construct of rules that it creates, and whether those are more game-like or model-like.

⁵³ There is no necessary relationship between the net book equity and the price. The net book equity is an accounting calculation under GAAP and generally reflects historical costs of assets, not market values. Price is a negotiated market transaction between a willing seller and a willing buyer. Hence, for example, the net book equity of a business sold for \$500 million could be \$98 million or \$500 million or \$1 billion.

correspond dollar for dollar to an adjustment in the purchase price. For example, the net book equity of the business on the reference balance sheet was \$200 million, with a purchase price of \$500 million, and the closing balance sheet showed net book equity of \$215 million, the buyer would owe the seller an additional \$15 million in purchase price.

In drafting the post-closing adjustment, the parties are creating a game. In addition to defining the payoffs, there are game rules. Either the seller or the buyer has the right to prepare the closing balance sheet. The other party will have the right to object within a certain period of time. Often there are rules that attempt to ensure that the same principles used in calculating the reference balance sheet are used in calculating the closing balance sheet. The game rules specify who the referee will be in the event of a dispute (usually one of the big accounting firms not already associated with the parties). Indeed, having created the game rules, from time to time the parties also have disputes, and actually play the game.⁵⁴

III. THE CONSEQUENCE OF CONFUSING GAMES AND MODELS

The core concepts of game and model thus differ in two critical respects: first, a game has independent reality, and second, a game involves players and not merely observer-modelers. But games and models are each purposive in their own ways and that purposiveness lends itself to confusion. In this section, I want to explore the bad news: (1) there is a pragmatic consequence to confusing games and models, with accounting systems and financial reporting being a prime example, and (2) there is a difference between using a model to make “scientific” causal explanations about game players we may be observing and understanding the causal reasons why game players act the way they do. I show an example of mistaking causal explanations, in a modeling sense, for causal reasons, in a game-playing sense, in a recent attempt by two renowned law-and-economics scholars to posit a default rule for contract interpretation. The good news is that because the issue of confusion is cognitive, we ought to be able to reflect on it, and perhaps clear up the confusion.

A. The Reality of Co-Optation: Financial Reporting as Model and Game

1. The Constitutive and Regulative Rules of Financial Accounting

Whether or not running a business is a game, the process of reporting its financial condition to the public is a complex language game consisting of thousands of separate speech acts, from the organization of the balance sheet to the footnotes explaining the status of litigation, to the tone of voice of the chief executive officer

⁵⁴To continue the game allusion, I explain what we are doing by using an analogy to measurements in American football. I am always amused by the precision of the measurement between where the football sits and the first down marker, when the football was placed on the ground by an official who saw the play from as much as twenty-five yards away, and estimated the spot with his toe. So I tell clients that the accounting rules will do the same thing for our initial spotting of the value of the business from the reference balance sheet as the official’s estimate, but when we do the post-closing adjustment we want to make sure that the measuring process is as accurate as the measurement on the first down markers.

in the conference call with analysts on the day after the periodic earnings have been released.⁵⁵

Businesses report their financial results and condition in mandated forms— income statements, balance sheets, cash flow statements—the rules for which are set by GAAP.⁵⁶ GAAP itself is a language with game-like constitutive rules.⁵⁷ The rules are “man-made.”⁵⁸ But GAAP financial statements are intended to *model* business results, among other things, in the same way the language of microeconomics is meant to model a firm’s price and volume decisions, among other things. Both simplify and explain an antecedently existing and far more complex form of behavior—namely, a business. The authors of one of the definitive accounting texts observed that using accounting information is akin to how a pilot uses information from the airplane instruments. The instruments convey messages that probably mean something about the reality of the airplane’s situation in flight, but:

⁵⁵To put this in the context of Searle’s speech acts, the representatives of the company make thousands of utterances (morphemes and sentences) which constitute either propositional acts (referring and predicating) or illocutionary acts (stating, questioning, and promising) about the business. SEARLE, *supra* note 26, at 24. Moreover, the process of communicating about the company invokes what Searle (and J.L. Austin) call a perlocutionary act, which adds “the notion of the consequences or *effects* such acts have on the actions, thoughts, or beliefs, etc. of hearers.” *Id.* at 25. Perlocutionary acts are those of the speaker which, for example, persuade, alarm, convince, edify, inspire, or enlighten the listener. *Id.*

⁵⁶See AUDITING STANDARDS BD. AU § 411 (“The phrase ‘generally accepted accounting principles’ is a technical accounting term that encompasses the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time.”); BARRY J. EPSTEIN, RALPH NACH & STEVEN M. BRAGG, WILEY GAAP 2007: INTERPRETATION AND APPLICATION OF GENERALLY ACCEPTED ACCOUNTING PRINCIPLES 1 (2006) (“Generally accepted accounting principles (GAAP) are concerned with the measurement of economic activity, the time when such measurements are to be made and recorded, the disclosures surrounding this activity, and the preparation and presentation of summarized economic information in the form of financial statements.”).

⁵⁷ROBERT N. ANTHONY, DAVID F. HAWKINS & KENNETH A. MERCHANT, ACCOUNTING: TEXT & CASES 8-9 (11th ed., 2004) (observing that accounting is a language, with different dialects, definite and indefinite rules, and is subject to evolution and change in response to the changing needs of society). GAAP grows organically, like a language, as the result of practice:

GAAP develops when questions arise about how to best accomplish those objectives—measurement, timing of recognition, disclosure, or presentation. In response to those questions, GAAP is either prescribed in official pronouncements of authoritative bodies empowered to create it, or it originates over time through the development of customary practices that evolves when authoritative bodies fail to respond. Thus, GAAP is a reaction to and a product of the economic environment in which it develops. As such, the development of accounting and financial reporting standards has lagged the development and creation of increasingly intricate economic structures and transactions.

EPSTEIN, NACH & BRAGG, *supra* note 56, at 1-2.

⁵⁸ANTHONY, HAWKINS & MERCHANT, *supra* note 57, at 13. The term is that of the authors of the accounting text, and I take it to mean that there is nothing necessary about accounting rules. It is an arbitrary system.

the word “probably” is used because, for one reason or another, an instrument may not always give the reading it is supposed to give; the pilot must realize this, and he must also understand something of the likelihood, and the reasons for, these abnormalities Similarly a person who is to make intelligent use of accounting information must understand what a given accounting figure probably means, what its limitations are, and the circumstances in which it may mean something different from the apparent “signal” that it gives.⁵⁹

Even if the ultimate goal of the financial accounting exercise is to present a model of the current state of the business within acceptable tolerances, it is still a model, and one that may not wholly represent the underlying reality of the business. One part of the GAAP exercise requires management to certify, and the auditors to confirm (in accordance with generally accepted auditing standards) that the written financial statements fairly present as a whole, in all material respects, the financial condition of the company. Certification of “fairly presents” has a shared meaning in the rules and principles that constitute the language of GAAP. Both the accounting profession and the courts recognize, however, that GAAP is not the exclusive, nor necessarily even the best, language by which we communicate the state of a business.⁶⁰ The fact that the financial statements comport with GAAP (and fairly present the financial condition) is not a defense to securities fraud if the managers otherwise engaged in fraudulent transactions within the company.⁶¹ To put it another

⁵⁹ ANTHONY, HAWKINS & MERCHANT, *supra* note 57, at 7.

⁶⁰ *Id.* (“[I]t seems intuitively sensible that accounting should report what a business is ‘worth,’ but accounting does not do this, or even attempt to do it.”). For example, one of the basic concepts of financial accounting is the understanding that accounting can only present a record of facts expressible in monetary terms:

Despite its advantage, the money measurement concept imposes a severe limitation on the scope of an accounting report. Accounting does not record the state of the president’s health, that the sales manager is not on speaking terms with the production manager, that a strike is beginning, or that a competitor has placed a better product on the market. Accounting therefore does not give a complete account of the happenings in a organization or a full picture of its condition. It follows, then, that the reader of an accounting report should not expect to find therein all of the facts, or perhaps even the most important ones, about an organization.

Id. at 26. See also ROBERT B. DICKIE, FINANCIAL STATEMENT ANALYSIS AND BUSINESS VALUATION FOR THE PRACTICAL LAWYER 99 (1998) (financial statement earnings are not the same as value, but earnings are a surrogate for value because they are easier to measure).

⁶¹ *United States v. Simon*, 425 F.2d 796, 805-06 (2d Cir. 1969). In this case Judge Friendly held that a financial statement did not fairly present the financial condition of a publicly-traded company, even where the treatment of a receivable on a loan to an affiliate was recorded and disclosed wholly in accordance with GAAP, but where the auditors knew that the CEO of the company had diverted the proceeds of the loan from the affiliate to his own personal use. *Id.* The problem in citing this case for a distinction between GAAP and “fairly presents” is the court’s own acknowledgment that once an accountant has reason to believe that a corporation’s affairs are not being conducted honestly, generally accepted accounting principles require the accountant to extend procedures to determine whether the suspicions are justified. *Id.* at 806-07.

way, the financial statements may or may not correspond in a way, accepted by the community, to another reality that is the true state of the business.⁶²

Finally, the constitutive and regulative rules of accounting are game-like in their relatively arbitrary nature, but nevertheless continue to model another reality. For example, on the revenue side, “net income” is not the same as “cash flow” because GAAP uses the accrual method to match revenues with the appropriate (at least with GAAP) expenses within time periods like quarters and years.⁶³ When a business makes a sale it has “revenue” even though it does not receive the cash until later. When a business incurs a liability for a cost it has an expense, even though it does not make the expenditure until later.⁶⁴ Revenue recorded when the product leaves the shipping dock will fall to the bottom line as income and earnings to the extent it is not offset by recorded expenses, but that does not necessarily mean the business will see the cash. At the time of the shipment, the business, recognizing that customers do not always pay, may record an allowance for bad debt (say, five percent of the sales price), which is reflected on the balance sheet as a subtraction from the accounts receivable assets.⁶⁵ Hence, what the business records as revenue approaches fiction: the number represents the sales price of what left in the truck, but it is merely an estimate of how much cash the business will ultimately receive.

Similarly, on the cost side, when we use a depreciation method we are not really reflecting the extent to which the asset is used up; we are reflecting a model of that use. If the business has an asset, like a machine, that cost \$140,000, the matching concept says that the business should attribute some amount of the machine’s cost to each accounting period in which the machine is used.⁶⁶ To make that calculation, the business has to predict the useful life of the machine, predict its salvage value at the end, and adopt a method of depreciation. Assume that the machine will last ten years and will be saleable at that time for \$20,000. That means \$120,000 must be depreciated and thus accounted for in each period. But that is not the end of the matter. While the business could adopt a “straight line” depreciation method, in which it takes \$1,000 each month as an expense (note that this is not an expenditure

⁶²This is consistent with Wittgenstein’s assertion that the words and phrases constituting language do not have inherent meanings, but do have significant meaning arising out of shared “bedrock” beliefs. LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS* § 77, at 31^e (G.E.M. Anscombe, trans., 3d ed. 2001) (1953). See also Marian David, *The Correspondence Theory of Truth*, in *STANFORD ENCYCLOPEDIA OF PHILOSOPHY*, available at <http://plato.stanford.edu/entries/truth-correspondence/>.

⁶³It is possible for a business to use “cash accounting” which measures cash receipt and cash expenditure with a period, but that is not in conformity with GAAP. ANTHONY, HAWKINS & MERCHANT, *supra* note 57, at 67-68.

⁶⁴A blunter way of putting this is that “[n]et income is just an opinion, but cash flow is a fact.” PABLO FERNÁNDEZ, *VALUATION METHODS AND SHAREHOLDER VALUE CREATION* 169 (2002). In another paper, the author notes the ways in which net income is subject to error or manipulation: recognizing revenue too quickly or too slowly, capitalizing expenses, using accruals and reserves, realizing extraordinary profits from investments, and outside the United States, charging payments against the balance sheet and not going through the profit and loss statement. *Id.* at 182.

⁶⁵ANTHONY, HAWKINS & MERCHANT, *supra* note 57, at 121-22.

⁶⁶*Id.* at 200.

of cash) attributable to that period, it might also select an accelerated depreciation method on the theory that the machine is more valuable when it is newer. In any case:

[m]anagers, not being clairvoyant, cannot know in advance how long the asset will last or what its residual value will be. Often they have no scientific or strictly logical way of deciding the best depreciation method. The amount of depreciation expense that results from these judgments is therefore an estimate. Because of the arithmetic precision of the calculations that take place after these judgments are made, the inexact nature of depreciation expense is sometimes overlooked.⁶⁷

2. The Gray Area Between Financial Models and Financial Games

It should now be apparent the extent to which the GAAP model can be played as a game. Indeed, note the circularity. Financial reporting does not tell us what the company is worth because it considers only the historical cost of assets and generally not their market value. It does not tell us much about the prospects of the company. The objective of the ordinary audit, according to the auditing profession, is “[t]o express an opinion on the fairness, in all material respects, with which the financial statements present financial position, results of operations, and cash flows in conformity with generally accepted accounting principles or another comprehensive basis of accounting.”⁶⁸ In short, the object of the audit is to make sure that the financial statements comport with the rules for financial statements. It is hardly surprising then that financial reporting, which all but describes itself as a game removed from any other underlying reality, comes to be viewed by the players as a self-contained game and not a model.

Now consider the context of the game. Even though GAAP earnings are merely a surrogate for value, they are an important surrogate. Wall Street analysts (if not the company itself) create earnings targets, with attendant internal and external pressure to meet those targets.⁶⁹ Consider now several different circumstances.⁷⁰ First, knowing that current sales will not get to the earnings target, and feeling the pressure from the CEO and CFO, one of the business managers takes advantage of the arbitrary periods in financial reporting by actually holding back expenses (e.g., barring all travel for the remainder of the year) or actually bringing forward revenue (e.g., “stuffing the channel” by offering extended credit terms for sales made to customer in the present period).⁷¹ Second, the next quarter, even with manipulation of the actual sales and actual expenses, the results come up to the CFO and are disappointing. To improve the results, he takes two actions. He decides instead that crib inventories, heretofore expensed, are really capital expenditures because they are rarely used in the year in which the inventory is purchased. The CFO thus issues

⁶⁷*Id.* at 201.

⁶⁸MICHAEL J. RAMOS, WILEY PRACTITIONER’S GUIDE TO GAAS 1, 2 (2007).

⁶⁹Michael R. Young, *The Origin of Financial Fraud*, in ACCOUNTING IRREGULARITIES AND FINANCIAL FRAUD 11 (Michael R. Young ed., 2000).

⁷⁰*Id.* at 6-10. I am indebted to this particular hypothetical which I have altered slightly.

⁷¹*Id.* at 7-8.

the following statement: "Crib inventories are all capital expenditures." The divisional controllers proceed to capitalize crib inventories (GAAP is complex, and they apply the rules that come down from the corporate office). The effect, as the CFO expected, is to increase earnings in the current period. He also concludes that the company has been over-estimating the likelihood of non-payment, and so he reverses a portion of the bad debt reserve (recall from above that five percent or so of each sale goes into this reserve as a cushion, against which are to be charged real bad debts).⁷² Third, in the next quarter, even after manipulating the actual sales and costs, and even after the accounting adjustments of the previous quarter, the net income numbers still fail to meet expectations. The CFO expects his announcement to have a negative impact on the stock. So he takes out his pencil, erases the revenue number, and writes in an amount that is twenty percent greater.⁷³

⁷²*Id.* at 8-9. This practice is also known as "smoothing earnings," the practice by which companies deliberately manipulate the revenues and costs in the various time periods buckets so as to conform to earlier predictions, either from management or analysts. See Michael C. Jensen, *The Puzzling State of Low-Integrity Relations Between Managers and Capital Markets*, (Barbados Group, Working Paper No. 5-05, 2005) (PDF Files of Slides) available at <http://ssrn.com/abstract=783604>. Certainly before the Enron crisis, the rules of the manager-analyst game rewarded present period "making the numbers" over long-term value, or at least that is how companies perceived it. It was no treat to be in the R&D department in the fourth quarter of a company having a bad year. Even without manipulation of the accounting, as Jensen observes, there was a double-think rationalization (in my view) of perfectly legal, but economically nonsensical trading of long-term value for short-term gain. Larry Cunningham has recently reflected on this turn. Lawrence A. Cunningham, *Rediscovering Board Expertise: Legal Implications of the Empirical Literature* (The George Washington University Law School Public Law and Legal Theory, Working Paper No. 363, 2007), available at <http://ssrn.com/abstract=1024261>.

Jensen's other observation has to do with the manipulation of intra-corporate budgeting, i.e., the gaming up and down of business in large and complex organizations. Business unit controllers play games with the divisional management, and divisional controllers play games with the corporate management. Michael Jensen, *Paying People to Lie: The Truth About the Budgeting System*, 9 *European Financial Management* 379 (2003). According to Jensen:

People are taught to lie in these pervasive budgeting systems because if they tell the truth they often get punished and if they lie they get rewarded. Once taught to lie in this system people generally cannot help but extend that behavior to all sorts of other relationships in the organization.

Id. at 380.

I am not convinced that people respond so directly to compensation that changing the pay system would solve the problem, but I have no doubt that Jensen correctly identifies a corrupting influence from a "top-down" imposed budgeting system. I have this intuition that the gaming is more complex than merely economic. Once you set the rules of the game for success-oriented people, success-oriented people want to win. Or they want to get an A and not a C.

⁷³See STATEMENT ON AUDITING STANDARDS 99, *in* CONSIDERATION OF FRAUD IN A FINANCIAL STATEMENT AUDIT, (2002) (summarized in RAMOS, *supra* note 68, at 55, which defines fraud as "[a]n intentional act that results in a material misstatement in financial statements that are the subject of an audit. The primary distinction between fraud and error is whether the underlying action that causes the misstatement of the financial statements is intentional or unintentional").

What we have here is a continuum that ranges from the legal (but possibly nonsensical) manipulation of the period accounting, to aggressive interpretation of the GAAP reporting rules, and finally to an out-and-out lie. There is a rich literature in sociology and criminology describing the process by which those in the business might well rationalize from the legal manipulation to accounting manipulation to the out-and-out lie.⁷⁴ In their seminal article on juvenile delinquency, Gresham Sykes and David Matza criticized the theoretical viewpoint that it was “based on the values and norms of a deviant sub-culture in precisely the same way as law-abiding behavior is based on the values and norms of the larger society”⁷⁵ Instead, they observed that the delinquent more or less conforms to most of the rules of the social order, and even recognizes his deviance from them. They note that social rules, even among conforming individuals, are *flexible*: they are rarely universal or categorical in all circumstances; they have a *prima facie* applicability but they are not binding in every circumstance. Hence, the deviant may engage in a cognitive process of using that flexibility as a basis for justifying or rationalizing conduct in a process Sykes and Matza called “neutralization.”⁷⁶ There is, additionally, empirical support for what one group of researchers of ethical behavior in business refers to as “psychological patterns of behavior that could predict how natural patterns of human judgment would lead to unethical behaviors.”⁷⁷ Not the least of these patterns is “ethical fading” and self-deception.

I am particularly interested in the way linguistic communities serve as a resource for neutralization and ethical self-deception. Paul Hirsch studied linguistic framing as a way of adapting and orienting behavior within the context of hostile takeover battles of the 1980s.⁷⁸ He traced the linguistic framing of hostile takeovers as the

⁷⁴See, e.g., EDWIN SUTHERLAND, *WHITE COLLAR CRIME* (1949); VICENZO RUGGIERO, *CRIME AND MARKETS: ESSAYS IN ANTI-CRIMINOLOGY* (2000); Nancy Reichman, *Insider Trading*, in 18 *BEYOND THE LAW: CRIME IN COMPLEX ORGANIZATIONS* (Michael Tonry & Albert J. Reiss, Jr. ed., 1993); GILBERT GEIS & EZRA STOTLAND, *WHITE-COLLAR CRIME: THEORY AND RESEARCH* (1980); NEAL SHOVER & JOHN PAUL WRIGHT, *CRIMES OF PRIVILEGE: READINGS IN WHITE-COLLAR CRIME* (2001).

⁷⁵Gresham M. Sykes & David Matza, *Techniques of Neutralization: A Theory of Delinquency*, 22 AM. SOC. REV. 664, 666 (1957).

⁷⁶*Id.* at 666-67.

⁷⁷Francesca Gino, Don A. Moore, & Max H. Bazerman, *See No Evil: When We Overlook Other People's Unethical Behavior*, (Harvard Business School NOM, Working Paper No. 08-045, 2008), available at <http://ssrn.com/abstract=1079969>. With respect to the issue of accounting specifically, see, generally, Don A. Moore, P.E. Tetlock, L. Tanlu, & Max H. Bazerman, *Conflicts of Interest and the Case of Auditor Independence: Moral Seduction and Strategic Issue Cycling*, 31 ACAD. MGMT. REV. 10 (2006).

⁷⁸Paul M. Hirsch, *From Ambushes to Golden Parachutes: Corporate Takeovers as an Instance of Cultural Framing and Institutional Integration*, 91 AM. J. SOC. 800 (1986). My personal experience comports with his linguistic analysis. When I left law firm practice after thirteen years and took a position as an in-house lawyer for the automotive division of a huge multi-national company, for a time I kept a log of curious jargon in my day-planner. To “bubble up” meant that ideas had risen from the bottom of the hierarchy to the top; to “cascade down” meant that ideas flowed in the other direction. A stack of PowerPoint slides for a presentation was the “deck.” A significant task was a “deliverable.” And so on. Academia has its own jargon, which I have also discovered. For additional variations on this theme,

tactic came to be viewed as legitimate. When “corporate raiding” was still new, disruptive, and ungentelemanly, the language and imagery was of epithets, street fights, warfare, and “one-way stigmatization.” As the practice became mainstream and acceptable, the language also softened, shifting to more abstract, objective, depersonalized imagery, like games.⁷⁹ Hirsch’s point was not that language caused hostile takeovers, but that linguistic framing aided the participants in making sense of the cultural change and adapting to it.⁸⁰

I consider . . . [the flamboyant language of business takeovers] a specific example of a more general phenomenon in which radical ideas, expressed symbolically, have critically influenced organizational behavior. Again, the reference is to the increasing dominance of the financial model and to the profound implications that result from conceiving of the firm primarily as an “asset.” In an environment where management is considered an abstract science governed by general principles, where highly mobile managers are encouraged to remain emotionally aloof from the firms that employ them, and where the constituency of the firm is narrowing to exclude all but the investor, the absorption of such ideas as “bottom line,” “book values,” “liquidity,” and “price-earnings ratios” reveals a continuing process of rationalization that requires sociocultural, as well as economic, interpretations.⁸¹

It seems to me that the image of aloof financial game-players, made twenty years ago, has portended the conflation of financial models with financial games.

Let us return to a simple concept of the game. What precisely is the company’s obligation in presenting its financial statements? Is it to model the state of the business? Or, in the spirit of the tautology, is it to present its financial statements? Thinking about the financial statements as a game rather than a model may keep us from out-and-out lying, just as the rules in baseball against corked bats may keep players from using blatantly illegal equipment. But it is well-known that umpires in baseball allow the “phantom double play” in which the second baseman or the shortstop taking the throw at second base never actually steps on the base to make the put-out (a concession no doubt to the fact that a runner is hurtling into the fielder at a high rate of speed). We can rationalize the aggressive interpretation of the accounting rules in the same way.

B. Models, Games, Explanatory Causes, and Attributive Causes

Imagine you are a visitor from outer space, knowing nothing of our culture, and happened to land next to a cricket game (an American can experience this feeling by sitting in a London pub with one playing on the telly, and conversely, non-Americans need merely watch baseball). Having no predisposition, could you give a complete

reference TENBRUNSEL & MESSICK, *supra* note 5, at 226-28 (explaining how language euphemisms facilitate unethical behavior).

⁷⁹Hirsh, *supra* note 78, at 817-19 (see Table 3 summarizing the shift in “Language and Ideology Characterizing the Hostile Tender Offer, as Innovation Diffused to Institutional Core to Periphery”).

⁸⁰*Id.* at 829.

⁸¹*Id.* at 830.

explanation of what was going on? Imagine instead you landed in Hong Kong next to a park in which old men were practicing tai chi stances. I intend these thought experiments to suggest that there is a significant difference between an observer using models to make “scientific” causal explanations about the activity they may be observing, on one hand, and understanding the causal reasons why the actors are acting that way, on the other. Social science theorists are capable of not recognizing the difference. Because I am concerned about lawyers mistaking very real game-playing for modeling, and vice versa, doing the same thing in their practices, I want to do some thinking about thinking.

Perhaps I can illustrate this in another way. I once worked for a CEO who, outside the office, was a man of exquisite common sense, kindness, and values. For some reason, many of those attributes, particularly the common sense, seemed to fall away when he was in the office, meeting with his staff, and making decisions about the business. For example, we were working on a deal that involved selling a portion of the business, and the issue was maintaining confidentiality so that people in the business would continue to focus on results, and not on their personal futures. The problem, of course, is that it is exceedingly difficult to keep the fact of a business divestiture secret. Even if people do not talk about it, there are patterns of activity (certain groups of executives traveling at the same time to particular destinations, particular conference rooms being taken, the way certain visitors to the offices are greeted, various information requests, etc.) that make it clear to even the moderately observant non-involved employee that something is going on. I suggested one day that we should think of this in terms of a family situation in which the parents need to talk about something but keep it from their naturally curious children. He shut me down with words to the effect: “That’s ridiculous; everybody here is an adult and should be dealt with like an adult.” I thought he was wrong to think that human behavior changed merely because we were operating within a large business corporation. I think now that it was a reflection of how modern professionals, and the academies that train them, have assimilated the models of science and social science to explain human behavior.⁸²

As my goal is to have us think about thinking, I want to unpack how we go about explaining *why* things happen and, ultimately, to put that inquiry into the context of models and games. We have already seen that the point of a model is to get to the essence of something else, but with less complexity (to use computer lingo, in fewer bits and bytes). Complexity theory says that if we proceed from an initial state, faced with a succession of control parameters that portend different outcomes, the number of possible outcomes increases exponentially. The game of chess is a good example. The initial placement of the pieces is a steady state. There are only a finite number of board positions after one move, or two, or three, or after forty, but they are increasing exponentially. If chess were played randomly, no possible board position would be more likely than any other after, say, five moves by each player. But in reality we observe an organization process, by which some number of subsequent states appear

⁸²See THOMAS L. HASKELL, OBJECTIVITY IS NOT NEUTRALITY 74 (1998) (professionalism is a manifestation of a process “which Max Weber called ‘rationalization,’ the ominous tendency in European civilization for impersonal calculations of least cost and maximum efficiency to enter, and finally dominate, every sphere of life.”); see also THOMAS L. HASKELL, THE EMERGENCE OF PROFESSIONAL SOCIAL SCIENCE (2000).

more frequently than others.⁸³ Organization means that the symmetry has been broken by an agent external to the system.⁸⁴ In chess, it is the fact that certain opening moves and defenses have been developed over time.⁸⁵ If all moves have the same probability of occurring without external limitations, then all outcomes (i.e., successive states) are equally probable, and complexity constitutes “the impossibility of predicting which one is the state we will observe at the end of the chain of bifurcations.”⁸⁶

Science (and social science) works the other way, and looks to explain how things got to be the way they are now. It does this by creating a model, namely, a system that processes external events by the application of the rules within the model.⁸⁷ We often observe, however, that a number of competing models may be constructed to explain a particular state. The question is how we choose among them as the most appropriate.⁸⁸ And it is still unresolved how scientific explanation is transferable, if at all, from one level of complexity to another, other than by metaphor. At their best, explanatory models not only strip away all that is irrelevant (by a process that in itself

⁸³Arecchi, *supra* note 37, at 53-54.

⁸⁴*Id.* at 54-55.

⁸⁵A contract can be a model that seeks to predict future events and to prescribe consequences if those events occur, and I have analogized this in the past to writing a contract that requires predicting moves and counter-moves in a chess game. I once negotiated a lease that dealt with the following situation. Tenant A leased commercial space from Landlord B, but wanted to downsize. Landlord B had two alternatives, existing Building 1 with another tenant that would need to terminate early and move out, and a proposed Building 2 that could be built in twelve months if necessary. Tenant A was willing to extend its lease with Landlord B in consideration of the downsizing, and Landlord B wanted, if possible, to avoid having to build Building 2. We negotiated a contract that modeled a progression from a steady state of Tenant A resident in its present space to six possible outcomes: Tenant A would move to Building 1 within nine months; Tenant A would move to Building 1 within twelve months; Tenant A would move to Building 2 within twenty-one months, with a reduction of rent on the present space; Tenant A would move to Building 1 or Building 2 within twenty-seven months with a similar rent reduction; Tenant A would be permitted to terminate its entire lease and find a new landlord within twenty-seven months; or Tenant A would remain in the present space.

The control parameters in the lease had to do with Landlord B's willingness to commit to the alternative space as of certain dates. The lease predicted a series of if-then circumstances: if Landlord B could commit to Building 1 by a certain date, then the lease would be amended to provide for that move; if Landlord B could not, then there were possible later dates, or the possibility of constructing Building 2. At each step, the possible outcomes in the real world grew exponentially, but the flow chart implicit in the contract charted only a select few. Indeed, at some point, the flow chart became too complex and the solution at that point was merely to declare a breach rather than to propose another consequence.

⁸⁶Arecchi, *supra* note 37, at 55.

⁸⁷*Id.* at 56.

⁸⁸I assume that all of the models predict equally well at their respective levels of complexity. The question is not the better model, i.e., the better predictor, at the same level of complexity, but what model is more appropriate to explanation at our particular level of inquiry.

is mysterious), but tell us something in a language that is appropriate for the complexity of the thing being modeled.

We can see this in examples from natural science and from the social science of history. As to the former, a dog is made up of organs, which are made up of cells, which are in turn made up of molecules. Models within the science of cell dynamics, cytology, only serve to explain what the cells are doing; models within the language of physiology only serve to explain what the organs are doing. But describing a dog's behavior either in the language of cytology or physiology may not be helpful to a scientist in animal psychology.⁸⁹

Modeling is more than mere simplification. It requires a language in which the simplified essence can be related, whether the language is computational or not. "[D]oing science is . . . making it possible to encode our perceptions into a suitable language, not just building theoretical models to uncover rules and make predictions with regard to [a phenomenon]."⁹⁰ When we observe the world as a matter of natural and social science, sometimes we can apply computational models and sometimes we cannot.⁹¹ Suppose we want to solve a problem, like dog aggression. The root cause could be one of psychology, physiology or cytology. Scientists at each level avoid the imprecision of ordinary language.⁹² They substitute quantitative formulae. Or, to put it another way, ordinary words are "polysemic"; they have a range of meanings without the precision of the symbols of logic or mathematics.⁹³ The measuring apparatus, or language sequence, or formula, is the process of developing theory in science: the scientist links and explains the observable data by way of a model, and the model's value is whether it accurately predicts results when applied to similar data.

Douglas Hofstadter talks about this issue in terms of the ways of describing patterns at different levels of granularity and complexity that make the description

⁸⁹One theory is that complexity in nature arises from the observation that the language sequences, or models, used to describe behavior within micro elements like molecules and cells are misplaced when applied to describe macro systems which arise from the micro levels that constituted the building blocks of the system. The precise language of a particular science "[i]s sufficient for a limited description of the event, but only from a narrow point of view. Even though we believe that humans are made of atoms, the affections that we measure in atomic physics are insufficient to make predictions on human behavior." Arecchi, *supra* note 37, at 51-52.

⁹⁰*Id.* at 46.

⁹¹Traub, *supra* note 37, at 39. ("Science certainly uses mathematics, but science is also very different from mathematics. Science is about understanding the universe and everything in it. . . . [A]t least on the face of it, there are no mathematical models that formalize the relevant aspects of the world, within which [scientific] questions can be asked.").

⁹²See LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS* (2001); Jeffrey M. Lipshaw, *The Bewitchment of Intelligence: Language and Ex Post Illusions of Intention*, 78 TEMP. L. REV. 99 (2005).

⁹³Arecchi, *supra* note 37, at 49. "Thus, the flow of scientific discourse consists of sharp, necessary connections among point like objects of different semantic spaces, corresponding to different measurements. . . . It means that the scientific language is free from interpretational ambiguities." *Id.* at 51.

comprehensible or meaningful.⁹⁴ Some phenomena would be incomprehensible at microscopic levels of reduction:

The point is that one gets into very hot water if one goes the fully reductionist route; not only do all the objects in “the system” become microscopic and uncountably numerous, but also the system itself grows beyond bounds in space and time and becomes, in the end, the entire universe taken over all of time. There is no comprehensibility left, since everything is shattered into a trillion trillion trillion invisible pieces that are scattered hither and yon. Reductionism is merciless.⁹⁵

But scientists do talk to each other and decide, for example, whether the best explanation of the dog aggression comes from the models of psychology, physiology, or cytology. If they stick to the precise language of their respective disciplines, they are incapable of communicating except by metaphor in ordinary language. But they do talk to each other, and it is an exercise in meta-science, whereby they think about selecting the suitable model for the scientific hypothesis itself.⁹⁶

⁹⁴DOUGLAS HOFSTADTER, I AM A STRANGE LOOP 24-50 (2007).

⁹⁵*Id.* at 48.

⁹⁶*Id.* at 58-59. There is a rich literature on theory selection, starting with the somewhat post-modern approach to the fact-value distinction derived from Hilary Putnam’s critique of the philosophy of science. As Professor Steven Ball summarizes Putnam, “the so-called ‘objective facts’ of science are infused with ‘cognitive values’ (e.g., theoretical simplicity, coherence, etc.) pertaining to practical human interests in scientific theorizing, and others refer similarly to ‘pragmatic’ or ‘epistemic’ values or ‘virtues’ connecting to the explanatory, predictive, or problem-solving, etc., functions of science.” Stephen W. Ball, *Facts, Values, and Interpretation in Law: Jurisprudence from Perspectives in Ethics and Philosophy of Science*, 38 AM. J. JURIS. 15, 30 (1993) (citing HILARY PUTNAM, REASON, TRUTH, AND HISTORY (1981)). Moral relativists would like to use Putnam’s point about the infusion of cognitive “values” to suggest there is no objectivity in physical science; a fortiori, how could there be objectivity in moral philosophy? *Id.* at 32. I suggest there may be instances in which values and desires affect theory, but the real issue is the pre-cognitive, or abductive, disposition to order perception in particular ways. See, e.g., KANT, *supra* note 28. Hence, Professor Ball notes “Putnam’s most recent formulation of scientific ‘realism’ denies not that there is a theory-independent reality, but only that there is one uniquely correct theoretical ‘description’ or ‘version’ of it.” Ball, *supra*, at 33.

Another approach asks the question, “Whence comes the idea for the hypothesis?” Some cognitive scientists look to pattern recognition and analogy. See generally *supra* note 2. Perhaps the best we can do is to suggest that the source of a scientific hypothesis taps into our pre-cognitive ability to see patterns and to analogize from them. Even John Searle reached the end of his ability to explain this:

It just seems to be a fact about our mental capacities that we are able to interpret certain sorts of metaphor without the application of any underlying “rules” or “principles” other than the sheer ability to make certain associations. I don’t know any better way to describe these abilities than to say that they are nonrepresentational mental capacities.

JOHN SEARLE, INTENTIONALITY 1, 149 (Cambridge University Press 1983), quoted in Johnson, *supra* note 2, at 28. Scott Brewer used the term “rational force” to assess the persuasiveness

All of this deals with the selection of an appropriate scientific explanatory cause. The issue is similar in social science, but more complex because we want to explain the behavior of humans who have intention and purpose, and act within context. The question is the extent to which we can establish law-like (“nomological”) regularities in human behavior. The principal advocate of the idea that history could be reduced to a series of universal (and scientific) causal “covering laws” was the philosopher of science Carl Hempel.⁹⁷ Any lawyer will appreciate one philosopher’s characterization of the debate:

Suppose someone asks me why I struck an old man in the street. The answer “Because electrical impulses from my brain precipitated muscular contractions, and this resulted in my hand making contact with his head” would be absurd and impertinent, however accurate as a causal explanation. The answer “Because he annoyed me” may be inadequate in that it gives no good reason, but it is certainly not absurd.⁹⁸

Or a parent asking a teenager who used the car last evening why it would not start the next morning would consider a lengthy explanation of the physics of a cracked radiator to be equally impertinent; the meaningful answer was that the teenager forgot to put the car in the garage on a sub-zero night.⁹⁹

of legal reasoning methods, and explains the difference between deduction and induction, on one hand, and abduction, on the other. Scott Brewer, *Exemplary Reasoning: Semantics, Pragmatics, and the Rational Force of Legal Argument by Analogy*, 109 HARV. L. REV. 925, 945-49 (1996). The idea is that the most irrefutable arguments are those based on deductive logic, in which conclusions must necessarily follow if the premises are true. Inductive arguments rely on the predictive power of the imputed pattern, akin to rule-following. We induce a pattern or rule in the empirical data, and predict the next instantiation will follow the rule. We cannot know this necessarily, but there is substantial decision-making force. Abductive reasoning is the more mysterious process by which we derive the hypothesis that is the basis of inductive reasoning. We intuit a pattern, posit it as the working rule (the hypothesis), and then test it. Finally there is reasoning by analogy, in which we take source and target, and infer that if source and target are similar in premises A and B, and the analogy source has conclusion C, then the target also ought to have conclusion C. Yet most thinking within legal scholarship about analogical reasoning has to do with the rational force of assertions or propositions, and not the “deeper” question of whether the force of the analogy is such that the analogical form (or model) takes on independent “beingness.”

⁹⁷THOMAS L. HASKELL, OBJECTIVITY IS NOT NEUTRALITY: EXPLANATORY SCHEMES IN HISTORY, 12-24 (1998).

⁹⁸Roger Scruton, *Kant*, in GERMAN PHILOSOPHERS, 69-70 (1982).

⁹⁹HASKELL, *supra* note 97, at 17. Other philosophers make the same point. Joseph Raz explains this in terms of “transitivity.” Normative reasons are transitive. If one exercises well, one will be healthier. If one uses a trainer, one will exercise well. Therefore, applying the transitive principle, if one uses a trainer, one will be healthier. But descriptive reasons, or causes, are not transitive, and hence meaningless when applied at the wrong levels. The repulsion between particles of the same charge at an atomic level has no coherent meaning as applied to the repulsion between human beings or their nation-states, except perhaps by metaphor. Joseph Raz, *Reasons: Explanatory and Normative* (Univ. of Oxford Faculty of Law Legal Studies Research Paper Series No. 13/2007, 2007), available at <http://ssrn.com/abstract=999869>. Jürgen Habermas makes the same point. JÜRGEN HABERMAS, ON THE LOGIC OF THE SOCIAL SCIENCES, 1-16 (1996).

To seek regular and invariant causes in the nature of a scientific model (i.e., what Hempel called “covering laws”) is possibly to ignore the context in which the activity takes place, and the common sense attribution of the causal reasons why something happened, in a way that parallels the natural scientists need to find the appropriate model for descriptive explanation. As the historian Thomas Haskell observes:

[t]he crux of the misunderstanding into which historians have been led by [Hempel’s] covering law thesis . . . is the notion that there is only one form of causal reasoning, the nomological-deductive. There is, as Weber knew, another mode of causal reasoning, the attributive mode, which we take so much for granted that we fail to recognize it for what it is: the very bone and sinew of which common sense is constituted.¹⁰⁰

Instead of trying to explain cricket or tai chi, suppose we are trying to explain what the parties meant when they used particular words in a contract. That is the stuff of everyday contract interpretation, something in which lawyers and judges engage all the time. Two of the pre-eminent social scientists of the law took on that challenge, using an economic model to find a rigorous way of setting the legal rules. Alan Schwartz and Robert Scott advocated the following rule of contract interpretation, at least for contracts between relatively sophisticated businesses: go by the plain meaning of the document, because business parties would choose Willistonian formalism over UCC-style contextualism as the mode of contract interpretation.¹⁰¹ I do not criticize their choice of legal default rule; rather the route they take is one that elevates deduction and universal law over common sense, and hence is entitled to some skepticism.¹⁰²

¹⁰⁰HABERMAS, *supra* note 99, at 16.

¹⁰¹Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541 (2003). This is really an empirical assertion, but Schwartz and Scott arrive at the conclusion as a matter of deduction from a number of assumptions that are the basis of the model. Because individuals and small businesses might not be rational (and therefore want solely to maximize joint surplus when contracting), the model only applies to relatively sophisticated businesses. These are defined as entities in the corporate form and having five or more employees, limited partnerships, or professional partnerships, such as law or accounting firms. *Id.* at 545.

¹⁰²I have taken courage from the example of Thomas Haskell’s review of *Time on the Cross*, by Robert William Fogel and Stanley L. Engerman, one of the most hotly debated historical studies of the last forty years. ROBERT FOGEL & STANLEY ENGERMAN, *TIME ON THE CROSS, THE ECONOMICS OF AMERICAN NEGRO SLAVERY* (1974). Applying a measure called “the index of total productivity,” a ratio of input to output, Fogel and Engerman argued that slave labor was more efficient than free labor. The crux of Haskell’s review was that the index measured productivity in dollars rather than units, and accordingly as much influenced by consumer behavior as producer behavior. Nevertheless, Fogel and Engerman concluded, largely without evidence, the gap in efficiency was due to superior management of planters and black labor. Haskell’s review in the *New York Review of Books* began with the following disclaimer:

The carnival of publicity attending the publication of *Time on the Cross* suggests that the authors . . . desire an audience embracing not only econometric historians but all reasonable people. I am not an econometric historian or a specialist in the history of slavery, but I am a reasonable man and, as such, entitled to judge the plausibility of the

Schwartz and Scott argue that the legal model of contract interpretation should derive from an economic model which maps on a linguistic model which bears some relationship to a transaction between the parties. The critical link here is whether you can map an economic model onto a linguistic model. The model concludes as between business firms: (1) the parties really do want the court to interpret the contract in a way that maximizes joint surplus over the individual party's share of the splitting of the surplus (i.e., the negotiated price), and (2) in the long run, interpretive mistakes by courts even out, and using a minimum of evidence beyond the text is cheaper, so parties would prefer plain meaning textualism on the assumption that unbiased courts get to the correct answer about the parties' intention most of the time.

The model is based on a number of assumptions about the way firms do business that are open to debate. First, the authors contend that firms are not risk-averse like individuals, so money equals utility and each marginal dollar is valued as much as the last.¹⁰³ This is to neutralize the theoretical and empirical observation of behavioral psychology and economics that individuals are indeed risk averse—they would prefer \$1,000 to a one in ten chance of receiving \$10,000.¹⁰⁴ Second, shareholders and managers each want to maximize profits, and even if managers are diverting shareholder wealth to themselves, they would still not want to degrade the quality of the contracts.¹⁰⁵ Third, corporate executives go to business school and learn how to make optimizing rather than cognitively erroneous decisions, and to perform complex game-theoretic reasoning.¹⁰⁶ Fourth, optimizing parties who do not make cognitive errors will want to maximize joint gains at the negotiating stage, and will not behave strategically so as to injure joint surplus creation in the interest of increasing their own profit.¹⁰⁷

All of these assumptions require a leap of faith, and the last in particular. The concept of joint surplus (which the parties divide into consumer surplus and supplier surplus by setting the price) is an economic abstraction, albeit a powerful and useful one when used to give an abstract and universal sense of why transactions occur at all, but far less so when used as a tool to measure the value of the transactions to the

authors' argument The most troublesome phase of any quantitative study is the translation of numerical procedures into plain English. In their research and calculations, Fogel and Engerman may have considered all the objections raised below. But even if their conclusions turn out to be procedurally well-founded, their presentation still fails, for they have not exposed to the reader's view any process of reasoning adequate to justify their conclusions.

Thomas L. Haskell, *Were Slaves More Efficient? Some Doubts about Time on the Cross*, N.Y. REV. OF BOOKS, Sept. 19, 1974, at 38, reprinted in HASKELL, *supra* note 97, at 31. Neither am I an economist, but I am a lawyer and a reasonable person, and feel entitled to judge the plausibility of the assumptions that underlie the economic formulae presented by Professors Schwartz and Scott.

¹⁰³Schwartz & Scott, *supra* note 101, at 541 n.16.

¹⁰⁴RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW*, 10-11 (6th ed. 2003).

¹⁰⁵Schwartz & Scott, *supra* note 101, at 550-51.

¹⁰⁶*Id.* at 551 n.17.

¹⁰⁷*Id.* at 552 ("On a deeper view, however, one can see that sophisticated parties at the negotiating stage prefer to write contracts that maximize total benefits.").

parties. Let us take an example. Seller is a manufacturer of brakes for cars and trucks. It divides the business into the car unit and the truck unit. Seller wants to sell the truck unit as a going concern. That means all the assets and liabilities related to it, including its goodwill, will be sold. Seller thinks the business is worth \$300, and would take any price in excess of that. Buyer wants to buy a truck brake business. Buyer thinks Seller's unit is worth \$1,000, and would be willing to pay any price up to that. There is a potential economic surplus of \$700. Seller and Buyer do not know how the other values the business. Buyer makes an offer of \$400, which means that it would capture \$600 of whatever surplus there is. Seller counters with an offer of \$700, which means it would capture \$400 of whatever surplus is out there. They compromise at \$500, and this has been an efficient deal. They have created \$700 of surplus, of which Seller took \$200, and Buyer took \$500.¹⁰⁸

Why would Seller and Buyer look to maximizing joint surplus rather than merely taking more of a smaller surplus? Schwartz and Scott move past this quickly, offering no empirical evidence that they do, perhaps because maximizing joint surplus under the foregoing hypothetical would mean the parties actually knew how much each other valued the assets. That is the assumption of perfect information, required for rational actors, but so unusual in the real world that the assumption of asymmetric information is one of the bases of behavioral economics.¹⁰⁹ Moreover, the conclusion that parties want to maximize joint surplus requires the following additional assumptions. First, if each party's share of the surplus were to be set exogenously (i.e., not by the parties themselves in the negotiation), then strategic behavior would be useless and rational parties would not engage in it.¹¹⁰ Second, the parties' bargaining share are in fact set exogenously as a function of the parties' relative patience (in turn a function of the party's access to capital) and the "disagreement point," neither of which the parties can change. Hence, rational bargaining firms realize that they cannot do anything about either patience or disagreement point. They therefore realize and accept that their share of the maximum surplus is fixed before they ever sign the contract. So, the deductive logic of the model says, because that is the only way they make more money, their contracting behavior must be geared to maximizing the size of the pie.¹¹¹

Now we move to the second prong of the argument—that risk neutral parties desiring to maximize joint surplus actually, subjectively, in their own minds (or would if they thought about it), want the court to restrict its inquiry to the plain meaning of the text. Let us continue with the brake business hypothetical. Having agreed on a price for the car brake business, Seller and Buyer send their lawyers off to write the contract. There are assets and liabilities that are purely part of the truck

¹⁰⁸This is Kaldor-Hicks efficiency. POSNER, *supra* note 104, at 13.

¹⁰⁹OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS* (1975); Oliver E. Williamson, *The Economics of Organization: The Transaction Cost Approach*, 87 AM. J. SOC. 548 (1981). For another critique of the assumption of the parties' knowledge of each other's expectations, see W. Brian Arthur, *The End of Certainty in Economics*, in J.H. CLIPPINGER, *THE BIOLOGY OF BUSINESS* (1999).

¹¹⁰Schwartz & Scott, *supra* note 101, at 552-53.

¹¹¹*Id.* at 553-54. Schwartz and Scott contend further that these assumptions hold even if the parties do not know precisely how much bargaining power they have. *Id.* at 554 n.24.

business, and the lawyers list them. But there are also lots of assets that are shared between truck and car, and again, they try to divide them up on a list. But they need a default to describe those assets that they have not considered specifically. That is because they want as complete a contract as possible. So they say in the contract that Seller is selling Buyer all the assets primarily related to the truck business, except those specifically listed otherwise in the agreement.

It turns out later that there is an asset they forgot to list, the Globulator. In terms of time of usage it was used exactly 50% for the car business which is not being sold, and 50% for the truck business which is being sold. The volume of parts was 51% truck and 49% car. The dollar value of parts was 49% truck and 51% car. Buyer realizes that it needs another Globulator, and they cost \$100 at retail, so now the value of the deal to the Buyer has been reduced by that much. Seller has quite a few Globulators, and values them at \$50, but is not in the charity business. Buyer sues Seller for \$100.

Now the court has to apply the plain meaning rule to the interpretation of "primarily used in" to the Globulator. What is the correct answer in the contract interpretation game with respect to the Globulator? The facts show a dead heat. If "primarily related to" means greater than 50%, Seller wins and has no obligation to transfer the Globulator. If "primarily related to" means 50% or greater, Buyer wins and gets the machine. Somebody has to win. Not to decide is to decide.

How do Schwartz and Scott propose that courts deal with the interpretation problem? Their model first presumes the existence of a correct answer within the language of the contract.¹¹² But Schwartz and Scott acknowledge that words can be vague or ambiguous.¹¹³ Nevertheless, the model supposes that the contract is complete in the sense that the writing in fact expresses the parties' solution to the contracting problem of defining the assets that were sold.¹¹⁴ Indeed, the model assumes that, if the contract were not the optimum drafting solution to maximizing joint surplus, the parties would have continued to invest in making it clearer.¹¹⁵ The parties had to be aware, however, because of the possibility of vagueness of language, that their meaning might not always be transparent to a later interpreter.¹¹⁶ Thus, there is a possibility that the court's interpretation will deviate from the correct answer.

Schwartz and Scott thus make the eminently reasonable suggestion that the court should adopt the interpretive protocol the parties would want as most likely to arrive at the correct answer. Indeed, they note that the court will frustrate this if it does

¹¹²*Id.* at 568. Schwartz and Scott do not say, but I am inferring that even if the parties cannot agree on the correct meaning of "primarily related to" because they are now both opportunists, the court can feel assured that they really intended the words to mean that which would maximize joint surplus.

¹¹³*Id.* at 570. Schwartz and Scott understand vagueness as common in the sense that the set of objects to which a word applies is rarely delineated with absolute precision. *Id.*

¹¹⁴*Id.* at 573. Or, in my more colloquial rendition, evoking Ronald Reagan, there is a pony in that manure pile.

¹¹⁵Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 574 (2003).

¹¹⁶*Id.* at 573.

anything other than ascertain the solution the parties actually adopted. The choice as to interpretive protocol really turns on the breadth of the evidentiary base that will be used. In short, as a default, would the parties want the court to be a Willistonian formalist or a Corbinian contextualist? Schwartz and Scott opt for the former, concluding that typical firms prefer courts to interpret contracts on as narrow an evidentiary base as possible, and the most significant component of that base is the written contract.

The justification of contract textualism requires an economic formula that takes into account risk to the parties, benefits, and the costs of resolution. Schwartz and Scott assume there is a direct relationship between the amount of evidence on which the interpretation is based and the likelihood of reaching that single correct answer. The evidence base ranges from the minimum (defined as the written contract, a performance narrative, a dictionary, and the interpreter's knowledge of the world) and expressed in formula as $B_{\min}$. Letting in course of dealing, course of performance, usage of trade, negotiations, and pre-contract documents extends the evidentiary base to $B_{\max}$. Academic contextualists prefer $B_{\max}$ because the court is more likely to find the correct answer.

Schwartz and Scott conclude, based on their model, business people would prefer formalism, or $B_{\min}$. Recall that Schwartz and Scott have assumed a relationship between the breadth of the evidentiary base and the probability of a correct result in a specific dispute. They posit two different situations: first, a model that presumes a continuous relationship between the degree of interpretive error and the amount of the payoff, and second, a model in which the outcome is discontinuous. A continuous payoff dispute would occur, for example, if the interpretation involved a clause under which a seller had a duty to prepare certain machines before sale. The greater the duty the court finds in the language, the greater the payoff to the buyer. Our brake business example is a discontinuous payoff. The Seller either wins or loses and any interpretation error gives either the Seller or the Buyer a 100% payoff. But I believe the Schwartz and Scott rationale for the continuous payoff is in fact the one that applies to my hypothetical.¹¹⁷

The Schwartz and Scott model translates contract textualism into a formula.¹¹⁸ When translated back into plain English, the formula says that if there is a dispute over the meaning of the machine preparation clause, what the buyer can expect as his judicially determined share of the surplus, given the minimum evidentiary base used by the court, is the correct interpretation modified by some probability of error or variance from the correct interpretation. Think of an x-axis with zero in the middle, negative numbers representing pro-seller judicial error running to the left and positive numbers representing pro-buyer judicial error running to the right. The "correct interpretation" would be zero, as long as the court is not biased. Assuming the court is unbiased, it would be equally likely to err for (i.e., reach a result in the positive numbers) or against (i.e., reach a result in the negative numbers) the buyer.

¹¹⁷That is because, in my hypothetical, there are only two possible results. Schwartz and Scott devote a portion of their argument to showing how even if there are three possible discontinuous results, say two favoring Seller and one favoring Buyer, the parties would still want the court to use a textualist approach. I do not need to address that argument.

¹¹⁸*Id.* at 575-76. The formula is $E[s_b(i)|B_{\min}] = s_b(i^*) + \epsilon$.

Schwartz and Scott contend that the model, under the assumptions previously stated, establishes that business firms would prefer the minimum evidentiary base, or textualism. It assumes that, as the evidentiary base approaches the maximum, the likelihood of interpretation error approaches zero. Recall again the assumption that business firms are risk neutral. Risk neutral parties are indifferent to the risk that the court is wrong in any specific case, as long as in the long run, the zero (or mean) on our axis really represents the right answer. Risk neutral parties would thus want to make the interpretation on the minimum evidentiary base unless it would be costless to widen the base. Since trials are expensive, risk neutral firms are textualists, at least as to typical cases, because it is satisfactory if courts get interpretive disputes correctly decided on average.¹¹⁹ Finally, as noted above, parties writing contracts will invest resources until the writing is sufficiently clear, in an objective sense, so that the mean of possible judicial interpretations is the correct one. The parties are willing to allow error as long as it is not biased error.

The irony here is that I am as willing as Schwartz and Scott to advocate formalism. Schwartz and Scott are not satisfied, as I would be, with saying, “formalism and plain meaning are the rules of the ex post contract interpretation litigation game; if they fail to match up to what the parties actually wanted, well, you pay your money and you take your chances.” For economists, it is not enough that the ex post game have an object of “finding the correct answer to the interpretation problem.” To justify the game economically, it is important to conclude that the game actually models what the parties wanted—that is, that the parties themselves actually had a right answer. Schwartz and Scott want the rules of the ex post game to map on what the parties really wanted ex ante.¹²⁰

The problem, of course, is that the mapping comes out wrong in my hypothetical, which I contend is far more typical of the ordinary contract interpretation dispute. We can imagine in our hypothetical the court restricting itself to the contract, a dictionary, and the facts above. The word “primarily” means “for the most part.”¹²¹ In that case, “primarily related to” must mean a smidgen more than fifty percent, so any asset shared absolutely equally is not primarily related to the business, and hence stays with Seller. But note at least two problems in dealing with the assumption that the parties were maximizing joint surplus. Under the plain meaning of the “primarily related to,” Buyer loses, and the joint surplus of the deal turns out to have been only \$600, not \$700, of which Seller took \$200 and Buyer took \$400. Given that Seller only values the Globulator at \$50, joint surplus maximizing parties must have intended that “primarily” did *not* have its plain meaning, because if Buyer wins, the loss of joint surplus is only \$50, not \$100. Second, because the parties are naturally opportunistic, if the facts had been changed so that assets primarily related to the non-sold business were excluded, then the parties would have simply taken opposite sides on the argument, but this time consistent with the joint surplus maximization.

¹¹⁹*Id.* at 576-77. A corollary to this is that in “bet the ranch” cases, one party may want a broader evidentiary base on the thesis that the court is more likely to get it right. *Id.* at 577.

¹²⁰This, of course, assumes that the contract being interpreted was itself not wholly or partly a game or a thing, but purely a linguistic model of, and about, what the parties actually wanted.

¹²¹MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 923 (10th ed. 2002).

Does the correct answer in the contract interpretation game have anything to do with what the parties were actually intending when they wrote the provision? I suspect not. To the extent my casual and personal empiricism is relevant, I have negotiated many deals, and I cannot remember ever thinking about total surplus at all, much less first. Why? It is because almost none of the perfect world assumptions of the economic model ever appear in pure form in the real world being modeled. We rarely have real auctions to achieve real allocative efficiency. We have no idea what the joint surplus is. In the real world, I cannot imagine the parties ever coming close to thinking strategic negotiation is meaningless, and that the whole game in writing that provision on “primarily related to” was to increase the joint surplus from the original deal.

In their desire to find a universal and nomological basis for contract formalism, it seems to me that Schwartz and Scott have committed the covering law error. Understanding cause-and-effect in the thing-like game of contract creation requires an exploration of attributive cause—what were the parties doing, what were they thinking about? It is wholly legitimate to use the nomological rules of economics to set legal default rules. But trying to use them to understand or explain what the parties were doing has about the same sensibility as a physicist analyzing the cause of the pipes bursting in a northern Minnesota home on the night of January 15: the reduction of kinetic energy in the water led to crystalline ice formation, which increased the volume, which led to an increase in pressure beyond the metallurgical bursting point of the copper. The rest of us know the real cause—the furnace went out on a sub-zero night.

The irony is that I agree with the textualist default rule Schwartz and Scott propose. But almost everything they assume for the model justifying the rule fails to reflect what is actually happening. Contracting parties, even when they are business executives, full of intention and purpose and their special mix of ambition and hubris, cannot be the subject of a universal nomological model, and certainly not at the level of abstraction proposed by Schwartz and Scott.

A better way to view the entire hypothetical is not as the subject of a scientific model in which we posit a single explanatory theory of cause-and-effect (i.e., rational greed), but as a series of games in which we need to understand cause-and-effect at a different attributive level. Indeed, the parties have proceeded from game to game to game to game, and the rules continue to change along the way. In the ex ante contract writing game, it may well be that the parties reached the limit of their ability to model reality in the language game. In the larger ex ante contract negotiation game, the contract language itself may not have been a model of anything, but in fact a dummy provision inserted without meaning so that the deal would close.

Ex post contract interpretation litigation is another game, and the only question is how we set the rules. We can set the rules narrowly, as formalists, or we can set them broadly, as contextualists, but those will be the rules of the game. Lawyers writing business contracts will know that those are going to be the rules. But there is no reason to suppose that there are universal rules in every game. Even if contract formalism works as it does in the litigation game, suggesting that a rule is justified because it models what the parties actually wanted in the negotiation game is a category error of causal reasoning—mistaking scientific explanation for attributive

cause. As Thomas Haskell says of Hempel's claims of the supremacy of covering law explanations, they "collapse without the prop of radical abstraction."¹²²

Though it is hardly pernicious and is probably intentional, Schwartz and Scott have been co-opted by the linguistic community of economists. In short, explaining the parties' intent by a set of universal economic laws flies in the face of the common sense attribution of meaning; it flies only with the prop of radical abstraction. Academic lawyers have the luxury of proposing universal covering laws as though their model were the actual game; there is little real world effect in mistaking explanatory cause for attributive common sense cause. But practicing lawyers do not have that luxury. They need to understand why events occurring in the world appear to be causally related in model-like explanatory contexts, as well as in game-like attributive contexts.

IV. THE GAME-MODEL CONFUSION: A PRAGMATIC ONTOLOGY FOR LAWYERS AND ETHICISTS

So where does this all get us? I do not expect working lawyers (or law professors) to have my particular interest in theory about thinking. I do, however, believe, they need to think about thinking. Hence, my conclusion is that there is a need for some pragmatic ontology, even if we do not use the fancy words to describe it. In this section, I want to address the pragmatic issues, and that will suffice for most readers. In the section that follows, I will philosophize, place my views within the context of the intellectual history of this issue, and suggest why, as legal pedagogues, we ought to think just a little about the theory.

While learning to think like a lawyer may be a worthy goal for a law student, actually doing so may be problematic once she graduates and starts advising business clients. The distinctions between models and games, and between explanatory and attributive causes, is a helpful way of considering two different kinds of problems facing lawyers. The first is a kind of benign co-optation or neutralization into thinking like a lawyer to the extent that it renders the lawyer far less effective as an adviser, tactician, or strategist. The second is far more serious. Lawyers are increasingly called on to be compliance officers or business ethicists, and not seeing co-optation or neutralization in terms of the games and models of business can have life and career altering effects.

A. Games, Models, and Missing the Point

There is certainly a sense among business clients that lawyers are not always, but often can be, wholly clueless about the business, rather than the legal, dynamics of a transaction. Lawyers see the contract as a thing in itself designed to manage an uncertain future; business people object when forcing the present deal game into the lawyer's contract model impedes closing the deal. "The tension between lawyers and business people is part of the folklore. Lawyers complain that business people do not plan carefully enough against future contingencies; business people complain that lawyers' caution interferes with valuable deals."¹²³ Jim Freund of Skadden,

¹²²HASKELL, *supra* note 97, at 17.

¹²³Karen Eggleston, Eric A. Posner & Richard Zeckhauser, *The Design and Interpretation of Contracts: Why Complexity Matters*, 95 NW. U. L. REV. 91, 126 n.102 (2000).

Arps, one of the most thoughtful and prolific writers on transactional practice, observed similarly in quoting an advertisement for a book on doing deals:

Have you ever had a deal blow up solely because of an attorney? [Y]ou must face the reality that attorneys have been, are, and, unfortunately, probably always will be a major obstacle in just about every significant business transaction that takes place [Y]ou *must* develop specific techniques . . . for protecting your flanks from the deal-killing expertise of the other side's attorney.¹²⁴

Is a contract (particularly a complex contract) a model of the deal, or is it a game in itself? In the famous case *Pennzoil Co. v. Texaco, Inc.*,¹²⁵ a lawyer's failure to see the difference was a key turning point in the trial. After long negotiations, Pennzoil (represented by Arthur Liman) thought it was acquiring Getty Oil (whose board was represented by Martin Lipton), based on what was little more than a handshake between the lawyers.¹²⁶ Getty and Pennzoil did not have a signed writing, definitive or not, because: (1) at least one side believed its handshake was its bond, (2) the directors and lawyers were exhausted after all-night sessions, (3) the lawyers working on documents through another all-night session after the board meeting were not sure what happened in the Getty Oil board meeting, and (4) in the flurry of the conclusion of the board meeting, nobody from Getty Oil stopped to sign the five page memorandum of understanding already signed by Getty Oil's major shareholder and the chairman of Pennzoil.¹²⁷ Texaco swooped in and took the deal away from Pennzoil. At trial, Lipton testified that there was no deal because "in his opinion [Getty Oil] could never have completed the Pennzoil deal without hiring lawyers who specialized in complex oil-and-gas transactions."¹²⁸ In cross-examination, Joe Jamail, on behalf of Pennzoil, exploited the fact that Lipton (and, by proxy, Texaco) explained away the apparent lack of honor by the fact that there was no written agreement.¹²⁹ Lipton was focused on winning the contract game, and failed to see that the contract was merely a model for the underlying reality of the transaction. The jury, not persuaded, awarded Pennzoil \$10 billion in compensatory and punitive damages.

The issue was misdirected casual reasoning. A transactional lawyer confused the contract as a model of the deal with the reality of the deal, thought of the contract as the game, and ignored the broader context (or game) within which the contract was to model an understanding. Lipton's testimony was a perfectly acceptable nomological-deductive explanation of the lack of a binding contract at one level of

¹²⁴JAMES C. FREUND, *ANATOMY OF A MERGER* (1975), at 4 n.1. See also Mike France, *A Compelling Case for Lawyer-CEOs*, BUS. WK., Dec. 13, 2004, at 88 ("Business attorneys are often considered the 'vice-presidents of No,' says Jeffrey A. Sonnenfeld, associate dean of executive programs at Yale School of Management.").

¹²⁵481 U.S. 1 (1987).

¹²⁶See THOMAS PETZINGER, JR., *OIL AND HONOR: THE TEXACO-PENNZOIL WARS* (G.P. Putnam's Sons, 1987).

¹²⁷*Id.* at 191-99.

¹²⁸*Id.* at 371.

¹²⁹*Id.*

complexity, but attributive causation at another level, viewing the lack of a contract as the direct result of Pennzoil having reneged on the moral deal. To put it a different way, it is consistent with an analytic and objective approach for a lawyer to pick apart the circumstances, apply the relevant legal precepts on the non-binding effect of “agreements to agree” or the statute of frauds, and make the argument that there never was a contract, even though Arthur Liman testified that one of the Getty lawyers said at the time of the handshake, “Congratulations, Arthur. You’ve got yourself a deal!”¹³⁰ The mistake here is interpreting the events at the wrong level. The jurors, I would suggest, applying a common sense view of the circumstances, took the words at their face value. Lipton’s testimony, on the other hand, was impertinent as the mugger’s explanation for his attack on the victim in terms of nerve synapses and muscle contractions.

B. Games, Models, and Ethics in Accounting

We have already seen that financial accounting is a powerful language game which nevertheless operates to model the financial condition of a business. Without being willing to step back and ponder the reality—the ontology—of the business and the financial modeling, it will be difficult to engage in the very pragmatic exercise of deciding: (1) what is true, and (2) what is the right thing to do.

The problem arises because there is a game-model antinomy to accounting. We can make persuasive arguments either way. Let us assert that financial accounting is a model, and we will be correct. Even analysts want GAAP results to be modified so as to better understand the ongoing state of the business. The best evidence of this is a heretofore not widely explored aspect of Sarbanes-Oxley—the requirement that pro forma earnings statements be reconciled to GAAP.¹³¹ The most sophisticated observers of publicly-held companies and consumers of public company financial information—the stock analysts—do in fact want a shared syntax, but it is directed at a particular value, defined loosely as the future earning power of the company. GAAP takes account of many historical events that do not impact this value, and companies and analysts have longed attempted to manipulate GAAP to understand it. For example, companies (and their analysts) view some expenses as non-recurring, and so prefer to see pro forma earnings calculations that remove the expense from what would otherwise be a presentation of the financials in accordance with GAAP.

But let us also assert that accounting is a game, and we will be correct. There are arbitrary game-like constitutive rules to accounting. As in comedy, timing is everything. In the long run, there should be no difference between cash flow and net income; the fact that they vary is due to timing. And the game still has consequence, because earnings, whether in conformity with GAAP or adjusted as permitted by Sarbanes-Oxley, are still a surrogate for value. The conduct of some lawyers in the backdating scandals suggest to me that they were co-opted, or neutralized, into the accounting game, at the cost of losing sight of a move to satisfy the rules of that

¹³⁰*Id.* at 192.

¹³¹Conditions for Use of Non-GAAP Financial Measures, SEC and Exchange Committee Release No. 33-8176, 2003 SEC LEXIS 193, at *7 (Jan. 22, 2003).

game (placing a fictitious date on a document) conflicted with an ordinary norm of the real world—do not falsify documents.¹³²

When companies report their earnings, are they obliged to think of the truth in the context of using the financial statements as a model to explain the state of the business? Or are they obliged to think of the truth in the context of winning the financial statement reporting game (in which the object is to state the highest possible earnings within the rules as interpreted)? We like to think of ourselves as truth-tellers, but the line between true and false can be indistinct, and even our willingness to tolerate some level of dishonesty may be more than we might otherwise admit, not the least of which is the neutralization that occurs upon our entry into the linguistic community of the corporation.

The most direct instance of a lawyer's regular invitation to play the game is in the assessment of litigation loss contingency. A present calculation based on future events is a prediction of the likelihood that a contingency event will occur. The way accounting is required to treat that contingency is set forth in the *Statement of Financial Accounting Standards* 5 ("FAS 5") promulgated by the Financial Accounting Standards Board. Under FAS 5, the accounting profession uses the word "probable" to indicate one of three different states of likelihood—the other two are "reasonably possible" and "remote"—that future events will confirm the incurrence of a liability.¹³³

If an event is probable and the amount of the loss is reasonably estimable, FAS 5 requires that the obligation be booked as an accrual (an expense, and hence a charge to earnings) on the income statement and a liability on the balance sheet. "Probable" is defined as "[t]he future event or events are likely to occur." Telling an auditor one has a better chance of losing a case in which the amount of the loss can be estimated is tantamount to incurring the expense. Lawyers, on the other hand, use loose language of probability to convey a sense of the outcome to their clients on a regular basis: "Your odds of winning are 50-50, 60-40, one in ten, etc." The result is an uneasy truce between the legal and accounting professions, which the ABA has attempted to explain in its Statement of Policy Regarding Lawyers' Responses to Auditors' Requests for Information:

Concepts of probability inherent in the usage of terms like "probable" or "reasonably possible" or "remote" mean different things in different contexts. Generally, the outcome of, or the loss which may result from, litigation cannot be assessed in any way that is comparable to a statistically or empirically determined concept of "probability" Lawyers do not generally quantify for clients the "odds" in numerical terms; if they do, the quantification is generally only undertaken in an effort to make meaningful, for limited purposes, a whole host of judgmental factors applicable at a particular time, with any intention to

¹³²Justin Scheck, *A Backdating Doubleheader*, CORP. COUNS. Nov. 2007, at 20 (stating the SEC filed a complaint against a lawyer who allegedly organized a backdating scheme, claiming, among other things, that the lawyer "wrote a memorandum in November 1998 in which she acknowledged that repricing executive stock options by using an earlier grant date with a lower price would result in [the company] having to take 'a charge to its P&L.'").

¹³³AICPA PROFESSIONAL STANDARDS (1987), AU § 337C, at 407.

depict “probability” in any statistical, scientific or empirically-grounded sense.¹³⁴

Each year, and some times each quarter, the auditors will ask to meet with the general counsel to discuss pending cases. The auditors, speaking the language of FAS, will ask how probable it is that a particular case will come out badly, and if so, for how much. A general counsel inclined to play the financial statement game, and understanding the difference between legal language of contingency and accounting language of contingency, and understanding that if she merely calls the adverse outcome “reasonably possible” the case will be disclosed in the contingency footnote but not reflected as a charge, the general counsel might turn to the CEO or CFO, and state, “Tell me how you want it to come out on the income statement, and then I will answer.”

V. GAMES, MODELS, EXPLANATION, AND UNDERSTANDING

Applying “aboutness,” “thingness,” models, and games to the lawyer’s task of making sense of the world seems to me a more accessible and pragmatic articulation of a debate about thinking that has gone on for the last hundred years or so. Lawyers, particularly the academic versions, straddle interdisciplinary discussions of science and morality, description and normativity.¹³⁵ Robert Ellickson captures nicely what seems to me to be the central issue facing legal scholars: the now century-old demarcation between scientific inquiry and moral normativity.¹³⁶ In his critique of critical theory, Professor Ellickson observed: “A creative tension between the yin of social-scientific universalizers and the yang of humanistic particularizers thus promises to benefit all participants in the legal academy.”¹³⁷ The creative tension Ellickson identifies has its source in the polarities between modeling and game playing, between what we seem to be able to know outwardly and objectively in the world, and the idealized products of reason that we come to believe (or believe we know) inwardly and subjectively. At one extreme, the “naturalists” want to understand the normative by way of “a scientific understanding of our cognitive abilities.”¹³⁸ At the other extreme is critical theory, in which any assertion of truth is suspect, and even the hypothesizing of the natural scientist comes into question.¹³⁹

¹³⁴*Id.* at 409-10.

¹³⁵See William W. Fisher, III, *Texts and Contexts: The Application to American Legal History of the Methodologies of Intellectual History*, 49 STAN. L. REV. 1065, 1088 (1997). Professor Fisher had a goal similar to mine in this article. He wanted what he called a “pragmatist approach to historical methodology.” *Id.* Considering the four dominant approaches to intellectual history, his objective was “to encourage legal historians, by example, to think critically about what they are trying to achieve and which methodology (or combination or reconfiguration of methodologies) would best advance their ends.” *Id.*

¹³⁶K. A. APPIAH, THINKING IT THOUGH: AN INTRODUCTION TO CONTEMPORARY PHILOSOPHY 157-63 (Oxford Univ. Press, 2003).

¹³⁷Robert C. Ellickson, *The Twilight of Critical Theory: A Reply to Litowitz*, 15 YALE J.L. & HUMAN. 333 (2003).

¹³⁸J. HABERMAS, TRUTH AND JUSTIFICATION 23 (Barbara Fultner, ed., The MIT Press, 2003) (1999). This is exemplified in the writing of Daniel Dennett and Richard Dawkins and in the attempts to apply evolutionary biology to the law. Owen D. Jones, *Law and Biology: Toward an Integrated Model of Human Behavior*, 8 J. Contemp. Legal Issues 167 (1997).

The maxim that only a foolish lawyer has himself for a client recognizes the difficulty of applying objective and universal laws when we are game players and have to decide what to do. I would recast Professor Ellickson's tension: between the yin of social-scientific objectifiers, and the yang of humanistic subjectivizers. Objectifiers look to explain data by means of formal theories and systems; subjectivizers look at the world from a personal standpoint. Researchers observe the world from a third-person perspective, and thereby discern universals of human behavior that purport to be removed from any personal or instrumental bias. Participants know only the world as they see it, and any universals pale in comparison to the needs and desires of the participant. Moreover, participants operate not only in the real world about which the observers are modeling; they also are players in games that are not models, but things in themselves. Game players must credit, on one hand, their sense that they can draw something approaching universal conclusions about rightness and wrongness in game playing decisions; on the other hand, they must credit their sense that there is a difference between the cognition of objective truth in the empirical world and this sense of rightness.¹⁴⁰

All forms of judgmental or decision-making reasoning have a moment in which there is an indeterminate or intuitive or mysterious leap. There are analytical and reasoning tools—deductive, inductive, abductive, analogical—to approach or isolate the factors in an explanation or a decision, but ultimately both the hypothesis and the course of action are leaps from what we know to what we do not, and in the moment of that leap all forms of reason lead back to something that we seem only to account for empirically as something like “intuition.” Scott Brewer observes this about analogical reasoning: “The mystics [referring to a particular group of scholars] are correct that there is inevitably an uncodifiable imaginative moment in exemplary, analogical reasoning.”¹⁴¹ To the extent we see ourselves as scientists, it is difficult to let go of the hope of explaining that leap in scientific (read: predictive) terms, yet we soldier on, looking for, analogically, a way to square the circle.

The issue is our respect for the rational force of the different ways in which we make that leap. At least one leading cognitive scientist-philosopher, Douglas Hofstadter, contends that the comparison of patterns in perceived data—the process of analogy—is at the core of all human thought, and that “analogy has force in proportion to its precision and visibility.”¹⁴² Professor Hofstadter writes:

Mature human brains are constantly trying to reduce the complexity of what they perceive, and this means that they are constantly trying to get unfamiliar, complex *patterns* made of many symbols that have been freshly activated in concert to trigger just one familiar pre-existing symbol

Part of Douglas Hofstadter's great charm (and hence, I suspect, his popularity) is that he wants to be a social science universalizer, but is so clearly a person imbued with mysterious intuition. *See generally infra* note 142.

¹³⁹Stephen W. Ball, *Facts, Values, and Interpretation in Law: Jurisprudence from Perspectives in Ethics and Philosophy of Science*, 38 AM. J. JURIS. 15, 30-33 (1993) (citing HILARY PUTNAM, REASON, TRUTH, AND HISTORY (Cambridge Univ. Press, 1981)).

¹⁴⁰Ball, *supra* note 139, at 28.

¹⁴¹Brewer, *supra* note 96, at 954.

¹⁴²DOUGLAS R. HOFSTADTER, I AM A STRANGE LOOP 155 (2007).

(or a very small set of them). In fact, that's the main business of human brains—to take a complex situation and to put one's finger on *what matters* in it, to distill from an initial welter of sensations and ideas what a situation is really all about. To spot the gist.¹⁴³

When we try to unpack “spotting the gist” (i.e., think about thinking), it is helpful to consider the two polarities we used to distinguish modeling and game-playing. First, there is the polarity of the descriptive versus the normative. Modeling is a descriptive exercise, because we want to get to the gist of what matters with as little information as possible that is still an accurate prediction of the real world. Game-playing is a normative exercise, because we are in the game and need to decide what we ought to do. Second, there is the polarity of objectivity versus subjectivity. Modeling is objective; game playing is subjective.

For most of us, however, spotting the gist falls somewhere in the middle. That the objective facts of the physical world should be tested by scientific means is beyond question. Nevertheless, we have strong intuitions about norms and reasons, and resist (why, of course, is not entirely clear) “the very alienating scientization of intuitive knowledge.”¹⁴⁴ And when we deal in human interaction, the subject of social science, spotting the gist becomes more than the ascription of theory to a set of empirically observed facts. In the swirl of human action in which, for example, the law of transactions applies, it becomes clear that there are methods of thinking that have rational force in some contexts but not in others. Sometimes we need to explain what happened in the human interaction with the granularity and rigor of science, and sometimes we need to make sense of it by understanding its meaning.

All of this is a recasting of a long standing debate in the philosophy of social science. The literature is replete with intellectual histories of the separation of explanation, or objective science, from understanding, or the search for purpose and meaning (called “interpretation” or “hermeneutics”) since the mid-nineteenth century.¹⁴⁵ I see it as a debate over which of several legitimate ways of “spotting the gist” we will apply as the means of making sense of cause-and-effect at particular levels of complexity. Sometimes we are modelers. We uncover and explain things. This bespeaks causal explanations, algorithmic functions, mathematical models, and laws (of nature, not the sovereign). We are separated subjects thinking *about* the object.¹⁴⁶

William Fisher made this point in his discussion of the possible pragmatic objectives of intellectual legal history. One might well be to “[f]ormulate general laws of social development” in the manner of Hempel’s covering laws.¹⁴⁷

¹⁴³*Id.* at 277.

¹⁴⁴HABERMAS, *supra* note 138, at 24.

¹⁴⁵See generally, e.g., Haskell, Objectivity, *supra* note 82; Haskell, Social Science, *supra* note 82; Guyora Binder & Robert Weisberg, Literary Criticisms of Law (2000).

¹⁴⁶That of course is my view. For a critique of the view within the intellectual history of American law that “the subject/object dichotomy, the notion that the social world can meaningfully be described by separating subjective and objective realms of social life,” see Gary Peller, *The Metaphysics of American Law*, 73 CAL. L. REV. 1151, 1154 (1985).

¹⁴⁷Fisher, *supra* note 135, at 1092.

Nevertheless, Professor Fisher observed that while historians do not generally credit Hempel's thesis, "one effect of the continued grip of logical positivism on American law schools is that legal historians are more inclined than other historians to extract from their work broad generalizations about social life."¹⁴⁸ Ultimately, attributive cause-and-effect will be unsatisfying to the social scientists of the law for the reasons Professor Fisher articulates, and which are borne out by Professor Ellickson's dichotomy. Interpretation or attributive cause-and-effect brings "an anti-foundationalist, perspectival stance that corrodes scientism. The more one acknowledges the inevitable impact of the interpreter on the data she interprets, the less reliable appear general laws derived from a cluster of individual interpretations."¹⁴⁹

The scientific justification of contract formalism proposed by Schwartz and Scott is a case in point. The problem is not that they opt for a formal approach that operates independently of whatever the individual or mutual intentions of the parties might have been. Whether they are right or wrong in the construction of the model is a matter, no pun intended, of entirely valid academic interest. Rather the problem is the apparent fixation on social science universalizing to the extent that they confuse explanatory cause in the abstract with attribute individual motivations in individual cases. When we look to make sense of the actions of individual people, we have to ask whether scientific analysis (Langdellian or economic) is the best way to make sense.¹⁵⁰

Contract interpretation is, indeed, a subset of interpretation, and Michael Moore's eminently sensible words on that topic are apropos. Trying to divine the intention of the author (or authors) is not interpretation; it is a form of scientific inquiry—an explanation of the author's intent. The hermeneutical insight is that "certain dominant *activities* within . . . disciplines cannot be forced to conform to the methods of ordinary scientific description or explanation, nor are such activities justified by the normal scientific goals of prediction, explanation, and understanding."¹⁵¹

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* There is an ironic twist here. What the scientific universalizers share with moral universalizers is the teleology, on one hand, of "final cause" or *telos*, in the Aristotelian sense, and teleology of moral ends accessible by reason in the Kantian sense. *Id.*

¹⁵⁰ And a similar irony exists a kind of determinism that arises out of science or philosophy that holds intentionality of the individual to be hostage either to, in the first instance, the micro-operation of the atoms, molecules and bio-chemistry of the brain, or in the second, the macro-operation of power structures to which the critical theorists object. Professor Fisher referred to Thomas Haskell's views on this topic:

The central tenets of the (then) new method—that ideas have no meaning out of a particular interpretive context and that basic presuppositions control the way we view reality, not vice versa—reinforce, [Haskell] contended, "the 'despairingly deterministic view of the past and present' that too many students now hold."

Id. at 1100, citing Thomas L. Haskell, *Determinist Implications of Intellectual History*, in *NEW DIRECTIONS IN AMERICAN INTELLECTUAL HISTORY* 134 (John Higham & Paul K. Conkin eds., 1979).

¹⁵¹ Michael S. Moore, *Interpreting Interpretation*, in *LAW AND INTERPRETATION: ESSAYS IN LEGAL PHILOSOPHY* 5 (Andrei Marmor ed., 1997).

To the contrary, Moore observes there is a text if people regard the phenomenon as a text. Interpretation, rather than explanation, means: (1) people have a good reason, (2) to treat some phenomenon they do not yet know the meaning of as being meaningful, (3) in the sense that such meanings give them either reasons for belief or reasons for action. As to (2), there is a distinction between syntax and semantics. The text is organized syntactically so as to suggest it has meaning, but the actual meaning is a matter of semantics, and we do not know what the text means. Interpretation is to use the text in a way that we impute the semantics from the very interpretation of the text itself. To put it another way, to search for mutual intention is empty because if there is a present dispute, and it is colorable, there never was a mutual intention, or at least one that is knowable.¹⁵² We have instead the interpretation of a text where we acknowledge its syntactical correctness, but we do not quite know what it means. Contract formalism is instead the acknowledgment of the limits of legal science. That science tries to arrive at the answer by unearthing the intention of the authors. The real exercise is one of interpretation in Moore's terms: the process of supplying meaning to a text everyone seems to agree with should mean something, but everyone does not know, or cannot agree on, what.

Hence, contract interpretation, like many exercises a lawyer may be required to undertake, is not a problem to be explained and therefore solved by a scientific algorithm. When the parties make the contract, whether they are individual or business executives, they understand and they make sense within the game. The contract is about their relationship. The purposes are those of the parties, and may or may not align to form an immanent "mutual intention."

Modeling is an exercise in reductionism; it seeks to explain behavior consistently and without contradiction. Yet life contradicts.¹⁵³ Nevertheless, most people (to

¹⁵²Jeffrey M. Lipshaw, *The Bewitchment of Intelligence: Language and Ex Post Illusions of Intention*, 78 TEMP. L. REV. 99, 99 (2005).

¹⁵³The reductionist and non-reductionist views of the law are captured in the views of the eminent British philosopher of law, J.W. Harris, and a response from his one-time student, Brian Bix. Harris claimed that there are four reasoning steps that form the basis of the practice of legal science, namely *exclusion* (there are a determinate number of sources that identify the legal system); *subsumption* (there is a hierarchical structure that organizes legal rules); *derogation* (the rejection of a rule because of conflict with another rule originating in a superior source), and *non-contradiction* (the legal system cannot affirm and deny the existence of a duty in an identical situation). J.W. HARRIS, LAW AND LEGAL SCIENCE: AN INQUIRY INTO THE CONCEPTS LEGAL RULE AND LEGAL SYSTEM 10-11 (1979). Moreover, Harris's attempt to identify the units of the legal system (positive legal rules) was expressly "reductionist in nature. It means that descriptive statements in legal science which are not descriptive of duty-imposing or duty-excepting rules are reducible to statements about the conditions under which the duties imposed by various rules exist." *Id.* at 21. Brian Bix, who was one of Harris' students, responded:

Reductionism in legal theory raises standard questions regarding theorizing generally about social practices and institutions: in particular, the costs and benefits of simplification in the construction of models and theories By contrast, what are we to say about (descriptive or conceptual) theories about the nature of law? To evaluate theories about the nature of law— either at the level of particular theories, or at the level of generalized advice about such theories (e.g., whether to have reductive or complex theories)—one must start with a distinct sense of the purpose of such theories. To ask that theories about the nature of law offer useful predictions is to misunderstand what they are about. Theories about the nature of law are not—or not,

their great fortune) do not worry about how they make sense of things; they just go about their business making sense of things. Even people who insist that the only way to make sense of things is through statements of universal laws of nature, falsifiable by contrary evidence, have accepted some notion of meaning and purpose, even if it is nothing more than the expectation that there is an underlying order to the universal laws that justifies even engaging in scientific theory. What seems clear to me, however, is that only academic lawyers or ideologues have the luxury of taking a position at the extremes, whether it is rejecting any objectivity so that we view every explanation as a reflection of the power and position of the person or institution doing the explaining,¹⁵⁴ or rejecting any rational force in the search for meaning and purpose versus scientific explanation.¹⁵⁵

Were we able to compartmentalize our lives so that we were always modelers during certain time periods, and always game players in another, perhaps it would be easier to know which standard of “spotting the gist” to apply. The real world does not work that way. Coming to believe that the model of the world really *is* the world, or failing to understand that the game is a thing in itself and its rules are binding are both category errors to which lawyers (and their teachers) can fall victim.

VI. CONCLUSION

Business people and their lawyers are doers. They absorb and synthesize data about the world, using it to predict the impact of decisions, and then make decisions not only about what they might do, but what they ought to do. It is a process continually of modeling and game-playing. So it is hardly controversial to assert that how we go about explaining why things happen in the world impacts the judgments we might make about what to do. My thesis is simply that there are different ways of making sense of what is and what ought to be, and the possibility of error exists when they are inappropriately applied. Sometimes we are modeling; sometimes we are game-playing. If we were only modeling the physical world, the answers would almost always arise out of objective theorizing—in Thomas Haskell’s words, “explanatory cause.” But when we are game-playing, we are also subjects in the game with intentionality. So objective modeling of the behavior of others with intentionality becomes more complex. Making sense requires that we understand the intentionality as well.

primarily—empirical claims about current or future behaviors, but rather efforts to offer explanations and insights regarding the nature of a particular social institution (that is also a reason-giving practice).

Brian Bix, *Reductionism and Explanation in Legal Theory*, in *PROPERTIES OF LAW: ESSAYS IN HONOUR OF JIM HARRIS* 45-46 (Timothy Endicott et al. eds., 2006).

¹⁵⁴See Robert M. Cover, *Nomos and Narrative*, 97 HARV. L. REV. 4, 4 (1983).

¹⁵⁵See RICHARD A. POSNER, *THE PROBLEMATICS OF MORAL AND LEGAL THEORY* (1999). Judge Posner contends that theory is only valid when “it is about observable phenomena and ‘real’ (physically existing) entities, [and] can be tested by comparing the predictions generated by the theory with the results of observation.” *Id.* at 13. Any kind of academic (versus merely common sense or pragmatic) moralism does not carry rational force: “the analytical tools employed in academic moralism—whether moral casuistry, or reasoning from the canonical texts of moral philosophy, or careful analysis, or reflective equilibrium, or some combination of these tools—are too feeble to override either narrow self-interest or moral intuitions.” *Id.* at 7.

My claim, ultimately, is not a critical indictment of reductive methods. It is, however, a rejection of reductivism as the only, or even the best, way to search for answers in the area of the law I know best, that pertaining to business, corporations, commerce, and transactions. It is an invitation to dabble in ontology, and to arrive at the conclusion that purely reductive thinking, and the failure to incorporate a search for meaning has two negative implications. First, as an academic matter, the attempt to explain human aspiration, particularly in the area of contracts and transactions, through social-scientific universalizing, is fundamentally flawed. Second, and more important, there is a real danger of co-optation—to the extent the participants lose touch with the underlying social reality—into regulatory systems so complex that they appear to take on “thingness” rather than mere “aboutness.”

We are, for the most part, the inheritors of a division of the process of thinking into academic disciplines over the last two hundred years. Jürgen Habermas describes it as a continuing dualism between the natural sciences “whose aim it is to formulate and verify hypotheses concerning the laws governing empirical regularities,” and “the historical-hermeneutic sciences, which appropriate and analyze meaningful cultural entities handed down by tradition.”¹⁵⁶ Indeed, Guyora Binder and Robert Weisberg contend that in the nineteenth century, law and literature developed not just as different professions, but as alternative, if not competing, ways of making sense of the world:

[W]e may conceive law more broadly as an ordering function, a process of identifying, allocating, and contesting authority, that pervades all spheres of social life. In the same way we may identify “the literary” . . . more broadly with imagination, complexity of perception, density of meaning, and the qualities of dramatic and aesthetic interest.¹⁵⁷

That historical division continues to pervade, if not the practice of law, the thinking about how law models the complex reality of social life. The word “model” is critical here. There can be little doubt that the dominant modes of thinking about the law since Langdell have aspired to the precision of scientific modeling, the process by which Habermas observes that natural science methods have extended themselves “far beyond the sphere of the theoretical natural sciences, into psychology and economics, sociology and political science.”¹⁵⁸ Moreover, this divide separated the dispassion of scientific discourse, and its search for universal and objective truths, from the personal and expressive search for meaning through the humanities.¹⁵⁹ Personal expression appears today, if at all, in critical reaction to the predominant reduction mode.

A wholly social-scientific approach to the explanation, rather than the understanding, of human behavior, particularly in areas that have the potential to invoke the legal system, is not wholly inappropriate, but merely sterile.¹⁶⁰ For some

¹⁵⁶JÜRGEN HABERMAS, ON THE LOGIC OF THE SOCIAL SCIENCES 1 (Shierry Weber NicholSEN & Jerry A. Stark trans., 1988).

¹⁵⁷GUYORA BINDER & ROBERT WEISBERG, LITERARY CRITICISMS OF LAW 5 (2000).

¹⁵⁸HABERMAS, *supra* note 156, at 1.

¹⁵⁹BINDER & WEISBERG, *supra* note 157, at 7.

¹⁶⁰In the words of Philippe Nonet:

of us, though, the methods of social science explain and edify, but often fail to satisfy. The algorithms of mathematical models of human behavior tantalize and fascinate us, but we wonder whether algorithmic thinking begins to substitute models for life, or, as Gabriel Marcel complained, lose sight of the mysteries and to be distracted by puzzles.¹⁶¹ The academic study of law is not immune from algorithmic or formalistic thinking. But the search for the algorithm continues in, for example, the predictive science of economics, or the many “law and” disciplines. Indeed, the mission of the academy to *explain*, as a matter of science, rather than to *understand*, as a matter of meaning, sits (in my experience as both practitioner of some twenty-six years and as an academic and theorist) at the heart of the gap between some (but not all) in the legal academy and the profession. If the answers were easy, if we could take rules, principles and theories and apply them algorithmically to the facts, there would be no basis on which we might distinguish great leaders, inspirational teachers, and wise judges. Out in the world of corporate governance, mergers, business transactions, family counseling, and estate planning, our clients esteem wisdom and judgment, and it is seldom formal or algorithmic, and yet rarely nihilistic.

What then is it to hear and keep the word of law? . . . Never can it be captured in anything like the proposition of rules, principles, theories, interpretations, etc. Any attempt to do so would produce only sterile dogma. To keep the word of law is to stay in awe within the truth of an advent, namely the advent of the gift of understanding. Philippe Nonet, *Judgment*, 48 VAND. L. REV. 987, 1003 (1995).

¹⁶¹GABRIEL MARCEL, *THE MYSTERY OF BEING*, VOL. 1: REFLECTION AND MYSTERY 211-12 (G.S. Fraser, trans. 2001) (1950).

VII. APPENDIX A

The idea of cause has been tangled up with purpose in the history of physical and social science since Aristotle, and a sense of purpose is teleology. Aristotle's causes mixed in a sense of essential purpose for the thing, and much of the history of physical and social science is an attempt to pull descriptions of causation out of the grip of teleology.ⁱ Scientific causality should be devoid of all notions of intentionality, it is thought, whether the system being studied is one of physics or one of sociology. Hence, we would not think of the forces in a feedback system like a thermostat or a toilet float to have the intention of seeking equilibrium. "[A]n explanation of the teleological structure of a thermostat can be accounted for and made nonarbitrary by reference to causal mechanisms making up the thermostat and the causal act of setting the thermostat."ⁱⁱ The goal of social science may be as well to expunge teleology from explanation, "[b]ut in the case of artificial systems the mechanisms are real, understood, and causal. Applying these ideas to human agents or social systems is analogical."ⁱⁱⁱ And, indeed, while we may be able to accomplish this task for social institutions, doing so for individual human agents is more problematic.^{iv}

The fundamental question is where social institutions or objects sit with respect to the continuum between physical cause and willful intention. Or, as Professor Turner asks: "to what extent are they 'real,' or, put differently, do they possess any explanatory force beyond the elements of human action and physical causality that compose them?" "We might conclude that it is as absurd to ascribe end-seeking to a social system as it is to the thermostat. The thermostat does not "intend" to equilibrate. Similarly, in social systems, end-seeking is a property that adds no explanatory content—everything that happens does so because of the arrangement of causal mechanisms such as the feedback mechanisms that do the work of directing the system toward the end state.^{vi} The "ends" are a consequence of the arrangement of mechanisms, rather than something that adds predictive power or explanatory force to the explanation. ^{vii}That is to say, the social system appears to be purposive only because of the human intention feeding back into it, and not because of anything inherent in the system itself.

The attribution of purpose or meaning to social institutions, it turns out, sits in another one of those imponderable places between polarities in how we make sense of systems. Paul Roth distinguishes the role of explanation from the role of understanding or meaning in the social sciences: "Explainers pose the study of

ⁱSee Stephen P. Turner, *Cause, the Persistence of Teleology, and the Origins of the Philosophy of Social Science*, in THE BLACKWELL GUIDE TO THE PHILOSOPHY OF THE SOCIAL SCIENCES 21-41 (Stephen P. Turner & Paul A. Roth eds., 2003).

ⁱⁱ*Id.* at 30.

ⁱⁱⁱ*Id.*

^{iv}*Id.* at 34.

^v*Id.*

^{vi}*Id.* at 35.

^{vii}*Id.*

human *qua* social beings as continuous with the study of humans *qua* natural objects. Understanders conceive of the human sciences as *sui generis*, a realm of study of nonnatural objects constituted by values and interests.”^{viii} Although Turner never uses the word “teleology,” it seems to me this is precisely what he is describing—the purposive nature of social structures. The natural sciences cannot incorporate the world of social experience, the argument runs, because value-orientation defines that world. It is one dominated by actions influenced by and “directed towards objects that are not things in the world—for example, religious beliefs, personal relationships, loyalties to groups and institutions.”^{ix} His question is whether there is science that can be applied to issues of understanding versus explanation, and, more importantly, first, whether a principled divide between understanding and explanation is possible, and second, whether understanding “creates orderings not ascertainable by methods for studying how the natural order orders.”^x The analogy is to understanding a text; we assume that we can derive understanding of social phenomena by use of cultural artifacts that are evidence of meaning, that meanings can be translated into the observer’s idiom, and that, as translated, the events can be interpreted in a way that has rational force. Roth’s conclusion is that this inquiry is not helpful; it tells us more about the observers and their interactions with each other than it does to resolve conflicting interpretation of the same data.^{xi} My point, however, is that the existence of the debate tells us something about the tendency to teleology, the ascription of meaning and purpose to non-natural ordering as though it were capable of scientific explanation.^{xii} As Roth says, “[m]aking social factors part of the world humans share marks them as real; their role in structuring behaviors gives them claim to systematicity, and so objects of a science.”^{xiii}

Nevertheless, there is a history (if criticized) of attributing collective consciousness to human systems. But my take on it is slightly different. As I discuss in the text, with sufficient complexity, the social system is real to us, so real that it at times appears to take on consciousness of the kind both Professors Smith and Hofstadter perceive, as in “the Law requires that we”^{xiv}

^{viii}Paul A. Roth, *Beyond Understanding: The Career of the Concept of Understanding in the Human Sciences*, in *THE BLACKWELL GUIDE TO THE PHILOSOPHY OF THE SOCIAL SCIENCES* 311 (Stephen P. Turner & Paul A. Roth eds., 2003).

^{ix}*Id.*

^x*Id.* at 312.

^{xi}*Id.*

^{xii}*Id.* at 326.

^{xiii}*Id.* at 312.

^{xiv}See SMITH, *supra* note 41; HOFSTADTER, *supra* note 44.