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ARTICLES

ON THE POSSIBILITY OF NECESSITY IN LEGAL ARGUMENT: A DILEMMA FOR HOLMES AND DEWEY

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When someone in his audience said, Convince me that logic is necessary, he answered: Do you wish me to demonstrate this to you?—Yes.—Well, then, must I use a demonstrative argument?—And when the questioner had agreed to that, Epictetus asked him, How, then, will you know if I impose upon you?—As the man had no answer to give, Epictetus said: Do you see how you yourself admit that all this instruction is necessary, if, without it, you cannot so much as know whether it is necessary or not?

Arrian's *Discourses of Epictetus*, Chapter XXV: "How Is Logic Necessary?"

INTRODUCTION: DEWEY, HOLMES, AND "ANTI-DEDUCTIVISM" IN LEGAL THEORY AND LEGAL PEDAGOGY

Brooding omnipresently over American legal pedagogy and jurisprudence for nearly a century now has been the Holmesian mantra "the life of the law has not been logic. It has been experience." In his influential essay *The Path of the Law*, Holmes expressed this claim about the role of "logic" in rather intellectually strident terms. He maintained that there were two "first principles for the study of this body of dogma or systematized prediction which we call the law," the first of which was that legal and moral obligation must be kept strictly analytically separate (the "separation thesis"), and second, that law is not a deductively applicable axiomatic system. He went on to maintain that to *deny* this second thesis is to commit the "the fallacy of logical form"[1]—a "fallacy" that consisted in "the notion that the only force at work in the development of the law is logic."

Holmes left a canon of widely varied, brilliant, fertile, poetic, insightful writings on legal doctrine, legal pedagogy, and

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1. Oliver Wendell Holmes, *The Path of the* Law, 10 HARV. L. REV. 457, 465 (1879).

jurisprudence. In his intellectual assault on "logic," Holmes clearly had in mind *deductive* logic,[2] although he displayed none too thorough a knowledge of what "logic" is—deductive or otherwise—or how it operated in the dynamics of legal argument.[3] His challenge to the view, allegedly regnant in the legal theory and legal pedagogy of his day, that "logic" *is* the life of the law, came to serve as one of the central tenets of the legal realist reaction to the intellectual vices of "formalism" and "mechanical jurisprudence," and thus has been among Holmes' most enduring and influential contributions.

It is not to my purpose in this essay to discuss in detail the strengths and weaknesses of Holmes' arguments and claims about "logic."[4] Rather, I want to offer an explicitly and deliberately narrow argument against what I regard as a fellow-traveling anti-deductivist argument. The argument I have in mind is advanced by John Dewey in his essay "Logical Method and the Law." I believe it is fair to say (but I'll leave this to intellectual historians) that Dewey's version of what I shall call the "anti-deductivist" explanation of American legal argument has been deeply influential, in part because it is (and Dewey clearly intended it to be) a philosophically careful exposition of Holmes' anti-deductivist theme. With that as my reason for targeting Dewey's argument, I shall offer what I regard as two decisive arguments to show that the Dewey (and perhaps, the "Deweyfied" Holmes) thesis about deductive logic in legal argument is incorrect.

I hasten to emphasize the narrowness of my task. As I shall explain, Dewey argues that legal argument *cannot* be explained as arguments that have valid deductive structures (like "modus ponens"—"All men are mortal; Socrates is a man; therefore Socrates is mortal"). My goal in this essay is only to show that Dewey's arguments are *internally incoherent* and for that reason unconvincing. Toward the end of the essay I go a bit further and provide a model to show how it is at least logically possible to explain the practice of American legal argument by reconstructing the arguments of judges and lawyers as deductive arguments, some valid, some invalid. I leave to extended discussion elsewhere the question whether, in what ways, and to what extent interpretations of legal arguments as having a deductive structure offer the best explanation of those arguments.

But before I engage Dewey directly, I want to call attention to

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2. *See* text at note 35.

3. *See* Scott Brewer, *Traversing Holmes' Path toward a Jurisprudence of Logical Form*, in THE PATH OF THE LAW AND ITS INFLUENCE: THE LEGACY OF OLIVER WENDELL HOLMES, JR. (Steve Burton ed. 2000) [hereinafter Brewer, *Jurisprudence of Logical Form*].

4. It is to my purpose in Brewer, *Jurisprudence of Logical Form*, *supra* note 3.

what seems to me to be some useful evidence of the effects of Dewey's and Holmes' "anti-logic" thesis on the generations of lawyers, legal academics, and judges that followed them. Again, I note that I shall leave to intellectual historians the question of the extent to which this evidence of putative influence is evidence of actual influence. But the influence claim seems pretty plausible to me given Holmes' and Dewey's stature among many generations of jurists.

What influence do I claim? Following Holmes and Dewey (and indeed also *like* Holmes, though, to be sure, much less like Dewey) many generations of jurists (especially the academic phalanx) have given no serious attention to the role of logic in legal argument, while at the same time, by word or by deed, dismissing it as a serious subject for teaching and analysis in law school. I suggest that this more or less universal dismissal has had the pernicious "trickle up" effect of dulling the precision and clarity and perspicacity of legal arguments offered by judges and lawyers, from those penned and printed by state court judges and lawyers to those issued by the United States Supreme Court. –

And while I do not believe that logic is the most important discipline a jurist (teacher, student, judge, scholar) should have, I do believe that it is a discipline whose competent mastery is vital for any jurist. In that way, Holmes' and Dewey's influence in this area should be regarded as pernicious.

I. THE TRICKLE-UP EFFECTS OF ANTI-DEDUCTIVISM: TWO "CASE" STUDIES

A. Joyner v. Adams

Joyner v. Adams,[5] a fairly recent dispute about the meaning of a contract provision, offers a clear example of deductive logical failure in a judicial decision. Although the particulars of the example are hardly momentous in the grander scheme of the life of the law, the example is still illuminating in many respects.

The relevant issue in *Joyner* arose from an agreement according to which the defendant (developer and lessee) would "develop," by a specified date, land owned by plaintiff (owner and lessor), and pay the plaintiff a specific amount of rent on that land. In the event that the defendant failed to "develop" the land by the specified date, he would have to pay a higher rent.[6] By the time the dispute worked its way up to the North Carolina Court of

5. 361 S.E.2d 902 (N.C. Ct. App. 1987).

6. More precisely, but also more obscurely, the defendant "agreed to pay a fixed rate until 30 September 1980, at which time he was obligated to have subdivided 'all of the undeveloped land . . . whereby all portions are deemed lots and eligible for the execution of a [Lot Lease].'" 361 S.E.2d at 902.

Appeals, the issue was just how much "development" was required under the agreement—i.e., what the meaning of the "development" requirement was.[7]

What interests me here is the *Joyner* court's analysis of the applicable legal rule for deciding "whose meaning prevails" in a dispute about the meaning of a contract provision. The court *seems* to have thought that it was simply restating, albeit in different terms, the exact requirements of *Restatement (Second) of Contracts* § 201(2), whose authority the court acknowledged.[8] The court expresses its restated version of the (*Restatement (Second)*) rule as follows:

> It is also well-established, although not often enunciated in North Carolina cases, that, where one party knows or has reason to know what the other party means by certain language and the other party does not know or have reason to know of the meaning attached to the disputed language by the first party, the court will enforce the contract in accordance with the innocent party's meaning. See Insurance Agency v. Leasing Corp., 31 N.C. App. 490, 229 S.E. 2d 697 (1976); Restatement (Second) of Contracts, sections 20, 201(2)

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7. The court of appeals stated:

> The other two memoranda, one written by defendant's negotiator, Mr. Ed Clark, referred to the "completed development" of the property as a possible condition to avoiding rent escalation. Mr. Lynch testified that he and Mr. Joyner interpreted "completed development" to mean the construction of all buildings. In addition, plaintiff testified that she expressed to defendant her wish that the contract contain a more specific provision regarding the construction of buildings on the lots. This evidence is sufficient to support the trial court's finding that plaintiff intended the provision in question to require defendant at least to have begun construction of all buildings on the lots. Defendant argues that, when read in conjunction with the terms of the Base Lease, his interpretation is the only reasonable interpretation of the rent escalation provision. That argument was rejected in this court's previous decision in this case. *The law of the case is that the language in the amendment is ambiguous and susceptible to more than one reasonable meaning, even when considered with the terms of the Base Lease.* Contrary to plaintiff's contention, *there is also evidence that defendant attributed a different meaning to the disputed provision.*

Id. at 903–04 (emphasis added).

8. It is helpful, but not critical for my purpose here, that the court believed this. Of course, one ought to read with warranted charity. Perhaps the court was simply offering what it fully realized was a version of the "whose meaning prevails" rule that differed significantly from that of the Restatement provision it cited. But if that is indeed what the court thought, it is perhaps fair to fault it for unclarity on this point. But, all things, including warranted charity considered, I do think the court intended to adopt the requirements of the Restatement rule and only inadvertently misstated those requirements. Apart from the evidence of the court's "text itself," there is the fact that that North Carolina case it cites in the text to this note itself directly quotes the first Restatement precursor version of § 201(2). *See* 229 S.E.2d at 700.

(1979); 3 Corbin, Contracts, section 537 (1960 and Supp.1984).[9]

The *Joyner* court here offers two closely related rules to govern and guide the analysis of "whose meaning prevails" under North Carolina contract law.

> **(1) In a reasonable dispute between parties A and B about the meaning of a contract provision,[10] if A is innocent and B is non-innocent, then the court will assign A's meaning to the disputed term in the contract.[11]**
>
> **(2) A party to a contract is "innocent" only if that party neither knows nor has reason to know that the other party attaches a different meaning to the disputed term in a contract.**

Compare *Joyner*'s rules (1) and (2) to the "whose meaning prevails" rule in *Restatement (Second) of Contracts* § 201(2). Slightly re-presented (to make its deductive structure perspicuous), that rule is as follows:

> **(3) If parties A and B have attached different meanings to a promise or agreement or a term thereof, then it is interpreted in accordance with the meaning attached by A if and only if,[12] at the time the agreement was made,**
>
> **A did not *actually know* of any different meaning attached by B, and B *actually knew* of the meaning attached by the first party**
>
> **or**

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9. 361 S.E.2d at 905 (emphasis added).

10. I include this qualification in the antecedent to the rule to capture a judgment the judge clearly thought important to his analysis under the whose meaning prevails rule, namely, "The law of the case is that the language in the amendment is ambiguous and susceptible to more than one reasonable meaning, even when considered with the terms of the Base Lease." *Joyner*, 361 S.E.2d at 904.

11. Under the "sole sufficient condition" rule (see note 18), this sufficient condition can also function as a necessary condition in some contexts; given the procedural posture and disposition of the case—remand in accord with the rule the court states, the court didn't need to commit itself regarding whether the rule provided necessary and sufficient conditions for *all* cases. *See* Scott Brewer, *Exemplary Reasoning: Semantics, Pragmatics, and the Rational Force of Legal Argument by Analogy,* 109 HARV. L. REV. 923, 1003-1117 (1996) [hereinafter Brewer, *Exemplary Reasoning*].

12. The text of the RESTATEMENT makes it clear that this is an "if-and-only-if rule connector," so there is no need to use the sole sufficient condition rule here. *Cf.* note 11.

A *had no reason to know* of any different meaning attached by B and B *had reason to know* of the different meaning attached by A.

What the *Joyner* court seems not to have realized[13] is that its version of the "whose meaning prevails" rule is *not* identical to the *Restatement* version. To explain the difference (in case it's not obvious), I shall take a few moments to develop some special terms.

1. "Rule" and "Identity of rule-statements"

What does it mean to say that two versions of a rule are identical? Instead of speaking of two "versions" of a rule, let us refer to two (or more) *rule-statements*, where a rule-statement is simply any statement of a rule. A *rule* is any proposition, possibly internally complex, that has the logical form of the conditional proposition *If α then β*. A *proposition* is the abstract form of a *statement*, bearing to an instantiating statement the relation of type to token.[14]

2. "Application of a Rule"

Though we need not, and I shall not, rely on the still unsettled resources of "deontic" logic (the deductive system of mandates and permissions), it will help to keep in mind that we are concerned here with the setting in which a rule guides and governs conduct, and where, roughly speaking, "facts" are "plugged into" rules to produce outcomes under the rule. Less roughly speaking, let us use the phrase *application of a rule* to refer to the analysis of which, if any, of a rule's necessary or sufficient conditions is satisfied (including the jointly sufficient or jointly necessary conditions in an internally complex antecedent or consequent) under the truth conditions (the "facts") of a given possible world.

3. "Sufficient-satisfied" and "Necessary-satisfied"

Let us say that a rule is *sufficient-satisfied* when its sufficient (including jointly sufficient) conditions are true. Thus, if P is true, then the rule *If P then Q* is "sufficient-satisfied"; in monadic predicate logic, the rule *(x) (If Fx then Gx)* (*For all x, If x is an F then x is a G*") is sufficient-satisfied when Fx is true for a given Fx_i.

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13. *See* note 8.

14. I help myself to metaphysically realist (i.e., non-nominalist) terms. I presume that my scheme could be restated with no important loss of meaning in purely nominalist terms, in the manner sketched by Goodman and Scheffler, using the idea of "replicas" instead of types and tokens. *See* ISRAEL SCHEFFLER, BEYOND THE LETTER: A PHILOSOPHICAL INQUIRY INTO AMBIGUITY, VAGUENESS, AND METAPHOR IN LANGUAGE (1979).

Similarly, a rule is *necessary-satisfied* when its necessary (including jointly necessary) conditions are true.[15] Thus, if *Q* is true, the rule *If P then Q* is "necessary-satisfied"; in monadic predicate logic, the rule *(x) (If Fx then Gx)* is sufficient-satisfied when *Gx* is true for some given Gx_i.

4. "Principle of the indiscernibility of identical rules"

According to what I shall call the principle of the *indiscernibility of identical rules*,[16] two (or more) rule-statements are statements of the *same* rule if and only if there is no possible world in which the rules would have different applications. That is, the rule-statements are statements of the same rule if and only if there is no possible world in which their conditions of satisfaction (sufficient-satisfaction or necessary-satisfaction) are different.

5. Joyner's mistaken judgment about rule identity

Now back to the "whose meaning prevails" rules of *Joyner* and the *Restatement (Second)*. Are these rules identical? In accord with the definitions offered above, this is better expressed as the question whether the *Joyner* court's rule-statement and the *Restatement (Second)*'s rule-statements have the same applications in every possible world. Clearly they do not. Consider, for example, the situation in which party A actually knows that B attached a different meaning to a disputed term, while party B did not actually know, but did have reason to know, that party A attached a different meaning to that term. (Suppose A is a long time member of the baking trade while B is a recent entrant; B does not know, but should know, that 'dozen' in a contract for sale of baked goods actually means thirteen; A knows that B does not know the special trade usage meaning of 'dozen' in a contract for the sale of "100 dozen doughnuts"; A actually knows the different meaning attached to the term 'dozen' by B; B does not actually know the different meaning attached by A and by other members of the trade, but he has reason to know.[17]) Under *Joyner*

15. Though awkward, the terms 'sufficient-satisfied' and 'necessary-satisfied' are less misleading than would be 'sufficiently-satisfied' and 'necessarily-satisfied'.

16. Of necessity (and I'm sure he would have agreed), we cannot all be Leibniz. But, also of necessity, we can pay obeisance where we can.

17. If it is to be coherent, the RESTATEMENT rule also presupposes that *every person who actually knows also has reason to know* the different meaning assigned by the other party. Otherwise, in the hypothetical in the text to this note, the rule could conceivably give a party like A a contract on his meaning of dozen, since it would be possible for him actually to know without also having reason to know, while under the same facts the rule could give a party like B a contract on his terms, since he might conceivably have reason to know without actually knowing. Fortunately, that every person who

rule (2), neither A nor B is "innocent." A is not innocent, because he had actual knowledge, while B is not innocent, because he had reason to know. Thus, under *Joyner* Rule (1),[18] neither party's meaning prevails. Under the *Restatement* rule, however, party B's meaning prevails, since a party can satisfy the (disjointly sufficient) conditions for the rule *either* by having no actual knowledge (of the other party's interpretation of the disputed term) while the other party has actual knowledge, *or* by having no reason to know while the other party does have reason to know. In my "possible world" hypothetical, party B satisfies the first of these disjuncts, and so, under the *Restatement* version of the rule, his meaning prevails.[19]

How serious a logical muck-up is this? Not very, in the grand scheme of the law, but neither is it insignificant. If the *Joyner* court did intend to adopt into authoritative state law the exact rule of the *Restatement*, lawyers and other judges in the state would have different sources of guidance for developing the rule; they could, for example, confidently look for persuasive authority to decisions in other state courts that began with the same "canonical" *Restatement* rule, just as there has been dialogue and development about the meaning of the *Restatement (Second)* version of § 90 among different state courts that have adopted § 90 into official state law. More important, in articulating authoritative law for its jurisdiction the appellate court in *Joyner* seemed to be unaware[20] of the fact that its rule and the *Restatement* rule were significantly different, and thus was unaware of important differences in the policies and principles that might justify adopting or rejecting one or the other version of

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actually knows that p also has reason to know that p seems a sound and relatively uncontroversial epistemic assumption.

18. The phrase in the text to this note 'Under *Joyner* rule (1)' means interpreting rule 1 so that its antecedent provides not only a sufficient condition for the consequent, but also as the *sole* sufficient condition. In some interpretive contexts, a conditional proposition *If* α *then* β, in which α is a sufficient condition for β, also provides a necessary condition for β. The interpretive contexts in which that is so are just those in which α is the only sufficient condition for β. (In a very helpful discussion Rodes and Pospesel call this the "sole sufficient condition rule.") *See* ROBERT E. RODES AND HOWARD POSPESEL, PREMISES AND CONCLUSIONS: PREMISES AND CONCLUSIONS FOR LEGAL ANALYSIS (1997). When this "sole sufficient condition" rule is satisfied, *If* α *then* β functions as the logical equivalent of α *if and only if* β.

19. Note that, in a fit of interpretive charity, one must assume that under the RESTATEMENT *everyone who actually knows also has reason to know*. Otherwise, the rule would be incoherent, for it would allow the possibility that party A could actually know while party B did not *and* that party A could at the same time have no reason to know while party B could. In this circumstance, both A's and B's (presumably inconsistent) meanings would prevail. Fortunately, that everyone who actually knows also has reason to know is not an epistemically unsound assumption.

20. *See* note 8.

the rule. For example, the *Restatement* rule allows for "degrees of innocence" while the *Joyner* version does not—under the Restatement version, a person who only fails to know what the other person thinks the meaning is when he had reason to know, can still get a contract on his terms, while a person who actually knows what the other person thinks the meaning is, but deals with him without informing him of the different interpretations (and so seems more culpably conniving) cannot get the contract on his terms. The *Restatement* rule may for that reason be superior on grounds of policy or principle, but in any event the *Joyner* court's apparently inadvertent assumption that the two were identical rule-statements buries this important question. However important or unimportant is *Joyner's* logical misstep, it does provide an excellent example of the errors that can come of inattentiveness and insufficient mastery of deductive logical structure.

B. Interpretations of U.C.C. § 2-207

Uniform Commercial Code § 2-207 and the Comments thereto are a trove of traps for the logically unwary. The provision deals with offer and acceptance in certain commercial settings, and was adopted to modify the previously prevailing "mirror image" and "last shot" rules of most common law jurisdictions.[21] I shall call attention to two "traps for the logically unwary" sprung by this provision. The first was sprung on its drafter. Its text states in full:

> 2-207(1) A definite and seasonable expression of acceptance or a written confirmation which is sent within a reasonable time operates as an acceptance even though it states terms additional to or different from those offered or agreed upon, unless acceptance is expressly made conditional on assent to the additional or different terms.

Restated in a form that makes the rule more logically perspicuous, where

A = there's a definite and seasonable expression of acceptance
B = there's a written confirmation which is sent within a reasonable time
C = the expression of acceptance or the written confirmation operates as an acceptance
D = the expression of acceptance or the written confirmation states terms additional to or different from those offered or agreed upon
E = acceptance is expressly made conditional on assent to

21. JAMES J. WHITE AND ROBERT S. SUMMERS, UNIFORM COMMERCIAL CODE 30-31 (5th ed. 2000).

additional or different terms

— the rule is

(4) (If (A or B) then C, even though D) unless E.

As several commentators have noted,[22] the problem here is that when B is true, there has by hypothesis already been an offer and acceptance prior to the sending of the written confirmation. It is therefore too late for the "expression of acceptance or the written confirmation" to "operate as an acceptance", i.e., too late for C to be true. It is also too late for "acceptance to be expressly made conditional on assent to additional or different terms," i.e., too late for E to be true.[23] In a case involving a written "confirmation" that is inconsistent with the terms of a prior oral agreement, there is really no role for an inquiry into whether C or E is true, and the court should move directly to analysis under 2-207(2).[24]

The drafter's lapse in attentiveness to deductive structure is clearly much more serious than in the *Joyner* case, if only because this was intended to be, and turned out to be, a uniform rule for all state jurisdictions that brought about a major change in then existing common law rules of offer and acceptance. Moreover, it is only one of several logical opacities in this rule and its attending Official Comments (others include the—intentional?—omission of the term 'additional' in the move from 2-207(1) to 2-207(2), and its miraculous resuscitation in Official Comment 3).[25] It is hard to avoid the conclusion that the confusions that surrounded the

22. 2 E. ALLAN FARNSWORTH, FARNSWORTH ON CONTRACTS 298-300 (2d ed. 1998).

23. *Id.* at 306-307.

24. *See, e.g.,* Air Products and Chem. Inc. v. Fairbanks Morse, Inc., 206 N.W.2d 414 (Wis. 1973).

25. For the occurrence of 'different or additional terms' in 2-207(1), see the text at page 17. 2-207(2) and Official Comment 3 read as follows:

> 2-207(2): The *additional terms* are to be construed as proposals for addition to the contract. Between merchants such terms become part of the contract unless:
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> (a) The offer expressly limits acceptance to the terms of the offer;
>
> (b) They materially alter it; or
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> (c) Notification of objection to them has already been given or is given within a reasonable time after notice of them is received.
>
> OFFICIAL COMMENT 3: Whether or not *additional or different terms* will become part of the agreement depends upon the provisions of subsection (2). If they are such as materially to alter the original bargain, they will not be included unless expressly agreed to by the other party. If, however, they are terms which would not so change the bargain they will be incorporated unless notice of objection to them has already been given or is given within a reasonable time.

(Emphases added.)

application of 2-207 from its first applications were in no small measure created by the drafter's insufficient logical attentiveness to deductive structure. The faults of inattention to deductive structure and logical form have not rested solely with the drafter of 2-207. Opinions in several jurisdictions have either committed a rather elementary deductive fallacy, or at least rather casually misunderstood a basic feature of deductive inference, as I shall now describe.

Trans-Aire International[26] involved, among other issues, a dispute between commercial merchants about whether an "additional term"—an indemnification provision—that appeared in a "written confirmation" but not in the parties' oral agreement was binding on the recipient of that confirmation. Since there had already been an oral agreement, the Seventh Circuit Court of Appeals properly focused its analysis on the application of U.C.C. 2-207(2).[27] The relevant portion of the court's analysis is worth quoting in full:

> Section 2-207 of the Illinois Commercial Code provides that additional terms included in a written confirmation "are to be construed as proposals for addition to the contract" and will not become part of the contract if "they materially alter it." See Ill.Ann.Stat. ch. 26, para. 2- 207(2) (Smith-Hurd 1963); McCarty v. Verson Allsteel Press Co., 89 Ill.App.3d 498, 411 N.E.2d 936, 44 Ill.Dec. 570 (1980). *A term is considered to be a material alteration if its inclusion would "result in surprise or hardship if incorporated without express awareness by the other party." Ill.Ann.Stat. ch. 26, para. 2-207 Comment 4* (Smith-Hurd 1963); Clifford-Jacobs Forging Co. v. Capital Eng'g & Mfg. Co., 107 Ill.App.3d 29, 32, 437 N.E.2d 22, 24, 62 Ill.Dec. 785, 787 (1982); see also Chicago Litho Plate Graining Co. v. Allstate Can Co., 838 F.2d 927, 931 (7th Cir. 1988). . . . As we stated above, *Comment 4 to section 2-207 defines a material alteration as one which would "result in surprise or hardship if incorporated without the express awareness"* of the nonassenting party. Ill.Ann.Stat. ch. 26, para. 2-207 Comment 4 (Smith-Hurd 1963) (emphasis added) . . . . Under this language, an additional term may be characterized as a material alteration *if it either "surprises" the nonassenting party or if its inclusion, without an express meeting of the minds, would impose an unreasonable "hardship" upon the nonassenting party.*[28]

Of particular interest here is the court's analysis of the rule for "material alteration." As the court correctly states, under 2-207(2), additional terms included in a written confirmation "are to

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26. Trans-Aire International v. Northern Adhesive Co. Inc., 882 F.2d 1254 (7th Cir. 1989).

27. Regarding the move from 2-207(1) into 2-207(2) in cases involving different or additional terms in written confirmations, see notes 23 and 24. For the full text of § 2-207, see note 25.

28. 882 F.2d at 1260-61 (emphases added).

be construed as proposals for addition to the contract" and will not become part of the contract if "they materially alter it."[29] So the question for the court became, does an indemnification provision that appears as an "additional term" in a written confirmation "materially alter" the agreement that it purported to confirm? The court thus needed a rule to help guide it about what the sufficient or necessary conditions of "material alteration" were. The text of 2-207 itself says nothing about that question, but as it happened, Official Comment 4, adopted, in accord with the usual practice of states adopting the UCC, as part of the Illinois Code,[30] did specifically mention the material alteration provision, and even seemed to suggest a rule governing its application. According to Official Comment 4 (quoted here in full),

> Examples of typical clauses which would normally "materially alter" the contract and so result in surprise or hardship if incorporated without express awareness by the other party are: a clause negating such standard warranties as that of merchantability or fitness for a particular purpose in circumstances in which either warranty normally attaches; a clause requiring a guaranty of 90% or 100% deliveries in a case such as a contract by cannery, where the usage of the trade allows greater quantity leeways; a clause reserving to the seller the power to cancel upon the buyer's failure to meet any invoice when due; a clause requiring that complaints be made in a time materially shorter than customary or reasonable.[31]

Citing Comment 4, the *Trans-Aire* court articulated the following rule for "material alteration": A term is considered to be a material alteration if its inclusion would "result in surprise or hardship if incorporated without express awareness by the other party." Put in a form that makes its rule structure a bit clearer, the rule for material alteration stated and endorsed by the court is this:

> **(5)** If **the term's incorporation would result in surprise or hardship** if **the term is incorporated without express awareness by the other party,** then **the term is a material alteration.**

which is just another way of expressing a proposition of the logical form:

> **(6)** If **(the term is incorporated without express awareness by the other party** and **the term's incorporation would result in surprise or hardship),** then **the term is a material alteration.**

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29. 882 F.2d at 1260. *See also* note 25.
30. *See* text at note 28.
31. IL. ANN. STAT. ch. 26, para. 2-207 cmt. 4 (Smith-Hurd 1963).

Put more abstractly still, we can use simple propositional calculus (it will serve here well enough) to present the abstract logical form of this rule.

Let 'p' name the proposition 'the term is incorporated without express awareness by the other party.'
Let 'q' name the proposition 'the term's incorporation would result in surprise or hardship.'
Let 'r' name the proposition 'the term is a material alteration.'

With these propositional abbreviations, rule (5) becomes:

(7) If (if p then q) then r.

which in turn logically implies (but is not equivalent to):

(8) If (p and q) then r.

The problem here is that Official Comment 4 certainly does *not* literally state rule (5) (nor the synonymous expression of the rule in (7), which itself implies (8)), *nor does it give its readers any sufficient reason to read* its assertion about material alteration as some kind of non-literal assertion or underwriting of rule (5) (or (7) or (8)). Instead, Official Comment 4 offers several examples of terms that would "materially alter" an agreement, and asserts a general *consequence* of a materially altering clause, namely, that its inclusion in a contract "would *result in* surprise or hardship if the term is incorporated without express awareness by the other party." If any rule for "material alteration" emerges from Official Comment 4, it is not *Trans-Aire's* rule (5) (or (7) or (8)), but is instead some version of

(9) If the term is a material alteration, then the term's incorporation would result in surprise or hardship if **the term is incorporated without express awareness by the other party.**

i.e. using the propositional abbreviations offered above,

(10) If r then (if p then q)

which both logically implies and is logically equivalent to:

(11) If (r and p) then q)

Putting my point here in its *least* charitable form, the court may be said to have fallaciously, at least under standard rules of

propositional calculus, *inferred* from a proposition of the form *If α then β* (this is the abstract logical form of proposition (7), substituting 'α' for (7)'s antecedent 'if p then q' and 'β' for its consequent 'r') a proposition of the form *If β then α* (this is the abstract logical form of proposition (10), again substituting 'α' for 'if p then q' and 'β' for 'r')).[32] To put the point more charitably: the court may be said to have misunderstood and misinterpreted the underlying formal rule that is informally expressed in Comment 4.[33]

Not only is there no sufficient reason for the *Trans-Aire* court's reading of Official Comment 4 in the literal text of Official Comment 4, but the court's misconstrual, resulting in its endorsement of Rule (5), is also seriously questionable on policy grounds. Surely, for example, there are many commercial communities in which the inclusion of a term in the contract of a buyer or seller is very widely expected and accepted. Suppose that such a term is included as an "additional term" in a written confirmation, and that its inclusion would "surprise" the other party even though that party *should not reasonably* be surprised, i.e., even though that party's surprise is *unreasonable*. Under the *Trans-Aire* version of the rule, even the most abysmally unreasonably ignorant party is entitled to exclude from an agreement a term that every reasonable member of the trade would have expected to be in the contract. But the *Trans-Aire* court thought that rule (5) was either endorsed or required by the text of Official Comment 4 and so closed itself off to the possibility that the rule for material alteration it stated might well be inadequate on policy grounds. Here, as in *Joyner*, a court's misunderstanding of details of deductive structure and inference very likely led it to overlook the serious questions of policy and principle raised by the version of the rule the court articulated, endorsed, and applied.

Having presented evidence of the kinds of mistakes courts can make with deductive form, I turn now in earnest to my

32. In some interpretive contexts, a conditional proposition of the form *If α then β* can be correctly interpreted as logically equivalent to *α if and only if β*—namely, those contexts in which we may conclude that α is the *sole* sufficient condition for β, i.e., that there is no other conditional proposition in which some proposition other than α (or some proposition synonymous with α) is an antecedent for β as consequent. *See* note 18 (on "sole sufficient condition" rule of logic). The text of Comment 4 gives us no reason to believe that the Comment's authors believed that the *only* way a party to a contract could suffer "surprise or hardship" was when a "materially altering" term was added to the contract without the party's express awareness.

33. This is a more "charitable" reading, *if*—as seems right to me for most cases—it is a worse misjudgment to misinterpret an informal proposition into its more formal expression than it is to draw a fallacious inference from something already expressed in a relatively formal way..

principal focus: the Holmes-Dewey contention that legal argument *never* has deductive structure. If that claim is correct, then the apparent flaws in the *Joyner* and *Trans-Aire* courts' analyses actually might not be flawed at all. But they are, and the Dewey-Holmes argument is itself demonstrably flawed as well.

II. HOLMES, DEWEY, AND "DEFEASIBILITY ANTI-DEDUCTIVISM"

The core view to which I shall refer as "anti-deductivism" about legal argument is expressed in concise quotable form by Holmes and in more philosophically detailed form by John Dewey and Felix Cohen. It consists of four closely related claims:

(12) The concepts used in empirically applicable legal rules (e.g., 'contract') never come into legal argument with all their necessary and sufficient conditions built in.

There are two versions of the next claim, one broader (13), one narrower (14).

(13) Given that (12) is true, judges *always* change the logical criteria (the necessary or sufficient conditions) of those concepts in light of immediate social and political circumstance in the very act of applying the legal rules to particular cases.

(14) Given that (12) is true, judges *sometimes* change the logical criteria (the necessary or sufficient conditions) of those concepts in light of immediate social and political circumstance in the very act of applying the legal rules to particular cases

(15) All legal arguments are *defeasible*: no matter how firmly warranted a given conclusion of a legal argument may seem on the basis of one set of premises, the addition of new premises (e.g., new truths about social or political circumstance) can undermine that conclusion.

(16) Because (by definition) no defeasible argument can be deductively valid, a consequence of (13) is that *no legal arguments are deductively valid.*

For convenience, albeit certainly not for elegance, I shall refer to this congeries of closely related positions about the non-

deductive character of legal argument as "defeasibility anti-deductivism." My limited brief in this article is to discuss defeasibility anti-deductivism in four steps.

First I offer a very brief statement of the principal legal realist sources of this version of anti-deductivism.

Second I show that, in the strict version of the claim we find in John Dewey's article *Logical Method and the Law*,[34] the claim both leads its proponents into a logical dilemma and is undermined by clear counterexamples.

Third I offer an alternative view of the way in which legal rules and concepts evolve over time and show that this alternative view, which happily concedes the truth of claims (12) and (14) while also denying claims (13), (15), and (16), is both metaphysically and logically possible.

Fourth I argue that this alternative view is fully consistent with an empiricist view of the source of legal rules and legal concepts (namely, that they arise from the "positive" acts of legislative, judicial, administrative, or other legal authorities).

A. Classic statements of defeasibility anti-deductivism

Many Legal Realists offered virtually unqualified rejections of the view that legal interpretation involves deduction in any significant way. For example, in his lectures on the common law Holmes declared:

> The object of this book is to present a general view of the Common Law. To accomplish that task, other tools are needed besides logic. It is something to show that the consistency of a system requires a particular result, but it is not all. The life of the law has not been logic: it has been experience. The felt necessities of the time, the prevalent moral and political theories, intuitions of public policy, avowed or unconscious, even the prejudices which judges share with their fellow men, have had a good deal more to do than the syllogism in determining the rules by which men should be governed. The law embodies the story of a nation's development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics.[35]

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34. 10 CORNELL L.Q. 17 (1924).

35. OLIVER W. HOLMES, THE COMMON LAW 1 (Mark DeWolfe Howe ed., 1963) (1881). *See also* Holmes, *The Path of the Law*, *supra* note 1, at 466 ("[T]he logical method and form flatter that longing for certainty and for repose which is in every human mind. But certainty generally is an illusion,

Legal realist philosopher Felix Cohen sounded this same theme:

> If the doctrine of stare decisis means anything, and one can hardly maintain the contrary despite the infelicitous formulations which have been given to the doctrine, the consistency which it demands cannot be a logical consistency. The consistency in question is more akin to that quality of dough which is necessary for the fixing of a durable shape. Decisions are fluid until they are given "morals." It is often important to conserve with new obeisance the morals which lawyers and laymen have read into past decisions and in reliance upon which they have acted. We do not deny that importance when we recognize that with equal logical justification lawyers and laymen might have attached other morals to the old cases had their habits of legal classification or their general social premises been different.[36]

Generations of post-Holmesian legal academics and their students (many of whom have gone on to become lawyers and judges) have acquired the view, almost as an intellectual knee-jerk reflex, that deductive logic has very little useful role to play in legal argument. After all, no post- Holmesian post-realist denies that a very great part of the law involves *argument*. But if "the life of the law" is not logic but at the same time does inescapably involve a great deal of argument, then mustn't we conclude that "logic" has very little to do with, or anyway little of significance to do with *legal argument*? John Dewey expresses a more philosophically tight version of this view.

> Take the case of Socrates being tried before the Athenian citizens, and the thinking which had to be done to reach a decision. Certainly the issue was not whether Socrates was mortal; the point was whether this mortality would or should occur at a specified date and in a specified way. Now that is just what does not and cannot follow from a general principle or a major premise. Again to quote Justice Holmes, "General propositions do not decide concrete cases." No concrete proposition, that is to say one with material dated in time and placed in space, follows from any general statements or from any connection between them.[37]

To begin a critical assessment of this Holmes-Dewey-Cohen-Legal Realist view—"defeasibility anti-deductivism"—I shall explain two logical problems with the thesis. This seems a fair argumentative move. Although Dewey does deny that legal argument relies on deductive logic in applying rules to "concrete

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and repose is not the destiny of man. Behind the logical form lies a judgment as to the relative worth and importance of competing legislative grounds, often an inarticulate and unconscious judgment, it is true, and yet the very root and nerve of the whole proceeding.")

36. Felix S. Cohen, *The Ethical Basis of Legal Criticism*, 41 Yale L.J. 201, 216-17 (1931).

37. Dewey, *supra* note 34, at 22.

facts," he does not deny that he himself is trying to take advantage of the resources of deductive logic in supporting his claim. Indeed, within the quotation above he offers a rule: no concrete proposition . . . follows deductively from any general statements or from any connection between them. This rule seems best taken as a premise in a putatively valid deductive argument, for Dewey clearly wants the vast power of universal generalization to make his anti-deductivist point. Yet in this particular case his own use of deductive inference to support his contention about the defeasibility of legal argument leads him into at least two technical problems. The claim impales him on the horns of a dilemma and is also prey to a clear counter-example.

B. A dilemma for the defeasibility anti-deductivist

Let's again focus on Dewey's central anti-deductivist claim:

(17) No concrete proposition, that is to say one with material dated in time and placed in space, follows deductively from any general statements or from any connection between them.

Note that in restating (17) I have added to Dewey's exact quote the adverb *deductively*. That is clearly the kind of "following" he and Holmes are out to deny—Dewey would not deny that a concrete proposition[38] "follows from" general propositions in some non-deductive way, perhaps as a matter of analogy or even as a matter of Dewey's own "experimental logic."[39] I shall argue that Dewey's claim (17) "proves too much," and therefore proves not much at all. Consider these two arguments:

ARGUMENT I

(18) The Athenian state should execute within a year of trial any person convicted of disbelieving the official gods of the state.

(19) Socrates was convicted of disbelieving the official

38. There is no textual evidence to suggest that Dewey here distinguished "statements" and "propositions," though logicians sometimes offer stipulate distinctions between these terms (e.g., proposition is abstract type and statement is context-bound token).

39. *See* Dewey, *supra* note 34, at 22 ("If we trust to an experimental logic, we find general principles emerge as statements of generic ways in which it has been found helpful to treat concrete cases. The real force of the proposition that all men are mortal is found in the expectancy tables of insurance companies, which with their accompanying rates show how it is prudent and socially useful to deal with human mortality.")

gods of the state in Athens in 399 BC

Therefore,

(20) The Athenian state should execute Socrates within a year of 399 BC

ARGUMENT II

(17) No concrete proposition, that is to say one with material dated in time and placed in space, follows deductively from any general statements or from any connection between them.

(21) Proposition (20) contains material dated in time and placed in space.

(22) Proposition (20) does not follow deductively from propositions (18) and (19).

(23) If no concrete proposition follows deductively from any general proposition(s) or from any connection between them, then no concrete proposition deductively follows from some general proposition(s) or from some connection between them *at any time or at any place.*

Therefore,

(24) Proposition (20) does not follow deductively from propositions (18) and (19) in Athens in 399 BC.

Before getting to the actual dilemma that these two arguments create for Dewey's endorsement of proposition (17), I offer two important observations. The first is simply that proposition (24) surely seems to be a "concrete" proposition in Dewey's sense, since is seems to be one "dated in time and placed in space." My second observation concerns proposition (23) and is a bit more complex. Proposition (23) says that if there does not exist a concrete proposition that follows deductively from some general proposition(s) or from some connection between, then there does not exist a concrete proposition that follows deductively from some general proposition(s) or from some connection between them *at any time or at any place.*[40] Although it may not be

40. We can express the context of proposition (23) more formally:
Let predicate *F* stand for *is a concrete proposition that follows*

obvious, (23) really is just a logical consequence of the definition of the phrase "deductively valid." To say that one proposition α *does* follow deductively—i.e., *follows by a valid deductive inference*—from another proposition β is to say that there is *no possible world* (no consistent systematic assignment of truth values to the propositions) in which α is true and β is false. To say that a proposition α *does not* follow deductively—i.e., *does not follow by a valid deductive inference*—from another proposition β is to say that there is *some possible world* in which α is true and β is false. Thus if α does *not* follow by a valid deductive inference from β, it does not do so in *any* possible world. I can state the point as a meta-logical "theorem" of deductive inference, a theorem that entails (23):

> **(25) α follows by a valid deductive inference from β in *some* possible world only if α follows by a valid deductive inference from β in *every* possible world.**

What these logical convolutions show is that, as a matter of logical theory and structure, the claim that α does *not* follow by a valid deductive inference from proposition β entails the claim that there is *no* possible world in which α follows by a valid deductive inference from β. And since the actual world is a *possible* world, α does not follow by a valid deductive inference from β in that actual world either—it follows, in fact, at *no* time and in *no* place in the actual world or in any other possible world (including the possible world of 399 BC Athens).

One further point about proposition (23). Proposition (23) does in some sense "generalize" about times and places—if there exists no concrete proposition that follows deductively from any general proposition, then (here is the generalization) for *any* time or *any* place one considers, there will exist no concrete proposition that follows deductively from a general proposition at that time or at that place. Although in this way (23) generalizes, it is probably not best understood as the kind of generalization to which Dewey

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deductively from some general proposition(s) or from some connection between them

Let predicate *G* stand for *is a concrete proposition that follows deductively from some general proposition(s) or from some connection between them at some time or at some place.*

Then proposition (23) says each of the following (they are all logically equivalent):

No F are G

If anything is an F then it is not a G [i.e., (x) (Fx ⊃ - Gx)]

There does not exist anything that is both an F and a G [i.e., - (∃x) (Fx & Gx)]

refers when he mentions "general statements."[41] The paradigm case for a "general statement" in Dewey's sense, as he makes quite clear, is the "major premise" of a syllogism, like

(26) All men are mortal.[42]

By contrast, a proposition like (23) is best understood as the assertion of a logical consequence of a definition—it is more like

(27) If there does not exist a bachelor that is a married man, then there does not exist a bachelor that has gone through a legally binding marriage ceremony.

— than it is like (26). Relying on this point about (23) might make it easier for some readers to see how Dewey gets caught in a dilemma, but I do not really need it, and will show that the dilemma still works even if (23) is a "general statement" in Dewey's sense.

On then, to the next step in constructing the dilemma for Dewey. One would be inclined to think that, in Argument II, above, (24) follows deductively from (17), (21), (22), and (23),[43] in just the same way that

(28) Socrates is mortal.

follows deductively from

(26) All men are mortal.

And

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41. *See* note 38 on interchangeability of the term 'statement' and the term 'proposition.'

42. *See infra* note 43.

43. There is some slight (but I think only very slight) unclarity in Dewey's assertion that "No concrete proposition, that is to say one with material dated in time and placed in space, follows from any general statements or from any connection between them." Dewey, *supra* note 34, at 22. The "them" here must refer to a connection between a concrete proposition, on the one hand, and a general proposition, on the other, and so Dewey must be referring to standard syllogistic inferences like that of (28) from (26) and (29)—as the context in which he offers this assertion strongly suggests:

> Take the case of Socrates being tried before the Athenian citizens, and the thinking which had to be done to reach a decision. Certainly the issue was not whether Socrates was mortal; the point was whether this mortality would or should occur at a specified date and in a specified way.

Dewey, *supra* note 34, at 22.

(29) Socrates is a man.

Does Dewey's claim, summarized in proposition (17), commit him to *denying* that (24) follows deductively from (17), (21), (22), and (23)? It is by considering this question that we can see how Dewey is caught on the horns of a dilemma:

First horn: Suppose Dewey's proposition (17) does commit him to *denying* that (24) follows deductively from (17), (21), (22), and (23). If (24) does *not* follow deductively from (17), (21), (22), and (23), then the inference from (17), (21), (22), and (23), is (by definition) *defeasible in particular circumstances*, and this amounts to one of two claims, both of which undermine the force of Dewey's claim (17). I consider both of these undermining claims.

> If (24) does *not* follow deductively from (17), (21), (22), and (23), then the inference from (17), (21), (22), and (23), is (by definition) defeasible in particular circumstances, and
>
> > **(a) this amounts to the claim that (17) is not a true universal generalization.** But if (17) is not a true universal generalization, then under *some* circumstances a proposition like (20) *could* follow deductively from propositions like (18) and (19) – i.e. that there *are some legal rules that are true universal generalizations*. But this is exactly what Dewey wants to deny in (17), or
> >
> > **(b) this amounts to the claim that that the *conjunction of (17) and (23) is not a true universal generalization*.**[44] (We consider this option just in case proposition (23) is to be regarded as the kind of "general statement" to which Dewey refers in (17). For reasons offered above, proposition (23) is best thought of not as a "general statement" in Dewey's sense, but he is in a dilemma either way.) Suppose arguendo that proposition (23) is a "general statement" in Dewey's sense. Even so, it is also just a direct result of basic definitions in the theory of valid deductive inference (like the direct result of the definition of 'bachelor' in proposition (27)). To deny that (23) is a true universal generalization (if it is a

44. An argument is defeasible just when the addition of new premises to an existing set of premises undermines the degree of warrant the truth of the premises gives to the truth of the conclusion. Apart from some special "non-monotonic" deductive systems (whose structure is still very much debated by logicians and artificial intelligence theorists), valid deductive inferences, of the sort Dewey had in mind, are not defeasible.

generalization at all) would require substantial revision in the structure of predicate logic, which presumably Dewey does not intend to make. So what prevents *the conjunction of (17) and (23)* from being a true universal generalization is not (23), but is instead (17): *If (24) does not follow deductively from (17), (21), (22), and (23), then (17) is not a true universal generalization.* But, as seen in considering option (a), above, this in turn means that under *some* circumstances a proposition like (20) *could* follow deductively from propositions like (18) and (19) – i.e. that there *are some legal rules that are true universal generalizations.*

Second horn: Suppose Dewey's proposition (17) does not commit him to *denying* that (24) follows deductively from (17), (21), (22), and (23). If Dewey allows that (24) *does* follow deductively from (17), (21), (22), and (23), then here again it seems that (17) is not a true universal generalization, and thus, that under *some* circumstances a proposition like (20) *could* follow deductively from propositions like (18) and (19).

Bottom line: From a logical point of view—a point of view Dewey himself seems to adopt in articulating and defending proposition (17)—Dewey's own Holmesian assertion about the limits of deduction as applied to concrete cases undermines itself.

C. A counter-example to the defeasibility anti-deductivist claim

There is another, more straightforward logical method one can use to undermine the force of Dewey's assertion (17). This is the simple method, adored by lawyers and judges and law professors (and little statesmen and philosophers and divines), of adducing a counterexample.[45] Let "I" be the predicate, "is identical to itself at all times and in all places." Then, from the proposition

(30) Everything is identical to itself at all times and in all places.

from this one may infer, in a valid deductive inference,

(31) Caesar was identical to himself in Rome on the Ides of March.[46]

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45. Thanks to Robert Nozick for helpful discussion on this point.

46. Of course, that (31) is deductively inferable from (30) is not a special feature of the identity predicate I've constructed. Rather, that inference is just an instance of the rule of predicate calculus that licenses the inference from a universally generalizing predication to a predication of some individual.

Again, (31) seems paradigmatically "dated in time and placed in space," and it also seems to follow in a swift and clean *deductive* inference from (30). This is just a plain old-fashioned counterexample to Dewey's assertion (17). QED.

For some, the rigor of logic is too much like the rigor of mortis, and the foregoing discussion may leave those readers cold. The discussion might seem like so many technical tricks that really don't join issue with the important point that Holmes, Dewey, and others advanced. I don't see it this way—he who lives by logic.... Dewey's anti-deductivist claim lives by—gets its strength from—its force as a putatively true universal generalization about the logical relations between "concrete" and "general" propositions. Fortunately, there is another way to join issue with Dewey (Holmes, et al.), one that relies not on technical details about logical relations but instead on some fundamental features of the way language is used in context—including the context of legal argument. To join issue in this way, I shall present and defend a "punctuated deductive equilibrium" model of change in legal rules. I shall also suggest why that model can plausibly provide a better explanation of the phenomena of legal argument than does the Holmes-Dewey defeasibility model. (Again, my quite limited objective in this article is only to show the plausibility of the model I present.)

D. A "punctuated deductive equilibrium" model of the evolution of legal rules

What I shall refer to as the "punctuated deductive equilibrium" model provides an explanation of evolution in legal rules—that is, of the way in which legal rules change over time within a jurisdiction. It is the not plausibly deniable fact of evolution in legal rules in specific jurisdictions that led Holmes and Dewey and other leading realist figures to conclude that legal argument is both defeasible and, perforce, not deductive (claims (15) and (16)).[47] On the "pragmatist" view of the defeasibility anti-deductivist, legal rules are in a more or less constant state of flux, as judges, in light of ever changing social and political circumstance—and with greater or lesser intellectual and political honesty—adjust the rules in the very process of applying them.[48]

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47. See page 23.

48. This "realist" view of the evolution of legal rules is concisely articulated by Edward Levi (himself not a full blooded legal realist, but a sometime fellow traveler):

> [I]t cannot be said that the legal process is the application of known rules to diverse facts .... The kind of reasoning involved in the legal process is one in which the classification changes as the classification is

In this section I want to present another model of legal-rule evolution, and show that the model is logically (and perforce metaphysically) *possible*. To be sure, mere logical possibility—the possibility of the truth of all of the model's propositions in some one possible world—is a weak criterion. I believe, but I shall leave for elsewhere, the important additional demonstration that this model is not only *possible*, but that it is *plausible*, and fully consistent with what we know about our actual world (including of course facts about legal systems and the nature or legal argument), and offers the best explanation of those actual facts about this world and the legal arguments constructed within it. This is of course a tall order. Here I chew a much smaller mouthful, and begin that larger intellectual mastication by providing a logically possible explanatory model of legal argument that can compete with the "constant flux" model defended by Dewey and other like-minded "defeasibility anti-deductivists."

Let us recall that by 'rule' I mean a proposition, possibly internally complex, whose logical structure is reflected in a conditional proposition of the form *If* α *then* β (in propositional logic) or *For all* δ, *if* δ *is a* Φ *then* δ *is a* Θ (in first order predicate logic).[49] The punctuated deductive equilibrium model is perhaps most easily explained with some simple heuristic examples. I begin with a purely abstract example just to display the basic structure of the model. I then follow with examples that are perhaps more accessible, including one example of change in legal rules in a Supreme Court decision.

First the abstract hypothetical example. Consider a regime of rules in which the following occurs. At time T_1 it is established that

(32) All F are G

("all things that are F are G") is true. At time T_2, it is established that

(33) Some F are H

and

(34) No H is G

("some things that are F are H" and "no things that are H are G") are both true. (32), (33), and (34) form an inconsistent set of

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made. The rules change as the rules are applied.
E. LEVI, INTRODUCTION TO LEGAL REASONING 3-4 (1949).

49. See page 14.

propositions, that is, there is no possible world in which all three propositions are true. We have at least three explanatory options if we were to try to explain what has happened in the transition from time T_1 to time T_2.

Option 1: We say that, in light of the fact that (33) and (34) came to be established as truths, we should revise (32) in the following way. We should give up the view held at time T_1 that (32) was true (was a true universal generalization about all members of the F category), and, in light of the new information provided by (33), and (34), say that actually, *even at time T_1*, only a logically weaker version of (32) was true, namely,

(35) Some F are G

("some things that are F are also G").

Option 2: We say that, in light of the fact that (33) and (34) came to be established as truths, we should revise (32) in the following way. We should say that, at time T_2, what is true is the *logically narrower* proposition

(36) All F that are not also H are G

("all things that are F and are not also H are G"). A crucial difference in Option 2 is that we come to hold **(36)** true *without also saying that (32) was not true at time T_1*. Instead, we allow that (32) *was* true at time T_1 and that **(36)** is true at time T_2.

Option 3: We say that all three propositions, (32), (33), and (34), are true at time T_2 (we are here not concerned about time T_1). This means that our total set of propositions is inconsistent (there is no possible world in which all three propositions are true), which among other things means that *every* (well formed) proposition follows validly from the conjunction of (32), (33), and (34)—including two contradictory propositions.[50]

Let's look at these three basic options for explaining rule change with a less abstract example. At some time within the

50. Thus for example we can validly infer that any individual x, which is both an F and H, *is* a G (by virtue of (32)) and that any individual x, which is both an F and H, *is not* a G (by virtue of (33) and (34)). Note that the reason for which deductively valid inferences are *indefeasible* is that even when a premise is added to a previously existing set of premises that is inconsistent with that previous set of premises, no valid inference from the previous set of premises can be undermined, simply because the new, internally inconsistent set of premises permits a valid inference of *every* conclusion. This is what is happening, from a logical point of view, in Option 3.

past two decades, the National Basketball Association ("NBA") adopted a new rule for the scoring of "field goals." A field goal is an in-bounds shot made during regular play (a shot is made when the ball goes through the hoop), not during time-out, not during time for foul shots, etc. Before the adoption of the new rule, every field goal was worth exactly two points. Under the new rule, a field goal shot from a certain specified perimeter distance *beyond* the basket is worth exactly three points. The perimeter area is marked by a clearly visible line on the court (call this the "three point boundary"), so that players and spectators and referees can fairly easily determine which shots were taken from beyond the perimeter (though of course there would be some "vague shots," namely, those shots in which is was not clear whether the player was outside of the perimeter). Let us call time T_1 the time before this new rule was adopted, i.e., the time at which this proposition was true in the "jurisdiction" of the NBA:

(37) All field goals are to be scored at exactly 2 points.

Let us refer to time T_2 as the time after which the new rule was adopted, i.e., the time at which this proposition was true in the "jurisdiction" of the NBA:

(38) All field goals shot from beyond the three point boundary are to be scored at exactly 3 points.

Once again, there are at least three options for explaining the change in rules from T_1 to T_2.

Option 1: We say that, in light of the fact that (38) came to be established as a truth in the NBA regime, we should revise (37). We should give up the view held at time T_1 that (37) was true (that is, that it was a true universal generalization about the scoring value of all field goals), and, in light of the new information provided by (38), say that actually, *even at time* T_1, only a logically weaker version of (37) was true, namely,

(39) Some field goals are to be scored at exactly 2 points.

Option 2: We say that, in light of the fact that (38) came to be established as true in the NBA regime, we should revise (37) in the following way. We should say that, at time T_2, what is true is the *logically narrower* proposition:

(40) All field goals shot from within the three point boundary are to be scored at exactly 2 points, and

all field goals shot from beyond the three point boundary are to be scored at exactly 3 points.

Once again, a critical difference in Option 2 is that we come to hold (40) true *without also saying that* (37) *was not true at time* T_1. Instead, we allow that (37) was true at time T_1 *and* that (40) is true at time T_2.

Option 3: We say that both propositions are true at time T_2 (we are here not concerned about time T_1). This again would mean that our total set of propositions is inconsistent, and would allow for one and the same shot (one taken from beyond the three point boundary) to be scored at exactly three points and also to be scored at exactly two points.

Here's the payoff of these two examples. If applied to the NBA example, the Holmes-Dewey defeasibility theses (expressed as (15) and (16) above)[51] is committed to Option 1 as an explanation of the change in rules, while the deductive punctuated equilibrium model is committed to Option 2. Notice that, as a matter of educated intuition, the Holmes-Dewey option seems rather unpromising as an explanation of the change in the NBA rules. Should we really say that *now* (our current period is within time T_2) the three-point rule (40) is defeasible, simply because the authorized NBA rule makers might modify it some time in the future? That is, must we *deny* that we can *deduce* that any particular shot taken from beyond the three point boundary is worth exactly three points?

E. Punctuated deductive equilibrium as a logical and metaphysical possibility

I want now to highlight one feature of the deductive punctuated equilibrium model that I have suggested but not emphasized in the previous section. Consider a range of time periods, T_1, T_2, T_3, . . . T_n, over which the deductively applicable "official" rules of some rule system (rules whose role as part of the system of rules is determined by a "rule of recognition"[52]) change. Consider also the *total* set of deductively applicable official rules that are in force at *some* time or other, Ti, within the range T_1, T_2, T_3, . . . T_n—call this total set of rules 'Δ'. Under the deductive punctuated equilibrium model of rule change, even when Δ contains *logically inconsistent* officially adopted rules (rules whose application yields deductively inconsistent propositions[53]), it is still

51. *See* discussion *supra* p. 23.

52. *See* H.L.A. HART, THE CONCEPT OF LAW, chs. 5 and 6 (2d ed. 1994) *See also* text accompanying note 55.

53. On the concept of "application" of a rule, see section A(1).

logically possible (and perforce metaphysically possible) for the rules officially adopted at some particular time period T_i to be both deductively applicable and internally consistent. Moreover, putting this point in Dewey's terms, it is logically possible for the rules officially adopted at some time period T_i to yield both *deductively valid inferences of concrete propositions from general ones* and to be internally consistent. This, for example, is the situation with the change in rules from times T_1 to T_2 in the NBA "3-point" example in the previous section. There is thus nothing logically impossible asserted or presupposed or implied by the model of deductive punctuated equilibrium *per se*, for the simple reason that there is no general logical problem with creating a set of constitutive rules for a game like basketball or chess, and then changing that set of constitutive rules. The deductive punctuated equilibrium model of rule change simply says that the rules in the game at time T_1 can be deductively applicable at that time even when they are inconsistent with the rules of the "evolved" game at time T_2. (Note also that there is no logical impossibility in having a "true" predicate, which likewise involves change over time, though it presents problems for the explanation of induction.) Similarly, we can recognize the existence of a logically possible world in which a rule α is true at time T_1 but not at time T_2, while a different rule, inconsistent with rule α, is true at time T_2.

Problems of logical possibility do not attach to this model of rule change. Instead, they typically arise because there is some problem *within the rules of the rule system itself.* [54] Within a regime of officially adopted rules there should be no logical problem as long as the rules governing the making and changing rules do not permit inconsistent rules to be authorized in the given regime. Hart refers to these as "secondary rules."[55] Such rules determine and guide who it is that has the power to make and change rules, what kinds of constraints are there on the content of rules, and so on. Indeed, one of Lon Fuller's many enduring contributions to legal theory is his observation that rule of law values forbid, among others, the adoption and enforcement of *contradictory* legal rules.[56]

What is the significance of this for my larger argument against defeasibility anti-deductivism? It is relevant and useful in

54. To take one example, consider the rules of "Whose Meaning Prevails" in the RESTATEMENT (SECOND) § 202. *See supra* note 17. Unless one adds to this rule the additional rule "whoever actually knows the meaning of the other party also has reason to know the meaning of the other party," this rule can yield inconsistent outcomes in the case in which party A has reason to know but does not actually know the competing meaning attached by party B and party B *actually knows but does not have reason to know* the competing meaning attached by party A.

55. *See* HART, *supra* note 52.

56. *See* LON L. FULLER, THE MORALITY OF LAW 111-13.

two ways. First, it is true that to show mere logical possibility is not to show much. But since nothing can be actual without being possible, it helps to see that the deductive punctuated equilibrium model of change in rules is logically (and perforce metaphysically) possible, because it helps prepare the intellectual ground for an additional argument (beyond my scope in this article) that deductive punctuated equilibrium is the best model for explaining many changes in legal rules in actual-world legal systems.

Second, showing that the deductive punctuated equilibrium model is logically possible helps to emphasize a way in which Dewey's version of the defeasibility argument is misdirected. Dewey presents that argument as a *logically necessary truth* about the logical relations between general propositions and concrete ones—namely, that the latter type of proposition cannot follow deductively from the former type. I have already argued that this leads him into a dilemma and yields at least one clear counter-example.[57] The real force, and the real support for Dewey's position must come not from its claims of metaphysical or logical necessity but rather from its claims about the *contingent* facts of legal rules and legal systems and legal officials in the actual world. Dewey would have been better advised to defend, not proposition

> **(17) No concrete proposition, that is to say one with material dated in time and placed in space, follows deductively from any general statements or from any connection between them.**

— but rather a proposition something like this:

> **(41) In *actual legal systems*, judges and lawyers do not offer deductive arguments when they apply legal rules to legal cases.**

To be sure, a proposition like (41) would be hard to defend and would need a good deal of qualification before it was even plausible. Still, it does seem to me that the real energy and plausibility of the Holmes-Dewey-Cohen view comes not in contentions about logical relations (between concrete and general propositions), but rather in contentions about *how the language of legal argument operates in the actual contextual settings in which legal arguments are constructed and offered*. I therefore want to shift my focus a bit. I still want to defend the punctuated deductive equilibrium model of legal-rule change, but I want to do so by moving just a small step beyond showing the model is

57. *See supra* section II. B.

logically possible. I want to sketch an argument that it also is a plausible explanatory model of the *contextual* use of legal arguments and legal rules in the actual world.

F. "Deductive opacity," contingency, and necessity in legal argument

Whatever its strongest form, the basic defeasibility anti-deductivist view raises the following question: is there some feature of the *actual world* that makes the deductive punctuated equilibrium model explanatorily implausible for the actual world of legal systems and legal rules? I believe, and shall argue, not.

Most, if not all of the force of the defeasibility anti-deductivist view comes from its focus on the *source* of legal rules in the actual world. Perhaps the most significant feature of legal realist legal theory (taking Holmes and Dewey as leading representatives) is its vigorous rejection of any "tender minded"[58] metaphysical view (often labeled "natural law") according to which legal rules are timeless eternal truths in some kind of Platonic heaven of legal concepts. The legal realists emphasized (as is characteristic of legal positivist views generally) that the source of legal rules is human agents, acting more or less in concert, in particular circumstances, reacting to specific, earthly, earthy, concrete, nitty-gritty needs and beliefs, always having in mind particular goals (not to mention hopes, fears, dreams, aspirations, and desires) sometimes more, often less than fully consciously. Generalizations about how such rules would be molded in light of particular circumstances, these scholars believed, could at best be said to be *contingent probabilistic predictions*—indeed, this was the source for Holmes' famous assertion (later picked up by Llewellyn, Felix Cohen, and other realists) that what it meant to talk about "law" was to talk about "prophecies" of actions by legal officials.[59] It is this underlying view about the source of legal rules that led them to highlight the fact of change in legal rules and to conclude from facts about change in rules that legal arguments could not properly be explained as deductions.

Dewey, Holmes, and generations of succeeding legal academics believe that given the merely human, contingent, empirical source of these rules only a defeasibility anti-deductivist model of legal argument is plausible. Perhaps their strongest evidence for this belief comes in their focus on the nature of legal

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58. *See* William James, *The Present Dilemma in Philosophy,* in PRAGMATISM AND OTHER ESSAYS (1963).

59. *See* Holmes, *The Path of the Law, supra* note 1; KARL LLEWELLYN, THE BRAMBLE BUSH (1930); Felix S. Cohen, *Transcendental Nonsense and the Functional Approach*, 35 COLUM. L. REV. 809 (1935). On the "prediction thesis" as a complete theory of law, see Brewer, *Jurisprudence of Logical Form*, supra note 3.

change: if rules are in a process of more frequent flux, those rules cannot be said to be deductively applicable. Instead, in their view the addition of new information about the world (taking the form of new factual or theoretical premises) often undermines the force of prior arguments. Thus consider what would seem to be a fair interpretive reconstruction of an argument in a contracts case, in which proposition

> **(42) Unless there is fraud or duress or mutual mistake, every party who signs a contract is to be held to its terms.**

serves as the "major premise" of a legal syllogism, perhaps completed by the addition of

> **(43) Eurice signed the contract and there was no fraud, duress, or mutual mistake.**

Therefore

> **(44) Eurice is to be held to its terms.**[60]

The omnipresent possibility of *change* in a legal rule like (42) is very salient for a theorist who endorses the defeasibility anti-deductivist model. Such a theorist keeps firmly in view the fact (I concede that this is a fact) that, in light of new empirical information, whether about the nature of persons who might be affected by rule (42) or about broader theoretical knowledge of the world, or both, a future judge may well modify premise (and rule) (42). Suppose for example that the person to whom "duty to read" rule (42) is to be applied in a given case does not speak the language in which the document he signed was written. A judge faced with deciding such a case and also faced with an authoritative precedent in which (42) had been stated and applied by its terms, might still modify (42) so as to have it apply only to persons who spoke the language of the document they signed.[61] Moreover, even if the later judge did not modify (42) in this or some other way, he always (according to the defeasibilist) has the option of doing so, and the very having of that option is enough to prevent (42) from being a true, deductively applicable, universal generalization.[62] Thus, because of the ever present possibility that

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60. *See* Ray v. William G. Eurice & Bros., Inc., 93 A.2d 272 (Md. 1952)

61. The process here would most likely be reasoning by disanalogy. *See* Scott Brewer, *Exemplary Reasoning: Semantics, Pragmatics, and the Rational Force of Legal Argument by Analogy,* 109 HARV. L. REV. 925, 1017-21(1996).

62. This is a point emphasized by Felix Cohen. *See* text at note 36. *See also* Cohen, *supra* note 36 at 217:

a judge will choose *not* to treat two distinct fact patterns (parties, etc.) as "the same" for purposes of legal argument, no rule like (42) can be regarded as a true deductively applicable universal generalization—so concludes the defeasibility anti-deductivist.

Dewey, Holmes, Cohen and their followers misunderstand the consequences of an empiricist view about the source of legal rules and misjudge the significance of the fact of legal rule change. I shall conclude my defense of the "punctuated deductive equilibrium" model's plausibility by defending two related claims. First, it does *not* follow that, because the source of a set of rules (legal or otherwise) is contingent that those rules cannot yield valid deductive (and thus indefeasible) arguments. It does not follow that, because those rules can and do change that they cannot yield deductively valid arguments. To explain these two closely related claims, I shall borrow and slightly modify a thought experiment offered by philosopher Zeno Vendler to illustrate the coordinate roles of necessary and contingent statements in linguistics and philosophy of language.[63]

Suppose an anthropologist sets out to study the social behavior of a tribe previously unknown to him. He manages to "go native" enough to learn the tribe's language. While living in the tribe, he discovers that many of its members routinely congregate around two people who sit on either side of a square board marked by sixty-four one-inch squares, alternately colored white and black with no two contiguous squares having the same color. The two people move shaped figurines on this board, sometimes for several hours, while other members of the tribe look on with rapt attentiveness, nods that seem like approval, and mutterings that sound like expressions of admiration. Having discerned this much, the anthropologist tries to explain what these two people seated on either side of the board are doing and what the activity's social significance is. After a great deal of study, querying both tribe members he has seen moving the figurines on such boards and tribe members he has seen looking on, the anthropologist eventually figures out that these people are playing what *we* now recognize as the game of chess, an activity hitherto unknown to

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The question before the judge is, "Granted that there are differences between the cited precedent and the case at bar, and assuming that the decision in the earlier case was a desirable one, is it desirable to attach legal weight to any of the factual differences between the instant case and the earlier one?" Obviously this is an ethical question. Should a rich woman accused of larceny receive the same treatment as a poor woman? . . . . Neither the ringing hexameters of *Barbara Celarent* nor the logic machine of Jevons nor the true-false patterns of Wittgenstein will produce answers to these questions.

63. *See* Z. Vendler, *Linguistics and the A Priori*, *in* LINGUISTICS IN PHILOSOPHY 1-32 (1967). *See also* Black, *Necessary Statements and Rules*, 66 PHILOSOPHICAL REV. 313-341 (1958).

the anthropologist. Through his careful observations and confirming and disconfirming queries, the anthropologist discerns (what we recognize as) the *rules* of chess, along with the distinctions among the different chess pieces, the distinction (by color) of one opponent's pieces from the other's, and the moves that each piece is permitted to make.

Discerning the "rules of chess" in this way means discerning *which conditional propositions are true within the official "regime" of chess.*[64] Suppose further that, in the course of discerning the rules, the anthropologist "does the math" (as it were), and determines that the following proposition is true *under those rules*:

> **(45) Whenever two pawns of the same color stand on the same column, and the rules have been fully observed, one of them must have taken an opposing piece in a previous move.**

What is the status of a proposition like (45)? To understand its status we must be very clear about a crucial distinction: the distinction between *discerning what the rules are* and *discerning what propositions are true under the rules, once the rules have been discerned.* If the anthropologist is still unsure (or not sufficiently sure) that he knows what are the officially recognized rules that constitute the activity (game) he has been observing and trying to explain, he might articulate (speak or write) (45) as a contingent, empirical, probabilistic proposition: "Based on what I've seen so far, it seems *very likely* that this is a true proposition under the officially recognized rules." But once he is convinced that he does know what the rules are, his articulation of (45) is no longer (or anyway is much less likely to be) best understood, either by him or by some other interpreter, as a contingent, probabilistic statement. In this latter circumstance the proposition is better taken as a *conceptually necessary truth* about the operation of the rules. That is, once he has worked out, on the basis of *empirical investigation*, what the rules are, he can go on to work out all kinds of necessary consequences of that set of rules, considered as an abstract logical structure. *That these are the rules of the game played in this tribe* is contingently true. Statements of certain conceptual relations among the rules, such as (45), are *necessarily* true.

Assume now that the anthropologist occupies our actual world (surely some process like this actually took place in the cultural transmission of some games) and notice the way in which the example illustrates how there can be a wholly coherent blend of contingent and necessary truths about the game, from different

64. For the concept of an officially adopted rule, see HART, *supra* note 52.

perspectives. Among the *contingent propositions* that are true in the actual world are: that the names of the pieces were chosen as they were in their original language (i.e., whatever the original language's terms are for 'pawn', 'knight', 'bishop', etc.); that *these rules came to be adopted as the authoritative rules of this game*; that those persons in the community who came to have the authority to create the game and modify its rules *did* come to have that authority. All of those *contingent* facts (and a great many, indeed an indefinite number more) had to be in place (i.e., true) in the actual world in order for propositions about the consequences of the rules (also indefinite in number), like (45), to be *necessarily* true.

As this anthropology-chess example clearly (I hope) illustrates, a system of deductively applicable rules that yields indefinitely many necessary truths can have a contingent and empirically discoverable provenance. Indeed, in relying so heavily on the fact of the contingent source of legal rules to maintain that legal argument is not deductive (i.e., is defeasible), Dewey, Holmes and others seem to have overlooked a very common reasoning practice that reflects exactly this distinction between the deductive structure of a rule system and its contingent origin. I shall refer to this phenomenon as *deductive opacity*. Consider the standard syllogistic chestnut

(26) All men are mortal.

(29) Socrates is a man.

Therefore

(28) Socrates is mortal.

What is the logical status of proposition (26)? Virtually every writer who adduces this deduction treats (26) as a true universal generalization and thus as a proposition fully capable of yielding deductively valid (and perforce indefeasible) conclusions. (Indeed, Dewey himself clearly invokes it as an example of indefeasible inference in the course of articulating and defending his defeasibility thesis.[65]) But most of these writers would also not deny that the *truth* of (26) can be established only by specific *empirical* facts, so that, from the point of view of empirical science, the *warrant* for (26) is merely probabilistic and inductive. (26) can serve as the major premise in this standard "Darii" syllogism because of the "deductive opacity" of (26): *in the context of drawing inferences from* (26), it is treated as if it is a true universal

65. *See* text at note 37.

generalization. In such contexts, for context-driven purposes, (26) *is* a true universal generalization and its ("merely") probabilistic, inductive origin is hidden—it is *opaque* for those argumentative purposes. Reasoners across the many domains of reasoning, including empirical scientists, deploy this practice, which depends on making and maintaining a clear distinction between the original warrant for a proposition and its current logical structure (e.g., universal generalization or instantiation, existential generalization or instantiation).

The nineteenth century German legal historiographer Frederick von Savigny understood and emphasized this point about the deductive opacity of legal rules in actual legal systems. (Much of what is overstated or misconceived in Holmes' anti-deductivist view of legal argument could have been avoided had he been more attentive to Savigny's teachings.) It was Savigny's closely related insight about the distinction between the *provenance* of a rule system and its *logical structure* that led Savigny to argue that *historically contingent legal systems* could be understood very much in the way that we understand the anthropologist's empirical discovery of the rules of chess in a tribe. Discussing "the origin of positive law," Savigny explains that, throughout history:

> the law will be found to have a fixed character, peculiar to the people, like their language, manners, and constitution. Nay these phenomena have no separate existence, they are but the particular faculties and tendencies of an individual people, inseparably united in nature. . . . Law grows with the growth, and strengthens with the strength of the people, and finally dies away as the nation looses its nationality.[66]

Savigny saw too that recognizing the intensely local, historical, culturally specific provenance of the rules of legal systems is wholly consistent with essaying to study and organize the rules thus empirically discovered into a logically coherent conceptual system, a system that permits—to use Dewey's terms—the deductive inference of "concrete" propositions from general ones. Indeed, effecting just this kind of conceptual organization was, on Savigny's view, one of the principle tasks for the jurist who would legislate or otherwise seek to codify law:

> Law . . . has a twofold life; first, as part of the aggregate existence of the community, which it does not cease to be; and, secondly, as a distinct branch of knowledge in the hands of the jurists . . . . [W]e call . . . the connection of law with the general existence of the people —the political element; and the distinct scientific existence of law—the technical element.

66. K. F. VON SAVIGNY, OF THE VOCATION OF OUR AGE FOR LEGISLATION AND JURISPRUDENCE 24 (Abraham Hayward trans., 1975) (1831).

. . .

> In every triangle, . . . there are certain data, *from the relations of which all the rest are necessarily deduced*: thus, given two sides and the included angle, the whole triangle is given. In like manner, every part of our law has points by which the rest may be given: these may be termed the leading axioms. *To distinguish these, and deduce from them the internal connection, and the precise degree of affinity which subsist [sic] between all juridical notions and rules,* is amongst the most difficult problems of jurisprudence. Indeed, it is peculiarly this which gives our labors the scientific character.[67]

From their very different vantage points, both Vendler (the chess-anthropology example) and Savigny support the punctuated deductive equilibrium model of the change in legal rules against the kind of defeasibility challenge leveled by Holmes, Dewey, and others. Equipped with this model, one can for example explain exactly what the problem is in cases like *Joyner* and *Trans-Aire* (both discussed above). Recall that in *Joyner* the court seemed to believe that its "re-restatement" of the terms of a *Restatement (Second) of Contracts* rule regarding Whose Meaning Prevails stated a rule that was identical, though phrased differently.[68] What is *contingently* true, and what is *necessarily* true in my assertions about the court's reasoning? It is contingently true that the authors of the *Restatement (Second) of Contracts* chose the exact terms they did choose for their rule 201(2). It is contingently true that the *Joyner* court (apparently) sought to adopt that rule as an authoritative rule for its jurisdiction. It is contingently true that the *Joyner* court mistakenly concluded that its effort at restating *Restatement* rule 201(2) was identical to the Restatement rule itself. What is necessarily true is that the *Joyner* court's stated version of the rule and argument proceeding therefrom—an *enthymeme* that needed to be interpreted, to be sure, as I did in my discussion above—is *not* identical to the *Restatement (Second)* version.[69] These kinds of observations about the consequences of and relations among empirically discoverable legal rules are statements of logical necessity. It's not "false necessity." It's just necessity.

I hasten to add that nothing in the punctuated deductive equilibrium model or its supporting arguments is committed to maintaining that legal rules are "gapless," or that there are never any conflicts among rules, or that there are no ambiguities or vaguenesses within the rules. Moreover, nothing in the model or

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67. VON SAVIGNY, *supra* note 66, at 38-39 (emphasis added). *See also* M. H. Hoeflich, *Law and Geometry: Legal Science from Leibniz to Langdell*, 30 AM. J. LEGAL HIST. 95, 107-08 (1986).

68. *See supra* section I. A.

69. Again, see section I. A. for the concept of the "identity" of a rule.

its supporting arguments requires or even suggests that the mode of reasoning judges and others use to close gaps, eliminate or resolve ambiguities, conflicts, and vaguenesses, is always deductive (though it is perhaps overlooked that sometimes such resolutions are deductive—e.g., default rules that are deductively applicable). Very often, perhaps most often, legal reasoners close such gaps and resolve such conflicts among rules with the aid of reflective adjustment of rules and outcomes, through the rational instrument of reasoning by analogy or disanalogy.[70] The crucial point for my purposes here is that, however the gaps (etc.) are closed, they are closed by effecting some change in the logical criteria (necessary or sufficient conditions) of an existing legal rule, or by the adoption of a new rule, or both. That kind of change can be plausibly (indeed, I believe, *fully*) explained by the punctuated deductive equilibrium model of the evolution of legal rules, as long as one attends to the distinction between the (empirical) provenance of a legal rule and its logical structure *for the purpose of argument*. In this way, a proper understanding of *deductive opacity* and the closely related distinction between the provenance and the logical structure of rules systems provide strong support for the punctuated deductive equilibrium model and strongly undermine the defeasibility anti-deduction model.

Time for a quick look back over recently traveled terrain. In the immediately foregoing sections my response to defeasibility anti-deductivism has had elements of offense and defense, thrust and parry, sword and shield. I have presented the punctuated deductive equilibrium model of the evolution of legal rules as an alternative to the defeasibility anti-deductivist model. I have also argued that this alternative model is fully consistent with an empiricist view (which I endorse) of the source of legal rules and legal concepts. I hope I've also shown that, from a metaphysical and logical point of view, not all legal arguments need be explained as inevitably defeasible and, perforce, non-deductive. The offensive (in one sense only, I hope), swordish part of this discussion came in my suggestion that the defeasibility anti-deductivist position relies heavily on a failure to keep separate the provenance of a legal rule and its logical structure.

CONCLUSION

In many ways, throughout its practices of constructing, articulating, and applying legal rules and interpreting legal texts, "Law" needs deductive logic. Law needs deduction not just as window dressing,[71] but as the very foundation of a system whose

70. *See generally* Brewer, *Exemplary Reasoning*, *supra* note 11.

71. *See* Holmes, *The Path of the Law*, *supra* note 1, at 466 ("[l]ogical method and form flatter that longing for certainty and for repose which is in every

central rational idea is that decisions are to be made and justified on the basis of *general reasons applied to particular circumstances*. But for the reign of various overlapping forms of anti-deductivism in American jurisprudence and legal pedagogy, one would have thought this much could "go without saying." It hasn't gone that way, so I say it now: logic, including but not limited to deductive inference, is deeply and importantly relevant to legal argument and to the legal practices that are to a great extent comprised of or at least reliant on legal argument. This article has helped prepare the way for a far more detailed and robust explanation of that contention.

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human mind. But certainty is generally an illusion . . . . You can give any conclusion a logical form.") *See also* LLEWELLYN, *supra* note 59, at 3-5 ("[r]ules . . . are important so far as they help you . . . predict what judges do . . . . That is all their importance, except as pretty playthings.")