Judicial Paradoxes

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JUDICIAL PARADOXES:
META LEVEL AND OBJECT LEVEL ACTORS AND ACTIONS: SOME
THOUGHTS ON
WHAT METAMATHEMATICS CAN REVEAL ABOUT THE FORMAL
ASPECTS OF LAW

The Lawyers Paradox: Protagoras taught law to a poor student, Euathlus, under the
condition that Euathlus would repay Protagoras when the student had won his first case.
Euathlus received the training but decided to pursue a career in politics instead of law.
Protagoras sued Euathlus in court for his fee. Protagoras argued that if he were to prevail
in courts, Euathlus would have to pay since this was the subject matter of the law suit,
and if he were to lose in court, Euathlus would have won his first lawsuit, and hence by
fulfilling the condition of the original contract, Euathlus would also have to pay him;
either way Euathlus would have to pay him. However, Euathlus argued that if he were
to win then he would not have to pay Protagoras as this was the subject matter of the law
suit and that if he were to lose, he should not have to pay Protagoras because he will not
have won his first case leaving the condition in the contract unfulfilled; either way he
should not have to pay Protagoras.1

I. Introduction

Metamathematics is the metalogical study of formal systems of logic,
mathematics and set theory. Somewhat paradoxically logic itself must be
utilized in the metalanguage in order to study logic in the object language.2 The
history of metamathematics is riddled with examples in which there existed
strong presumptions about the nature of formal systems that turned out to be
surprisingly inaccurate. Several significant paradoxes3 were discovered within

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2 By object language I mean the language of the formal system itself. By
metalanguage I mean the language in which the formal system is discussed.
3 A paradox has been described as “truth standing on its head to attract attention.”
Falletta, supra note 1, at xvii.
logic, science, and mathematics that forced a reexamination of the theoretical framework.\textsuperscript{4} An examination of paradox in law could prove instructive.

In 1931 Kurt Gödel proved the Incompleteness Theorem of mathematics.\textsuperscript{5} Central to Gödel’s discovery was a method of coding metamathematical constructs from the metalanguage into the object language.\textsuperscript{6} A fascinating feature of the legal system is that the interaction between meta level\textsuperscript{7} and object level achieved only through quite ingenious means in mathematics is inherent in law through the judicial branch. Courts render metalogical judgments in cases before them and reach decisions purportedly to comply with the law under rules of logic and modes of legal interpretation. Courts are also actors within the very formal system they examine; their meta level analysis enters the object level and becomes part of the law for future courts to analyze.\textsuperscript{8} This situation renders law ripe for paradoxes.

Ronald Dworkin has contended that there is one best way for a judge to rule on a case even in hard cases.\textsuperscript{9} Dworkin’s thesis appears to be a semantic theory of judicial interpretation and not a theory of decidability.\textsuperscript{10} However, Dworkin’s thesis may be a theory of decidability for the superhuman judge.


\textsuperscript{6} \textit{See generally} ERNST NAGEL & JAMES NEWMAN, GÖDEL’S PROOF 68-84 (1958).

\textsuperscript{7} By meta level I mean the level at which an actor observes a formal system.

\textsuperscript{8} Such analysis takes place in statutory interpretation in Constitutional Law, and is not restricted to the common law.

\textsuperscript{9} RONALD DWORINK, \textit{TAKING RIGHTS SERIOUSLY} 81 (1977).

\textsuperscript{10} \textit{Id.} at 81.
Hercules, he posits. Gödel’s theorem would easily contradict a position that all law cases are decidable if it were possible to relate the metamathematical result to the language of law. An examination of paradoxes in law will reveal that Dworkin’s thesis is most likely incorrect even if it is construed as a semantic theory. A few articles have examined the relevance of Gödel’s work to the issue of determinism in law including those by John Rogers and Robert Molzon, Mark Brown and Andrew Greenberg, and Anthony D’Amoto. Brown and Greenberg try to construct a Gödelian type sentence in the language of law that is undecidable. However, the situation represented does not represent a realistic case. Rogers and Brown see the theorem as relevant to jurisprudence but minimize its impact. D’Amato contends that another theorem of

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11 Hercules does follow a methodical procedure and he does reach decisions in cases. However, “[he] works so much more quickly (and has so much more time available) that he can explore avenues and ideas they cannot.” Id. at 265.
13 Brown & Greenberg, supra note 12, at 1479.
14 Brown & Greenberg construct the proposition: “‘yields a statement for which the law does not compel a finding that is true, when appended to its quotation’ yields a statement for which the law does not compel a finding that it is true, when appended to its quotation.” Id., at 1479.
15 Rogers & Molzon, supra note 12, 1022. “Identifying such undecidable propositions in a constitutional or other legal system cannot undermine that system, since any legal system must contain rules that cannot be determined to be the law or not to be the law.” They cite the Vienna Convention on the Law of Treaties article 53 as example of an undecidable proposition. A treaty is void if it conflicts with a peremptory norm of international law. The rule is contained within a treaty so perhaps it violates a peremptory norm. Id., at 1015. However, perhaps it does not, and this seems a flaw in the analysis.
metamathematics and First Order Logic\textsuperscript{16}, the Lowenheim-Skolem theorem, proves undecidability in law, but his contention as stated can easily be shown to be inaccurate. \textsuperscript{17} Nonetheless I believe the implications of the Godel’s theorem by way of analogy are broad and highly applicable to real cases in the law. In order to see this one should focus on the methodology utilized in achieving the result rather than on the technical nature of the result itself.

Law indeed has aspects of a formal system. Supreme Court decisions generally contain legal arguments that attempt to establish through logically valid means a deduction of the decision from the formal axioms that constitute “the law” and the Court’s prior interpretations about the law (theorems of the law). This paper will contend that the methodology of legal systems contribute to numerous paradoxes involving judges who analyze the legal system itself. An examination of law from a metamathematical perspective and an exploration of

\textsuperscript{16} Quantificational logic where the variables range over the universe of elements in a model. See generally \textsc{Herbert Enderton}, \textit{A Mathematical Introduction to Logic} 30-35 (2001).

\textsuperscript{17} The Lowenheim-Skolem Theorem is a model theoretic result that shows that a mathematical infinite structure \(M\) both is elementarily embeddable in structures of arbitrary large infinite cardinalities (Upward Lowenheim-Skolem) and may also contain elementary substructures of the cardinality of the language (Downward Lowenheim-Skolem) (in many instances the cardinality of the language is countable). See \textsc{C.C. Chang \& H. Jerome Keisler}, \textit{Model Theory} 66-67 (1990).

However, the theory of algebraically closed fields of characteristic zero is a decidable theory because it is \(k\)-categorical for uncountable cardinals (all models of size \(k\) are isomorphic when \(k\) is uncountable and the Lowenheim-Skolem theorem is actually helpful in demonstrating decidability in this context since it can show that an individual model is elementarily equivalent to a model of size \(k\) and hence satisfies the same sentences as the \(k\)-sized model, and by the Los-Vaught Test the theory is decidable. Also the theory of real closed fields is decidable and it admits models of arbitrarily large cardinalities. The fact that a theory may have models of different cardinalities does not mean that the theory is incomplete, because in First Order logic, uncountability is not definable in the language. See generally \textsc{Enderton}, \textit{supra}, note 16, at 151-58 (2001).

Furthermore, if the language of law is Second Order logic (allowing for the quantification over properties) or higher, the Lowenheim-Skolem could not even apply because the theorem does not hold in higher order logics. See generally also \textit{id.} at 285.
the paradoxes can shed light on our jurisprudence; it can elucidate many important aspects of the methodology of judicial interpretation and suggest ways for improving the formal aspects of legal systems. These paradoxes must be taken into account within legal methodology in order to strengthen the formal underpinnings of law, to render a legal system consistent and more uniform.

Significant types of meta and object level interactions exist in law relevant to jurisprudence that are sometimes paradoxical in nature. I define a judicial paradox to be a paradox that arises when an action taken by a court alters the legal-logical environment in which a case occurs in such a way that the decision rendered by the court runs contrary to the principles utilized in reaching the decision as applied to the altered environment or as applied to an embedding of the legal system in a larger normative framework. First I will give a brief overview of the history of metamathematics and set theory. I will next illustrate types of judicial paradoxes that bear some similarity to Gödel’s construction because of the particular type of meta level and object level interaction. I will then discuss areas where other judicial paradoxes arise that involve self reference or references to the legal system taken as a totality that bear similarities to paradoxes in set theory. In the last part I will examine the methodology of judicial interpretation and inquire whether law can become a more effective formal system and at the same time accommodate natural law principles. In conclusion I will suggest ways in which legal methodology might be improved given the paradoxes and the dilemmas they impose on a theory of judicial interpretation.

II. A Brief History of the Study of Formal Systems
Gottlob Frege’s work, the Begriffsschrift, is widely credited for launching modern logic.\textsuperscript{18} In 1901 Bertrand Russell discovered a paradox\textsuperscript{19} that invalidated part of Frege’s system.\textsuperscript{20} Russell saw the vicious circle principle as being the key to such a paradox: “No totality can contain members defined in terms of itself.”\textsuperscript{21} Russell developed a theory of types to combat the paradox.\textsuperscript{22} The theory arguably did not eliminate all the paradoxes and was not without controversial aspects.\textsuperscript{23} Subsequent efforts to eliminate paradox by mathematicians such as Ernst Zermelo and Abraham Fraenkel ultimately led to the development of modern set theory.\textsuperscript{24} At the turn of the twentieth century

\textsuperscript{18} Frege wrote the Begriffsschrift in 1879. He analyzed propositions in terms of functions and arguments and developed a theory of quantification and derivations based on syntax. See Frege, the Begriffsschrift, a Formula Language, Modeled upon that of Arithmetic, for Pure Thought, in FROM FREGE TO GÖDEL 1-82 (Van Heijenoort, ed., 1967).

\textsuperscript{19} If a set of all sets existed, and a set could be formed from any open formula by quantifying over the free variable in the formula, the following could take place. Let V = the set of all sets. Let $\psi(x)$ represent ‘x does not belong to x’ and let W denote the set obtained by quantifying over the free variable, $W = \{x \in V: x \notin x\}$ where ‘$\notin$’ denotes the set membership relation. W is the set of all sets who are not members of themselves. Now consider whether W belongs to itself. If it does, then it does not by virtue of membership, and if does not then it does by virtue of non membership. See Bertrand Russell, Letter to Frege (June 16, 1902) in FROM FREGE TO GÖDEL 124 (Van Heijenoort ed. 1967).

\textsuperscript{20} Irving Copi, THE LOGICAL THEORY OF TYPES 19 (1971). Frege admitted that the paradox “shook the foundations” of his work.

\textsuperscript{21} Bertrand Russell, The Theory of Types, in FROM FREGE TO GÖDEL 163 (Van Heijenoort ed. 1967).

\textsuperscript{22} Variables are restricted to range over specific totalities, such as individuals, (type 0) or classes of individuals (type 1), or classes of classes of individuals (type 2), etc; Russell developed both a simple theory of types and a ramified theory of types. See Copi, supra note 14, at 21.

\textsuperscript{23} See CHARLES CHIHARA, ONTOLOGY AND THE VICIOUS CIRCLE PRINCIPLE 44-59 (1973).

David Hilbert conjectured that mathematics was a finitistic syntactic exercise. Most leading mathematicians during the early twentieth century believed in Hilbert’s program, a doctrine that implied that if a machine were given axioms about arithmetic, rules of logic, and inference rules, the machine should be able to derive all truths about arithmetic if it ran forever. Gödel’s discovery, a true but formally undecidable formula, blew up the mathematical universe in 1931. Even a computer programmed with recursive axioms for arithmetic and logical inference rules and allowed to run forever could not decide all arithmetic statements. Gödel achieved this result in part by an ingenious method of coding which allowed him to create an interaction between the object language and the metalanguage, through which he could discuss meta level notions in the object language itself. The Fixed Point Lemma provides a form of self reference

26 Gödel, supra note 5, at 582.
27 Under Church’s thesis, a collection of axioms is recursive if there is an effective procedure to decide what is an axiom. See generally ROBERT SOARE, RECURSIVELY ENUMERABLE SETS AND DEGREES 14-18 (1980).
28 In arithmetic a statement such as \( \forall x \exists y (y = x + 1) \), which says that every natural number has a successor, is a object language statement. The statement , ‘\( \forall x \exists y (y = x + 1) \)’ is derivable from the axioms of arithmetic’ is a metalanguage statement. It is a part of our conclusions from reasoning about the formal system. Similarly ‘Congress shall make no law respecting an establishment of religion or prohibiting the free exercise thereof’ is a formal object language statement in the law; it is part of our Constitution. When we ask ‘Is it consistent with Establishment clause jurisprudence for a City Council to begin legislative meetings with a native Hawaiian Oli that contains religious language?’ we are asking a metalevel question in the metalanguage.
29 Let sub\((x,x)\) refer to the formula resulting from a substitution of the numeral for \( x \) for the free variable in the formula coded by \( x \). The formula ‘There is no proof from the axioms of sub\((x,x)\)’ has a code, call it \( n \). Substitute \( n \) itself in for \( x \), and the resulting formula ‘there is no proof from the axioms of sub\((n,n)\)’ is self referential and formally undecidable. See E.g., ERNST NAGEL & JAMES NEWMAN, GÖDEL’S PROOF 87-93 (1958).
30 The Fixed Point Lemma states that for any predicate \( \psi \), there is a sentence \( \sigma \), such that \( \sigma \) is true if and only if \( \psi([\sigma]) \) (where \( [\sigma] \) is the code of \( \sigma \)). See ENDERTON, supra note 16, at 234.
through the Gödel coding. Through the Fixed Point Lemma paradoxical forms
similar to the Liar Paradox can be encapsulated. Gödel could not construct the
Liar Paradox itself as Tarski’s theorem tells us that truth itself is not definable.
However he recognized that meta level talk about provability could be encoded in
the object system, so he was able to create the fixed point of ‘I am not provable’
(‘I’ refers to the entire formula.)

In set theory, The Continuum Hypothesis (CH), has baffled mathematicians for years. CH was considered for many years to be decidable from the axioms of Zermelo- Fraenkel Set Theory (ZFC) with the Axiom of Choice, even though a proof of its truth or falsity eluded some of the greatest mathematicians. CH is the conjecture that the size of the reals represents the next largest infinite cardinality. It is a question that intuitively seems well formed enough that it should have an answer. Gödel showed that CH was consistent with ZFC. However, through use of a novel technique called Forcing, Paul Cohen

31 The Liar Paradox concerns statements of the form ‘This sentence is false’ where ‘This sentence’ refers to the entire statement ‘This statement is false.’ See generally ABRAHAM FRAENKEL & YEHOSHUA BAR-HILLEL, FOUNDATIONS OF SET THEORY 11 (1958).
32 Tarski’s theorem demonstrates that there is no truth predicate, such that \( \Phi(\sigma) \) if and only if ‘\( \sigma \) is true’. See Enderton, supra note 16, at 236.
33 If the fixed point were provable, it would be true and hence not provable, a contradiction. If its negation were provable then it would be provable, providing a contradiction as well.
34 Mathematicians know there exists a hierarchy of infinite cardinalities. The size of the real numbers is strictly greater than that of the natural numbers even though the natural numbers are an infinite collection. The Continuum Hypothesis, CH, states that the size of reals is aleph one, \( 2^\alpha = \aleph_1 \). In other words there is no infinite cardinality between the infinite cardinality of the naturals and the greater infinite cardinality of the Reals. See generally KENNETH KUNEN, SET THEORY 32 (1980).
35 Georg Cantor is credited with being the father of modern set theory. He worked on the Continuum Hypothesis throughout his life.
36 Gödel constructed a model, L, called the constructible universe, by utilizing the definable power set operation. L is a model of ZF and CH. See Kunen, supra note 34, 165-175.
demonstrated that there was a model for ZFC and the negation of CH. Thus Cohen was able to show CH was formally undecidable from the axioms of set theory. 37 The reasons for the independence of CH appear different from that of the formula devised by Gödel; it has less to do with the interaction of meta and object level than the fact CH lies outside the essential reach of the axiom system. Both the indeterminacy of the fixed point of ‘I am provable’ in Godel’s proof and the independence of the Continuum Hypothesis are powerful examples of undecidability in the history of formal systems that expose the determinacy claim about law38 as somewhat naïve.

III. Judicial Paradoxes Related to the Fixed Point Lemma and the Gödel Incompleteness Theorem:

Given the unique interaction in law between meta and object levels through the judiciary, fixed points of certain predicates that could create judicial paradoxes are most likely abundant. Because of this interaction, a meta level decision by a court can violate the very principle that is at the heart of decision. The actions of courts at the meta level of a hearing can also influence the facts of the object level or alter the environment in which an object level fact takes place.

A. The State Action Paradox: Meta Level Decisions Violate Principles on Which They Are Based

*Shelley v. Kraemer*39 has been called “one of the most controversial and problematic decisions in all of constitutional law.”40 The Shelleys were African

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37 PAUL COHEN, SET THEORY AND THE CONTINUUM HYPOTHESIS 113-127 (1966). The result is a relative consistency result. See generally Kunen, *supra* note 34, 184-86.
38 Dworkin contends that each legal problem has one and only one lawful outcome (*noted in* BARAK, JUDICIAL DISCRETION 10 (1989)).
39 334 U.S. 1 (1948).
Americans who bought a house from Fitzgerald. There was a racially restrictive covenant in the neighborhood relating to the occupancy of the property. Kraemer brought suit to enforce the covenant and the state court of Missouri granted relief to Kraemer. The U.S. Supreme Court decided that securing the covenant through judicial enforcement implicated state action and that, in turn, triggered the Fourteenth Amendment. Was it the state court decision that provided state action or the mechanism of judicial enforcement? Little clarification as to what was at the heart of the decision was forthcoming. Little clarification as to what was at the heart of the decision was forthcoming. Are meta level decisions state actions? For the purposes of a hypothetical, let us imagine at the time of Shelley, Fitzgerald did not want to sell to Shelley on the basis of racism. At that time a private actor could discriminate on racial grounds and prevent someone from obtaining property, but a state actor could not discriminate. State court decisions are state actions, so if a state court decided that a plaintiff might be prevented from obtaining property because of a private act of discrimination, the very metalogical decision would become a state object level action preventing the plaintiff from obtaining property because of the dual role of the court as a decision maker and as an actor within the formal object system. A court would be deciding a case based on a principle in which the very act of deciding violated the principle. Professor Herbert Weschler thinks that the Court should not hold that

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the Fourteenth Amendment prevents the state from enforcing private
discrimination in all cases. Professor Louis Pollak suggests that *Shelley v. Kraemer* should apply only to the enforcement by the court of a discrimination when the owner does not wish to discriminate. However, a fix is not so easy because the Court stumbled into an area of judicial paradox that undergirds the notion of state action. Professor Erwin Chemerinsky notes that if you take *Shelley v. Kraemer* to its logical conclusion, you can transform all private conduct into state action: any time a private person violates rights, someone can seek a case in court. If the court dismisses the case, the judicial action triggers the Fourteenth Amendment, as it constitutes state action. Professor Martin Schwartz agrees that there is state action anytime a judge dismisses a case against a private individual for lack of state action.

The Court has not really understood how to deal with this paradox in part because of a failure to investigate the Court’s own nature and methodology. This failure has led to a confusing and contradictory theory of state and private action. In *Evans v. Newton*, the Court ruled that it was unconstitutional to enforce the provisions of a will that conveyed property to a city for a park “for

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43 Id. at 476.
44 Id. at 478.
45 An example of why paradoxical constructions are difficult to overcome in metamathematics might be instructive. Even if one were to add the formally undecidable statement that Godel discovered to the axioms of arithmetic to insulate them from the undecidability result, new constructions generating undecidability in similar fashion would become available. Such a process is in fact endless.
47 Id. at 791.
whites only.” In *Evans v. Abney*, the Court sustained the Supreme Court of Georgia decision that granted a reversion to the heirs of the testator. The Court did not view enforcement of a reversionary clause as state action. In *Evans v. Newton* the same will devised to the city of Macon, Georgia land to be used as a park but for whites only. The city became the trustee and after an initial period of segregation opened up the park to all races on the basis that it was unconstitutional to segregate within a public facility. Individual members of the board of managers brought suit in Georgia state court requesting that the city be removed as a trustee and that the court appoint new trustees. The city resigned as the trustee, and the state court appointed three new trustees. The majority in *Evans v. Newton* concluded that the services provided by a park to the public are traditionally municipal in nature. “A park,.., is more like a fire department or police department that traditionally serves the community.” The dissent by Harlan argued that the court was applying the public function theory of *Marsh v. Alabama* to the “inscrutable” *Shelley*. Justice Black also dissented and pointed out that the Court was claiming federal power to reverse the Supreme Court of Georgia for affirming a Georgia trial courts’ decree that did only two things: accept the resignation of the City as a trustee and appoint new trustees. In

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51 *Newton*, 38 U.S. at 302.
52 The public function theory in *Marsh* rested on the notion that a privately owned town could not deny constitutional protections to citizens on its “public streets,” (the streets implicated a public function).
54 *Newton*, 38 U.S. at 321.
55 *Id.* at 312.
Black’s opinion the State Supreme Court should be able to “control and limit the scope and effect of Georgia trial court decrees relating to Georgia wills creating Georgia trusts of Georgia property.” So how was a constitutional issue reached? “If the Court is holding that a State is without these powers, it is certainly a drastic departure from settled constitutional doctrine and a vastly important one, which I cannot refrain from saying, deserves a clearer explication than it is given.” State action essentially was effectuated by the transfer of trusteeship from the state actor to a private actor. There was no direction given to alter the desegregated status of the park, but the transfer to new trustees might be used for that purpose. The possible meta level motives of the board members instigating the court case implicitly entered into judicial evaluation of the object level facts by the court.

It is not possible to square the decision in Newton with the Court’s subsequent decision about the same will in Abney. The new majority utilized Black’s dissenting view in Newton that the state court was simply applying state law regarding the appointment of trustees. The Court now argued that “the question then properly before the Georgia Supreme Court was whether as a matter of state law the doctrine of cy pres should be applied to prevent the trust itself from failing,” and that, “[i]t bears repeating that our holding today reaffirms the traditional role of the States in determining whether or not to apply their cy pres

56 Id. at 312.
57 Id. at 313.
58 Cy pres allows a court to carry out the general charitable intent of the testator in a situation where the particular scheme is impossible. See Evans v. Abney, 396 U.S. 435, 441(1970).
59 Id. at 440.
doctrines to particular trusts.”  The Court found state action in *Newton* by implying that the city remained in control of the management of the park despite the record to the contrary. “If the municipality remains entwined in the management or control of the park, it remains subject to the restraints of the Fourteenth Amendment.”  Justice White’s concurrence noted that it was “evident that the record does not show continued involvement of the city in the operation of the park.”  If the Court in *Newton* believed that “once the tradition of municipal control had become firmly established” so that a state court action could not “transfer this park from the public to the private sector,” the Court’s conclusion that there was no state action with respect to the reversion in *Abney* seems incongruous at best. Furthermore, what the Court did in *Abney* was to set up another apparent standard in the state action maze. The majority stated that “there is not the slightest indication that any of the judges involved were motivated by racial animus or discriminatory intent of any sort in construing and enforcing,..., [the] will.” The state court’s decision in *Shelley* created the state action, and it certainly was not said to be based on the intent of the judges. If the intent of the meta level judge now had become a determinative or even a relevant issue, how is that intent determined?

In a confrontation with the state action paradox again the Court tried to thread a line of logic where none existed is *Flagg Brothers, Inc. v. Brooks*. New

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60 *Id.* at 447.
61 *Newton*, at 301.
62 *Id.* at 304.
63 *Id.* at 301.
64 *Abney*, 396 U.S. at 445.
York’s Uniform Commercial Code authorized a warehouseman to sell an individual’s stored goods for nonpayment of storage charges. The warehouseman’s sale in the context of the statute was said to not trigger state action. The Court suggested a distinction between compulsion and permission. However, the execution of a lien is a traditional state function, and state action has been recognized when there has been a delegation by the state of a traditional function. Justice Stevens argued in dissent that the *Fuentes v. Shevin* result clashed directly with *Flagg Brothers* in that the statutes in question “[abdicated] effective state control over state power.” “The very defect that made the statutes in *Shevin* and *North Georgia Finishing* unconstitutional—lack of state control—is under today’s decision, the factor that precludes constitutional review of the state statute. The Due Process Clause cannot command such incongruous results.” His dissent made its most provocative challenge when he claimed that “the power to order legally binding surrenders of property and the constitutional restrictions on that power are necessary correlatives in our system. In effect, today’s decision allows the State to divorce these two elements by the simple expedient of transferring the implementation of its policy to private parties.”

An additional theoretical problem for the Court lurks within the definition of state action in the *Lugar Test*. A private party will be held to be a state actor if the right or privilege exercised has its source in state power, and if

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66 *Id.* at 164.
67 *407 U.S.* 67 (1972)
69 *436 U.S.* 149, 175.
70 *Id.* at 179.
the party could fairly be described as a state actor. Hence, state action is defined in terms of itself. The definition of state action is impredicative, the type of definition Russell tried to avoid in order to remove paradoxes in set theory. The only way to construe this legal definition without circularity is to see the first ‘state action’ as the formal one and the second reference to ‘state action’ as something that is already understood. The Court displayed a similarly confusing use of language in *Ex parte Young* in which a state official’s action was state action for the purposes of the Fourteenth Amendment while the state official was not a state actor for the purposes of the Eleventh Amendment.

The *Lugar* decision conflicts with the decision in *Flagg Brothers*. Truck owner Lugar was indebted to his supplier, Edmondson Oil. In analogous fashion to the action taken by Flagg Brothers, Edmondson Oil obtained a prejudgment attachment of Lugar’s property in accordance with a Virginia statute. Lugar brought a § 1983 civil rights action against Edmondson. Both the District Court and the Fourth Circuit of Appeals dismissed Lugar’s claim because Edmonson Oil’s action was not a state action. The Supreme Court reversed. Edmondson’s ability to secure the prejudgment attachment arose from “a right or privilege having its source in state authority.” Furthermore, Edmonson Oil could be considered to be a state actor because it participated jointly with state officials in

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72 In mathematics recursive definitions involve self reference. However, the recursive definition can be understood because there is a base case. For example, the factorial function is defined recursively. 0! = 1 and n! = n·(n-1)!. See generally HAROLD ABELSON & GERALD JAY SUSSMAN WITH JULIE SUSSMAN, STRUCTURE AND INTERPRETATIONS OF COMPUTER PROGRAMS 31-32(2nd ed. 1996).


74 209 U.S. 123 (1908).

75 *Id.* at 159.

76 *Lugar*, at 939.
the execution of the procedural aspects of the statute. If Edmonson is a state actor why should Flagg Brothers be considered to not be a state actor? The Court has continued to vacillate on the theory of state action.77

The *Shelley v. Kraemer* paradox surrounding state action bears some similarity to the Lawyers Paradox. What generates the Lawyers Paradox is that a condition in a contract involving a metalogical action by a court becomes the object of study by a court. Similarly a definition of state action that can involve metalogical decisions by courts themselves is being interpreted by a court in relation to object level facts.78

The state action within *NY Times v. Sullivan*79 is also highly circular. An individual is suing a newspaper. The individual wins in Alabama state court, and the jury awards him a half million dollars. The state action is said to occur because a state court is allowing the state libel laws to be applied. The involvement of a court in a dispute between private actors transforms the dispute into state action. Tribe considers the circularity in *Sullivan* to be less

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77 The Supreme Court recently retreated to the *Shelley v. Kraemer* paradigm in *BMW of North America v. Gore*, 517 U.S. 559 (1996), when it held that a “grossly excessive” punitive damage award was unconstitutional in violation of the due process clause of the Fourteenth Amendment. The Court in *Gore* implicitly held that the civil jury award entered into judgment by the trial judge created a state action that triggered the Fourteenth Amendment.

78 Another example of this type of paradox is found in Lanham Act and trademark infringement: Courts have reasoned that the protection of free speech does not apply to the parodist because the action of the trademark owner to enjoin the parodist’s use of the mark is an individual action and not a state action. However, when a court renders such a decision to enforce the private right of action it becomes a state action, precisely because the meta level court examining the law is also an actor within the formal object level and its decision interferes with that object level. See Robert J. Shaughnessy, *Trademark Parody: A Fair Use and First Amendment Analysis*, 72 VA. L. REV. 1079, 1109 (1986).

79 403 U.S. 713 (1971).
controversial than the circularity is in Shelley because the imposition of procedural limitations on state defamation recovery is mandated by the First Amendment principles relevant to the action.\textsuperscript{80} The failure to uphold the implicit procedural limitations constituted state action. Tribe cleverly converts the inaction of the Alabama state court into the state action.

Is state inaction state action? Wisconsin’s failure to act to prevent the brutal beating of a defenseless child in \textit{DeShaney v. Winnebago}\textsuperscript{81} was not considered state action. Tribe argues that a post Newtonian model of understanding the law would reveal that by creating a system that outlawed private invasions into the home of an imperiled child, the state sent an invitation to the citizenry to depend on itself for protection; the subsequent failure to afford such protection thus should be state action that violated the Fourteenth Amendment.\textsuperscript{82} However, in Rehnquist’s view for the majority the Fourteenth Amendment does not require the state to protect the life and liberty of its citizens from private actors. It only limits the power of the state to act.\textsuperscript{83} Nonetheless, Wisconsin had engaged the apparatus of the state within its child abuse programs, and that apparatus created public expectations. How can the decisions made by the government apparatus that result in such horror be deemed non state actions merely because the decision (an action) was that of non intervention? “Tragically \textit{DeShaney} exemplifies the moral

\begin{thebibliography}{9}
\bibitem{81} 489 U.S. 189 (1989).
\bibitem{83} \textit{DeShaney}, at 195.
\end{thebibliography}
obtuseness in legal thinking.”84 Blackmun sees formalistic legal reasoning as the culprit in the majority’s decision.85 However, the culprit is not formalistic legal reasoning per se, but rather formalistic legal reasoning done poorly. If the Department of Social Services of Wisconsin had sent a message in the mail to Mr. DeShaney that stated: “The state invites you to beat your son to a pulp. We will not intervene because we are dispassionate observers of private actors,” this presumably would have been state action. But did not Mr. DeShaney receive essentially this message without an actual letter?

Neither a Newtonian nor post-Newtonian model can accommodate all compelling moral issues in law. Any legal formalism that does not incorporate a moral component is inadequate. Legal machinations are meaningless when juxtaposed to the enormity of tragedy found in a brain damaged child whose stolen life could have been replete with dreams instead of murky nightmares.

B. A Paradox of Procedure: Meta Level Actions Influence the Object Level Facts and Hence Judicial Decisions.

The Supreme Court in Bush v. Gore86 caused a delay in Florida’s ability to have its election decided within the Safe Harbor provisions by ordering that the counting of the vote be stopped in order to conduct legal proceedings that took several days, only then to base its final decision in part on the fact that it was now too late to allow counting to continue!87 The Court’s actions at the meta level

85 DeShaney, at 212.
87 Id. at 100. The Florida Supreme Court on December 8, 2000 ordered that counting should resume. On December 9, the United States Supreme Court granted an emergency
taken to observe the object level facts influenced the nature of those facts. The Court also assumed that the counting could not be finished before December 18, the date set for the meeting of electors. Justice Ginsburg stated, “the Court’s conclusion that a constitutionally adequate recount is impractical is a prophecy the Court’s own judgment will not allow to be tested.”

*Bush v. Gore* is also a good example of the paradox entailed when a metalogical decision violates the principle on which it is based. The Court appealed to Equal Protection in its decision; ballots could not be counted because if two similarly constituted ballots were viewed differently by different counties, Equal Protection would be violated. However, by stopping the vote, the Court violated its own theory of Equal Protection. An unambiguous ballot undetected by the computer would remain uncounted while unambiguous ballots detected by the computer had been counted. Furthermore, the certified total of votes that the Court embraced already included votes tabulated in the initial recount that had been counted with the differing substandards that the Court deemed improper. The Court has also embraced the vague standard of “beyond a reasonable doubt” that is interpreted differently by different juries and not held such a standard to violate Equal Protection because of a lack of uniformity. Could the Court have ordered a common sense solution? Could all the votes have just been counted including overvotes even though Gore had not requested this? If the case could have been recognized as undecidable, the meta rules of a more extensive formal

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88 Id., at 135.
89 Id., at 144.
90 Id., at 125.
system might have been able to take this into consideration and allowed for a more active and constructive approach.


Are meta statements distinguishable from object statements? In Valentine v. Chrestensen, a man had purchased a former Navy submarine and printed handbills advertising that visitors could “See how men live in a Hell Diver.” He was informed by police that he could not distribute commercial handbills or other advertising material in a public place because of New York’s Sanitary code. Chrestensen could distribute leaflets that contained public protests, however, so he printed new double sided bills: one side containing his original advertisement and the second side containing a protest of the City’s refusal to let him dock his submarine at Battery Park. The Supreme Court decided that “[T]he Constitution imposes no restraint on government as respects purely commercial advertising.” Yet a significant judicial paradox is lurking. If the Court holds that an actor’s expression or conduct is unprotected by the First Amendment, and the actor subsequently engages in the expression or conduct, it is possible to argue that the same speech after the decision functions as a meta statement protesting against that decision, and hence it should be protected as political speech under the First Amendment. The subtleties in the Valentine case seem to have been overlooked. If Chrestensen had not altered the bill, an argument could have been made that any subsequent advertisement for the submarine was symbolic political speech.

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91 316 U.S. 52 (1942).
92 Id., at 55.
protesting the Federal Court of Appeals decision. In fact there was an argument that the entire two sided bill was symbolic speech where the words of protest were themselves a part of the complete symbol protesting the decision at the meta level.

A New Hampshire case, *Wooley v. Maynard,*\(^ {93}\) involved a protest against a statute that prohibited obscuring the state’s “Live Free or Die” license plate, Tribe points out that the act of not owning a license plate may be in fact a meta statement of protest at the court.\(^ {94}\) A couple who followed the Jehovah’s Witness religion obscured the license plate on their car. They objected to the motto on religious grounds. The Supreme Court decided that the statute violated the First Amendment rights of the couple. Yet the Court seemed to indicate in dicta that the obscuring of the license plate was not protected symbolic speech because the couple’s claim of symbolic expression was undermined by their suggestion to issue license plates that did not contain the motto in dispute.\(^ {95}\) Rather the Court decided that “the right of freedom of thought protected by U.S. Const. amend. I against state action includes both the right to speak freely and the right to refrain from speaking at all.”\(^ {96}\) The dissent argued that the state has not required either affirmation or rejection of the motto but only required that automobiles carry the particular license plate. The dissent agreed with the majority that the expression was not symbolic speech. If the dissenting opinion had prevailed obscuring of license plates or the refusal to use the license plate would have been transformed into symbolic political expression in the post decision environment.


\(^{94}\) Tribe, *supra* note 82, at 21.

\(^{95}\) *Maynard*, at 713.

\(^{96}\) *Id.* at 714.
Under *Spence v. Washington*, the Court’s criteria for establishing whether symbolic expression or conduct is speech under the First Amendment are the nature of the actor’s activity, the factual context, and the environment in which the expression occurred. In quantum mechanics the theory of wave particle duality is that light has both wave and particle like aspects. The scientist conducting an experiment to determine whether light is behaving as a particle or a wave collapses the Schrödinger wave function and influences the outcome of the experiment by his participation in the experiment. The speech, conduct or expression post-decision must be viewed differently from the speech, conduct or expression pre-decision. The environment in which the expression occurs has been altered by the metal level decision, and the change in the environment transforms the nature of the object level expression itself.

**IV. Self Reference, Large Totalities, Metasystems and Supersystems**

Self reference plays an important role in metamathematics and theoretical computer science. Certain types of self reference can generate paradox as in Russell’s paradox, Gödel’s formalization and Russell’s vicious circle principle. Judicial paradoxes in law can sometimes arise when a judicial

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100 Tribe, *supra* note 82, at 20 makes this point, stating “[C]ourts must take into account how the very process of legal “observation” (i.e. judging) shapes both the judges themselves and the materials being judged,” and he employs the quantum mechanics metaphor, *supra* note 82, at 19 when stating, “The deeper philosophical insight underlying the Heisenberg Principle is , of course, that the observer is never really separate from the system being studied.”
101 In recursion theory and computer science a recursive function in a functional programming language can call itself. See generally HAROLD ABELSON & GERALD JAY SUSSMAN WITH JULIE SUSSMAN, *STRUCTURE AND INTERPRETATIONS OF COMPUTER PROGRAMS* 5-17(2nd ed. 1996).
rule refers to the totality of the legal system or when legal rules are applied to themselves. What if a legislature enacts a law that undermines its own ability to repeal or alter the law? Dworkin suggests that there is no rule of recognition or secondary rule of law in Hart’s theory to respond to such a question. However, not all self-reference in metamathematics generates paradox.


In Marbury v. Madison the Court established its own ability to decide the constitutionality of statutes in its doctrine of judicial review. The Court is to decide questions of Constitutional law including the question ‘Who decides questions of Constitutional law’. A universal Turing machine can accept its own program as an argument. This acceptance does not entertain a paradox. Similarly not all fixed points created by the Fixed Point Lemma produce paradox. In this vein, Marbury v. Madison’s doctrine might not pose a paradox merely on the basis that the Court has the universal power to decide legal questions including questions about its own scope. However, a paradox may arise

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102 Rogers & Molzon, supra note 12, at 1017, (citing RONALD DWORKIN, TAKING RIGHTS SERIOUSLY 60-61 (1978))

103 The universal machine \( \Phi \) takes a program code \( e \) and an input \( n \), and it runs the program coded by \( e \) on \( n \) (denoted by \( \Phi(e, n) \)). Let \( m \) denote an arithmetical code for the pair \( <e,n> \). The universal machine too has a program itself, \( e^* \), and hence \( \Phi(e^*, m) = \Phi(e, n) \). See generally ROBERT SOARE, RECURSIVELY ENUMERABLE SETS AND DEGREES 15-19 (1980).

104 Löb’s theorem for example shows that the fixed point of ‘I am provable’ is true. M. H. Löb, Solution of a problem of Leon Henkin, 20 J. Symb. Logic, 115-18 (1955).
when the Court determines it does not have authority to hear a case in the first place but nonetheless reaches the merits. 105

While a universal Turing machine may accept its own code, there is no effective procedure to determine when a universal machine will halt on an input or diverge and go into an infinite loop. 106 Some argue that super sovereignty and survival of the state should at times permit violation of the very laws on which the state is founded. Implicitly the Constitution would contain a rule that renders constitutional protections inoperable during emergencies. Could the rule be applied to itself? While many justices have recognized that the phrase “laws of the United States” in Article VI encompasses the law of nations (customary international law) and incorporates international law into our Constitution, some have adhered to the political question doctrine that renders certain cases non-justiciable by the courts. The political question doctrine is sometimes at odds with the incorporation theory and the view that universal jurisdiction should exist for *jus cogens* human rights violations. Dworkin points out that the political question doctrine has been utilized to argue that courts should deny jurisdiction in cases that question constitutionality of the Vietnam draft. He argues that there was a strong enough argument for unconstitutionality of the draft that it should have taken precedence over the political question doctrine. Dworkin noted that both the Fifth and Fourteenth Amendments prevent unreasonable burdens placed on a

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106 The problem is referred to as the Halting Problem. Assume one can decide the Halting problem, then there is a program p such that $\Phi(p,e)$ halts if and only if $\Phi(e,e)$ does not. Will $\Phi(p,p)$ halt? It will halt if and only if it will not. Hence p can not exist. See generally Robert Soare, *Recursively Enumerable Sets and Degrees* 19 (1980).
selected class of citizens. The burdens that do not serve the public interest or are vastly disproportionate to the interest should be considered unreasonable. 107

Supreme Court of Israel Chief Justice Aharon Barak splits justiciability into two parts—normative justiciability and institutional justiciability. Barak believes that all problems are normatively justiciable in that there always exist some legal criteria to adjudicate a dispute.108 A case is not institutionally justiciable if the court is not a proper place to decide a normatively justiciable case.109 Barak believes that even in the instance of a ticking bomb, torture against suspected terrorists is illegal. 110

Supreme Court Justice Oliver Wendell Holmes compared the Constitution to an evolving being. “We must realize that they have called into life a being the development of which could not have been foreseen completely by the most gifted of its begetters. It was enough for them to realize or to hope that they had created an organism”111 In the artificial intelligence community some have argued that our ability to discover via a metamathematical argument unavailable to a computer a true but formally unprovable proposition of arithmetic is a powerful argument against the strong artificial intelligence position, Strong AI. 112 However many in the community now contend that the argument does little to

107 Ronald Dworkin, On Not Prosecuting Civil Disobedience (1968), (reprinted in JOEL FEINBERG & HYMAN GROSS, Philosophy of Law 199 (1975)).
109 Id.
110 Id. at 189.
render Strong AI untenable. Under the Strong AI hypothesis a computer could make decisions about a legal system in the way that judges do, and it could have some capacity to understand itself. It does not seem far fetched to adherents of Strong AI that the question of whether a computer could more effectively do the work of a judge someday will be part of public discourse. To what extent can a legal system be cognizant of itself or its place within an international framework?

When Harry Truman drops atomic bombs on Hiroshima and Nagasaki killing hundreds of thousands of innocent civilians who bear a spatio-temporal relationship of proximity to those who are engaged in conflict with the United States, the principle to protect innocent life so clear at the micro level of local communities becomes distorted at the macro level, and the innocent become acceptable collateral damage. As long as legal systems attempt through the political question doctrine to justify such paradoxical distortions of both logic and morality, law will display a puzzling lack of uniformity that prevents it from always seeking genuine justice. Louis Henkin sees the political question doctrine as a contrivance not mandated by Constitutional theory and based in deception.

**B. Marbury v. Madison meets Federalism—Analyzing State Metalevel Actors**

Certain totalities in set theory must be considered proper classes and not sets. A paradox known as the Bureli-Forti paradox arises if the collection of

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113 The fixed point of ‘I am not provable’ could be added to the axioms available to the computer. Another Gödel like formula would then be undecidable, but it too could be added to the axioms. Our ability to perform this activity may reach a critical limit, and so we might be no better off than the computer.


115 See generally KENNETH KUNEN, SET THEORY 10-22 (1980).
all ordinals is a set, an object of the formal system. With regard to federal habeas appeals a federal court may not overturn a state court’s erroneous application of federal law to facts unless the decision is unreasonably erroneous creates a paradoxical standard untenable from a logician’s perspective. The problem is that the standard implicitly refers to the totality of the legal system which becomes an object of study for an actor within the system. In order to implement the standard a federal court would have to be able both determine error and distinguish errors as reasonable and unreasonable. Necessarily the federal meta level actor would have to possess a complete description of the theory of law together with its modes of interpretation and some sort of fuzzy logic system imposed on the set of metalogical decision making in order to make accurate assessments. However, the system lacks any such sophistication. Some fuzzy logic systems have attempted to formalize degrees of truth, but once a proposition has been determined to be false, it seems quite a strange matter to talk about degrees of untruth! Justice O’Connor has stated that “the term unreasonable is no doubt difficult to define. That said, it is a common term in the legal world and,

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116 Any ordinal is well ordered and contains ordinals of lesser rank. If the collection of ordinals were a set, it would have an ordinal that would belong to the set of ordinals and hence have a rank less than itself. See generally FRAENKAL & BAR-HILLEL, supra note 24, at 9.


118 Logic contains valuations of sentences onto the space \{0,1\}. Fuzzy logic involves valuations of sentences onto the continuum \([0,1]\) where the output represents some probability or degree of truth. See, e.g., FUZZY LOGIC FOR THE MANAGEMENT OF UNCERTAINTY (ed. Lofti Zadeh & Janusz Kacprzyk) 74-80 (1992).
accordingly federal judges\textsuperscript{119} are familiar with its meaning.\textsuperscript{120} Perhaps it is clear in Von Jhering’s dream!\textsuperscript{121}

\textbf{C. Metalevel Actors in a System Are Object Level Actors in a Super System.}

A metasystem in logic may also become an object itself for metalogical investigation.\textsuperscript{122} At Nuremberg the decisions of judges represented criminal conduct in a larger sphere. The judgment at Nuremberg postulated that even judges who decide cases based on the positive law of their particular system can be guilty when the legal system itself is used as a weapon to commit immoral acts. The vast significance of the Nuremberg decision was in the postulation of normative universal principles of law in the area of human rights that superseded the law of an individual country when such laws conflicted with the normative principles. Furthermore, there was an inherent duty for citizens to disobey and for judges to refuse to implement such immoral laws. Primacy was placed on natural law standards and human rights. An individual when confronted by immoral laws that facilitate evil should abide by the dictates of his or her own conscience. This principle was invoked by Gandhi during his non-violent opposition to British rule in India on the grounds that Indians had a fundamental right to self determination. The legal principle was applied at Nuremberg to judges who claimed they were

\textsuperscript{119} Judge Jon O. Newman of the United States Court of Appeals for the Second Circuit told us in class that he found the statement to be quite extraordinary in light of how confusing he regards “the unreasonably erroneous” standard to be.
\textsuperscript{120} Taylor v. Williams, 529 U.S. 362, 410 (2000).
\textsuperscript{121} Felix Cohen, \textit{Transcendental Nonsense and the Functional Approach}, 24 COLUM L. REV. 809 (1935) (citing Von Jhering, Im Juristischen Begriffshimmel, in Sherz und Ernst, Der Jurisprudenz 245 (11th ed. 1912)). Von Jhering was a famous German jurist. In his dream concepts of jurisprudence were represented as pure disembodied spirits.
\textsuperscript{122} Alfred Tarski, \textit{The Semantic Conception of Truth}, 4 PHILOSOPHY AND PHENOMENOLOGICAL RESEARCH 349-52 (1944).
constrained because they operated in a system in which their only role was to interpret the legal system as it was. “[T]he prostitution of a judicial system for the accomplishment of criminal ends involves an element of evil to the State which is not found in frank atrocities which do not sully judicial robes.” 123 Hence, a judge could violate law by possibly acting legally within the confines of an immoral formal system. Such a situation would involve not only the immorality of the specific laws themselves but the immoral way in which judges might defer to the state to interpret law. “The readiness of the courts to bow to the wishes of their political masters was not limited to criminal cases and the discriminatory Race Laws.” 124 The Supreme Labor Court of the Reich actually upheld the right of an employer to fire an employee without notice if even a demonstrably false report was filed on the employee by a Nazi party official who suspected the employee of being an enemy of the state. 125

The positivist might argue that a natural law conception is too vague to count as a legal standard or that it is difficult to determine the philosophical underpinning of natural law. Professor Hart states, “Are they immutable principles which constitute the fabric of the universe, not made by man, but awaiting discovery by the human intellect? Or are they expressions of changing human attitudes, choices, demand, or feelings?” 126 Hart states that “if men were to lose to their vulnerability to each other there would vanish one obvious reason for

125 Id.
the most characteristic of law and morals: Thou shalt not kill,” as he argues for a wider concept of law which include rules that are valid by formal tests from a system of primary and secondary rules.127 Such arguments may have some force in the academic arena. It is admittedly difficult to prove a Platonic reality that delineates morality. However such academic discussions are absurd in the context of something like the Holocaust; it is not that difficult to understand that such killing and cruelty is immoral. It is essential that a legal system aspire to something higher than the validity of primary and secondary rules. Hart distinguishes justice from morality by stating that a “man guilty of gross cruelty to his child would often be judged to have done something morally wrong, bad, or even wicked or to have disregarded his moral obligation or duty to his child. But it would be strange to criticize his conduct as unjust.” 128 However it would be strange to say that a law which gives a child no rights to protect herself from an abusive parent is just. If Hart’s argument is that the word ‘just’ applies to laws as opposed to actions taken by people then it does not extend beyond a simple tautology. Furthermore, Hart’s argument suffers from the same state action paradox exemplified in DeShaney. A court’s failure to recognize its own moral obligations in situations that inexorably evoke such obligations creates injustice. Hart’s conception of justice follows an equal protection schema (“treat like cases alike” and treat “different cases differently”),129 but this should force him to appeal to some kind of natural law when establishing the equal protection criterion because he must provide some foundational grounds as to why the

127 Id. at 208.
128 Id. at 158.
129 Id. at 159.
schema is a proper way for laws to be applied. Thus he should not find it strange that there should also be natural law applied to the substance of law. Another issue for Hart should be the level of abstraction at which a case is considered to be ‘like’ or ‘different’. Gustav Radbruch, a prominent German professor, argued that morality must not be separate from law.130

A judge who votes for the constitutionality of the death penalty faces conflict with his role as an object level actor in a super system. An innocent person wrongly convicted of a crime he did not do has at least an opportunity to later prove his innocence from possible new evidence under a life sentence. While his imprisonment is an unfortunate sacrifice necessary for the overall protection of society under the schema from a utilitarian perspective, killing him when the utilitarian argument has evaporated violates the desire to protect the possible innocent defendant. Furthermore, trying him under the same standard of reasonable doubt employed for life sentences violates the moderate nonconsequentialist131 philosophy of the standard. The legal system’s lack of

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131 Tom Regan, *Meta Ethics*, in MATTERS OF LIFE AND DEATH, NEW INTRODUCTORY ESSAYS IN MORAL PHILOSOPHY 20 (1993). An implicit assumption of our jurisprudence is that the level of deprivation sought is directly proportional to the burden of proof necessary to convict. Imposition of the death penalty under the same standard of reasonable doubt implemented in life sentences is inconsistent with that assumption. The philosophical principles behind the reasonable doubt standard in criminal contexts are moderate nonconsequentialist as they include both aspects of utilitarianism and nonconsequentialism. The standard seeks to balance the need to protect society from the truly guilty and the desire to prevent an innocent person from false conviction.

In a criminal trial where the consequences of guilt are life imprisonment a standard of “absolute proof beyond any conceivable doubt” would produce near perfect protection for an innocent defendant, but society as a whole would suffer from a lack of protection against criminals who might commit further crimes against society. So utilitarianism forces a lowering of the standard. Nonetheless, a significant number of criminals can not be convicted under the reasonable doubt standard because of its high burden of proof.
internal consistency with respect to such a normative principle leads to the paradoxical world where Oklahoma officials rushed a death row inmate suffering a heart attack to the hospital to save his life so he could be executed two hours later.132 Throughout the history of the death penalty there have been innocent persons who were executed and later posthumously exonerated including those executed on “perjured testimony, fraudulent evidence, subornation of jurors, and other violations of the civil rights and liberties of the accused.”133 It is reasonably foreseeable therefore that capitol punishment will result in a number of innocent people who are executed, and it is clear that deficiencies within the society will continue to produce such results. Therefore, the federal government in imposing the death penalty recklessly causes the deaths of some innocent citizens, and thereby the government is guilty by logic of murder under the common law standard of depraved heart killing. Under the standards of Nuremberg, all those involved in both the implementation and the promotion of the death penalty are guilty including those judges who vote in favor of its constitutionality!

V. Methodological Consideration: Is Law Capable of Being a Formal System?

While a slight lowering of the standard might fit optimally in the framework of utilitarianism, its imposition would be too unjust to the possibly innocent defendant irrespective of the consequences to the general population as a whole. Thus nonconsequentialism also has a role in the standard. When the abrogation of the innocent defendant’s moral rights becomes more extreme, the standard must be raised.

Logical reasoning plays a central role in judicial opinions. Judges attempt to construct valid logical arguments when interpreting statutes or at least to construct new rules that are consistent with the current theory. However judges who examine a constitutional question within a case frequently disagree about both the decision and their modes of interpretation in reaching the decision. No meta rules or modes of judicial interpretation are provided in our Constitution in stark contrast to all formal systems of logic. In First Order Logic, for example, the list of inference rules range from those with a greater number of logical axioms and a single inference rule (modus ponens) to those having fewer axioms but a greater number of inference rules such as universal and existential instantiation and generalization. While formal systems contain fixed inference rules, numerous competing modes of legal interpretation chaotically and inconsistently pervade the landscape of judicial interpretation within the framework of constitutional theory.

When Holmes issued his famous proclamation, “The life of the Law has not been logic: it had been experience,” his justification for the statement was “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 a good deal more to do than 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 logic.

134 Quantificational logic where the variables range over the universe of elements in a model. See generally ENDERTON, supra note 16, 67-70.
A declarative theory of law, on the other hand, adheres to the position that law is indeed a formal positivist system in which the axioms of law within a Constitution determine the outcomes in cases. Both positions suggest misperceptions about the nature of formal systems. With regard to the former, an evolutive theory of law is not incompatible with formalism because law could be strengthened as a formal system by the adoption of meta rules that might allow for the very evolutionary process that Holmes advocates with respect to the interpretation of fuzzy concepts and constructs. With regard to the latter, the myth that the axioms that constitute “the Law” can decide all cases is easily exposed by looking at the history of formal systems in metamathematics that demonstrates the fallacy of such a position. Furthermore natural language systems such as law pose even more problematic philosophical dilemmas involving the philosophy of language. While formalism may have died with the rise of legal realism, it might be capable of resurrection in a manner that would make the body of legal outcomes consistent and that would accommodate natural principles.

A. The Problem of Consistency – Gödel’s Second Incompleteness Theorem

Even simple formal systems involving finite theories of arithmetic can not prove their own consistency. Gödel’s Second Incompleteness imposes a limitation on systems to prove certain things about themselves, and it represented another powerful blow to Hilbert’s philosophy of mathematics.

136 Id.

137 Gödel’s Second Incompleteness Theorem demonstrates that there is no proof of Con(T) for any consistent recursive T extending Q (a finite and essentially undecidable subtheory of Peano arithmetic). See generally ENDERTON, supra note 16, at 266-70. A consequence of this is that ¬Cont(T) and T is consistent and hence has a model M. M satisfies T but thinks T is inconsistent, “a sadly mistaken model,” according to Berkeley Professor Jack Silver during class discussion.
An inconsistent theory can derive all propositions. Let LTC represent the totality of Legal Theory as contained in the laws in the Constitution and the interpretation of those laws as articulated by the Supreme Court. LTC if taken as a formal theory would be an inconsistent one. Through confused judicial decisions LTC contains so many fallacies of logic that its credibility even if viewed as an informal or quasi formal system is greatly threatened. As an inconsistent theory LTC is capable of rendering any decision in an individual case. What prevents the law from such absurd heights is its conservative nature. Law is plastic,not infinitely plastic but not rigid. It could give rise to a repertoire of possible outcomes, but there are limits to how far it will stray. Could a fragment of LTC containing the Constitution along with some but not all doctrines established by the Court be a logically consistent theory? Consistency in the natural language context is an even more problematic notion. Some philosophers have attempted to explain consistency in terms of possible worlds, but possible worlds have been extremely difficult to define without generating paradox and without inevitably appealing to consistency in a circular fashion.

The Constitution has many tensions such as the tension between the Free Exercise Clause and the Establishment Clause within the First Amendment. However, such tensions do not inevitably imply inconsistency but rather might be part of the Constitution’s wisdom. In Employment Division, Department of

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138 Let p be a sentence. If T proves false, then since false implies p as a material condition, T proves p by modus ponens.

139 Professor Sylvia Law mentioned this in our Constitutional Law class in the Fall semester of 2006.

Human Resources v. Smith 141 Scalia claims the theory that free exercise would not protect religion from neutral laws is consistent with West Virginia State Bd. of Education v. Barnette 142 and Wisconsin v. Yoder 143 because those cases were hybrids. 144 So the balancing of the government interest versus the burden on religious practice will still take place in free exercise cases that involve other rights such as parental rights or freedom of speech. He further contends that his theory in Smith is consistent with Sherbert v. Verner 145 because Smith did not involve unemployment compensation. Here was amazing sophistry. 146 Nonetheless the attempt at consistency is what judges should attempt to do.

Implicit but unarticulated natural law philosophical principles are also embedded within the law, what Barak refers to as “the normative universe of a democracy.” 147 When such principles that form the basis for certain laws clash with legal remedies based on those laws, inconsistency exists. The only way judicial decision making within a legal system can protect itself from inconsistency is for the system to provide more formal control. There are steps legal systems can take to increase the likelihood that the totality of their theories be consistent, even if a proof of consistency is not possible because of Gödel’s Second Incompleteness Theorem. Such steps include strengthening the formalism,

142 319 U.S. 624 (1943).
143 406 U.S. 205 (1972).
144 GARRETT EPPS, TO AN UNKNOWN GOD 216 (2001).
146 Epps, supra note 144, at 220: “[H]aving forced Smith and Black to step out of the unemployment context, Scalia now, like a character in Alice in Wonderland, explained to them that they were losing because they had not stayed within it.”
introducing meta rules, carefully defining legal terms to mitigate paradox and avoid impredictivity, and paying strict attention to implicit assumptions.

B. Formalizing Justice

“Justice is the first virtue of social institutions, as truth is of systems of thought.”148 Is a notion of justice formalizable and is a legal system capable of rendering it? In our heart we know it when we see it is not easy to characterize. Dworkin views justice as part of integrity where “according to the law as integrity, propositions of law are true if they figure in or follow from the principles of justice, fairness, and procedural due process that provide the best constructive interpretation of the community’s legal practice.” 149 Dworkin postulates a judge with superhuman intellectual power and patience who accepts law as integrity.150 Hercules views integrity as cohesion of justice and fairness, and he makes judicial decisions based on political morality as a whole.151 Hercules utilizes different rules of interpretation for statutes and precedent. A statute must be interpreted so that it provides maximum political justification at the time of its enactment, whereas the interpretative rule regarding precedent considers only principles and not policies because precedents emanate principles relied upon by analogy.152 Rawls in a somewhat similar fashion attempted to articulate a theory of justice on fairness as an alternative to the utilitarian view.153

149 RONALD DWORKIN, LAW’S EMPIRE 225 (1986).
150 Id. at 229.
151 STEPHEN GUEST, RONALD DWORKIN, 45 (1997).
153 Rawls, supra note 148, at 513. The standard of beyond a reasonable doubt for criminal prosecutions is a good example as it places a premium on individual liberty and does not adhere to a strictly utilitarian theory.
Cardozo also saw a tension between opposing legal proclivities, the tendency to treat each case as part of a class of similar cases and the tendency to regard each case as unique. 154 Michael Rosenfeld sees a clash between “law’s tendency toward extralegal norms” and law’s “tendency toward legal autonomy.” 155 Procedural rules manifest the tendency toward autonomy; substantive due process rights manifest the tendency toward extralegal norms. 156 Rosenfeld’s “comprehensive pluralism” is an attempt to synthesize other conceptions of justice. 157 He separates “first-order norms” from the “second-order norms” of comprehensive pluralism; the second-order norm of achieving equality among first-order norms takes precedence over first-order norms and is utilized to perform just interpretations of law. 158

Mathematics is often mistakenly perceived as an exact science; the commonplace misconception of many is that mathematics has the very nature suggested by Hilbert’s program, despite the fact that Gödel rendered it incapable of realization. There is also a great debate in the philosophy of mathematics over

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154 BENJAMIN CARDozo, THE PARADOXES OF LEGAL SCIENCE, 8 (1928). “If we figure stability and progress as opposite poles, then at one pole we have the maxim of stare decisis and the method of decision by the tool of a deductive logic; at the other we have the method which subordinates origins to ends. The one emphasizes considerations of uniformity and symmetry, and follows fundamental conceptions to ultimate conclusions. The other gives freer play to considerations of equity and justice, and the values to society of the interests affected.”

155 MICHAEL ROSENFELD, JUST INTERPRETATIONS 110-111 (1998). “Paradoxically, contemporary law is more likely to fulfill its role by seeking to maintain an equilibrium between its conflicting tendencies than striving to minimize contradiction through a disproportionate development of one of these basic tendencies at the expense of the other.” Id. at 111.

156 Id.

157 Id. at 200-01. Such a theory bears some features of Russell’s type theory in which propositional functions that range over other propositional functions of a certain order are of a higher order.

158 Id. at 209.
the nature of objects of mathematical intuition. When Newton and Leibniz invented calculus they began from an intuition about strange new objects called infinitesimals.\(^{159}\) In 1961 Abraham Robinson surprisingly showed that the Compactness Theorem\(^{160}\) of First Order Logic could be used to formalize infinitesimals, a triumph for the position that all intuitions are ultimately formalizable in an ongoing debate. Gödel contends that “the mere psychological fact of the existence of an intuition which is sufficiently clear to produce the axioms of set theory and open series of extensions of them suffices to give meaning to the question of the truth or falsity of propositions like Cantor’s continuum hypothesis.”\(^{161}\) Intuitions such as justice within the realm of natural language may be even more elusive than intuitions of mathematical perception. Even if the notion of justice was sufficiently formalizable, the level at which the formalization take place can be problematic.\(^{162}\)

**C. Judicial Discretion**

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\(^{159}\) The derivative was originally construed as a quotient of infinitesimals. Many of the early results based on this intuition were correct; several were wrong. Later on it became necessary to use logic to establish calculus results without an appeal to infinitesimals. The epsilon-delta logical definition of a limit provided a means to capture the intuition and to generate theorems without a postulation of the existence of infinitesimals.

\(^{160}\) If every finite subset of a theory has a model then the theory has a model. Let Th(R) be the theory of the reals (the set of all formulas true under the standard model of the reals) then Th (R) ∪ (c > n; n ∈ w) is finitely satisfiable and hence has a model. This model is non Archimedean and contains an infinite element which must have a multiplicative inverse, an infinitesimal. ABRAHAM ROBINSON, NON-STANDARD ANALYSIS 13-55 (revised ed. 1996).


\(^{162}\) ROBINSON, *supra* note 160 at 13-55. Robinson showed that calculus could be done with infinitesimals, but infinitesimals are not definable in the object language. The theory of the reals admits both standard and non standard models. A model of Real Closed fields which contains infinitesimals is a nonstandard model that is not isomorphic to the standard model of the reals as it expands the reals to include non standard elements such as infinitesimals that nonetheless still obey the arithmetic laws of real closed fields.
Dworkin’s contention\textsuperscript{163} that each judicial dispute within a legal system possesses only one correct legal outcome implies that either LTC is a complete system,\textsuperscript{164} or at least has a unique intended model. The judicial paradoxes and the fuzziness of cluster concepts in the natural language suggest otherwise. Barak unlike Dworkin believes that judicial discretion exists in certain hard cases but he does not appeal to paradoxical constructions similar to those in the Godel Incompleteness Theorem or to unanticipated conjectures such as the Continuum Hypothesis that are outside the scope of the formal theory. Rather it is an assumption of his system. He also argues that Dworkin can not prove the contrary assumption.

Barak’s reasons are fivefold.\textsuperscript{165} The first is that there is not one rule of interpretation as Dworkin contends. The argument while sufficient is not necessary because even if a unique rule of interpretation existed it could not prevent undecidability. There are formal systems with only modus ponens as the fixed rule of inference that are nonetheless incomplete as Gödel demonstrated. The second justification is that a rule of interpretation would have to apply to the rule of interpretation itself, and second level interpretations to interpret rules of interpretation must also be subject to interpretation. Even so, logic is used to interpret logic, and this is not recognized as a problem for establishing soundness

\textsuperscript{163} Dworkin later creates an analogy between the act of judicial interpretation and the writing of a chain novel in which a judge has some room for creative interpretation. DWORKIN, supra note 149, at 238.

\textsuperscript{164} A theory T is complete if and only if for every sentence σ, T |- σ or T |- ¬σ (there is a proof from T of either the sentence or its negation). See generally ENDERTON, supra note 16, at 156.

\textsuperscript{165} BARAK, supra note 152, at 30-32.
of First Order Logic. The third is that conflicting principles exist in the law. Dworkin considers this statistically irrelevant. Tension alone is not sufficient to counter Dworkin’s thesis, and inconsistency of the system renders the discussion mute. The fourth is that reasonable judges disagree. That argument seems insufficient because reasonable mathematicians disagree but that does not mean that one may be proven right, as is often the case.

Dworkin’s claim does possess some validity if it is reinterpreted from a model theoretic perspective. If there is something out there called justice in a Platonic sense, then correct legal outcomes might exist even if they were not decidable by a formal system designed to capture them. Set theory suggests a parallel. We have intuitions about sets. We try to capture the set membership relation by creating axioms or rules for it. If there were a Platonic universe of sets then CH would be true or false, but our formal axiom system fails to decide the question. Gödel states that if set-theoretical theorems describe some “well determined reality” then “Cantor’s conjecture must be either true or false.” However, the history of formal systems along with Cohen’s proof of the independence of CH show that it is highly problematic for a formal axiom system to capture an intended model. Under a legal realist position law should in fact admit many non standard models that are attributable to judicial discretion. The claim that there is one best legal

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166 A formal system T is sound if any theorem of the system is satisfiable in all models that satisfy the theory. See generally ENDERTON, supra note 16, at 131.

167 Model theory is a theory about the semantics of formal systems as opposed to the syntax.


169 Barak, supra note 147, at 23. Barak states, “I reject the contention that the judge merely states the law and does not create.” Id.
outcome, even as a model theoretic claim, is on shakier ground than Gödel’s contention about CH because justice would seem to relate to the rather vague concept of fairness and would involve the adjudication of cases involving legal fictions. The semantic notion of legal truth is also problematic and differs from the formal definition in logic as truth in a model. A quasi-contract is considered to be a legal fiction, but a contract itself is a fiction as it is a legal construct. There is no rule of recognition to distinguish constitutional truth and constitutional fiction.\textsuperscript{170} Thus a semantic theory of constitutional law might resemble what Charles Chihara refers to as mythological Platonism which would reject ontological Platonism.\textsuperscript{171} Another problem for Dworkin is that the language of law contains a great deal of modal talk and may require a higher order modal logic to express it. The notion of a best possible world for judicial decisions creates paradoxical ontological commitments.\textsuperscript{172}

D. The Moral-Formal Dilemma

Robert Cover speaks of the moral-formal dilemma in which fidelity to a formal system clashed with substantive moral imperatives.\textsuperscript{173} Sometimes the Constitution may formally determine an outcome, and judges may fail to see this

\textsuperscript{171} CHARLES CHIHARA, \textit{ONTOLOGY AND THE VICIOUS CIRCLE PRINCIPLE} 61-75 (1973). Chihara rejects that the Continuum Hypothesis has an objective answer. He likens the truth or falsity of the Continuum Hypothesis to truth or falsity relative to a mythical story.\textsuperscript{172} Modal logics contain modal operators for possibility and necessity. In the applied semantics modal operators are seen as quantifications over possible worlds. Notre Dame professor Alvin Plantinga views possible worlds as maximal complete sets of propositions, but this leads to a violation of Cantor’s theorem which states that the power set of any set must have a higher cardinality. Hence, it is exceedingly difficult to define a possible world to satisfy an applied semantics. \textit{See} CHARLES CHIHARA, \textit{WORLDS OF POSSIBILITY} 125-133(1998).
\textsuperscript{173} ROBERT COVER, \textit{JUSTICE ACCUSED, ANTISLAVERY AND THE JUDICIAL PROCESS} 197-256 (1975).
because of faulty logic. At other times judges may say that they want to decide one way but that they are constrained from doing so by the law when no such constraint exists. The judges who upheld slavery argued that they were constrained by the system. “You know full well that I have ever been opposed to slavery. But I take my standard of duty as a judge from the Constitution.” As Robert Cover points out, “the judge had a tradition of half a century before him in which the application of a “natural law” in favor of liberty was, indeed, a recognized phenomenon.” The Supreme Court in the Schooner Amistad, favored the primacy of human rights over treaty law in a conflict of laws situation. The Court was able to step outside the box, see the larger picture, and grasp the moral issue at stake. The tragic irony is that the United States permitted slavery in the Southern states at the same time.

What does a legal system do about violations of rights when the legal system itself may have been thrust upon others unfairly? For example, a state cannot acquire territory by joint resolution. Hawaii was thus never acquired. No law of the United States like the joint resolution for annexation of Hawaii in 1898 can have any power over a sovereign nation, the Republic of Hawaii. Nor under Harlan’s implied treaty theory could the acquisition take place because Article 7 in the treaty makes clear that the treaty could be ratified only by a two-thirds vote

174 Robert Cover refers to this phenomenon as the “judicial can’t.” 175 COVER, supra note 173, at 119. 176 Id. at 125. 177 40 U.S. 518, (1841) 178 JORDAN PAUST, JON M. VAN DYKE, & LINDA M. MALONE, INTERNATIONAL LAW AND LITIGATION IN THE U.S. 60 (2nd ed. 2005).
of the Senate, and there was no proof of an irrevocable offer. An evolved and advanced constitution should have the capacity to make amends for its unfair imposition on a subjugated group such as native Hawaiians. In *Doe v. Kamehameha Schools*, within one of the dissenting opinions there is an example of what Robert Cover refers to as the “judicial can’t” within his theory of cognitive dissonance. “The Kamehameha Schools are admirable in many ways, and there are good historical and social reasons why reasonable people might want to follow just such a policy. But we are not free to make a social judgment about what is best for Hawaiians. We are stuck with a case that is before us in our capacity as judges and we have to follow the law.” However, the law in the area seems neither clear nor determinative. There is an exception based on a political classification that can be afforded to native Hawaiians given Hawaii’s history and the actions of Congress in recognition of that history.

The moral-formal dilemma bears a striking resemblance to the Formalism-Platonism debate in set theory. The Platonist contends that sets are real objects of intuition; the formalist views the axioms from a purely syntactic perspective. It is difficult for the Platonist to explain how we obtain knowledge of mathematical objects. The Formalist can not explain why all mathematicians see ZFC as such a desirable place to study mathematics if the system is not in some way related to

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179 Williamson Chang argued this point in Jurisprudence in Fall 2006 semester at William S. Richardson School of Law.
180 470 F.3d 827 (2006).
181 COVER, *supra* note 173, at 228.
182 *Doe v. Kamehameha Schools/Bernice Pauahi Bishop Estate*, 470 F.3d 827, 880 (9th Cir. 2006).
183 See generally KENNETH KUNEN, *SET THEORY* 6-7 (1980).
the intuitions we have about sets. Hart’s positivism sees morality as something that is outside the system. However, Fuller argues that the general hesitancy to write inhumanities into law indicates an identification of law with “those demands of morality that are the most urgent and most obviously justifiable, which no man need be ashamed to profess.” Issues of morality not only implicitly generate laws within the formal system; they exist for the judge in the super system in which he is an object level actor. Is there a meta level version of the common law defense of necessity that a judge can utilize with respect to judicial interpretation in certain instances? At what point must the formalist judge choose not to extricate himself from moral obligations in the larger universe?

E. Judicial Interpretation

A court is supposed to determine whether a statute or action is constitutional based on the law. A court can not discover what is constitutional when judges systematically alter their modes of interpretation. “How can a court have failed to agree upon a theory of interpretation?” If judicial discretion exists, what is the best mode of interpretation that a judge can use to decide a hard case? Barak states, “In interpreting such constitutions[of new democratic institutions], preference should be given to the objective purpose that reflects deeply held modern views in the movement of the legal system through history.” Barak refers to such a mode of interpretation as “purposive

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186 *Id.*, at 637.
187 Barak, *supra* note 147, at 65.
188 *Id.* at 71.
interpretation.” Barak contends that a judge can have discretion in hard cases with regard to both the application and a scope of a norm and sometimes with regard to the legal norm itself when it is open textured. He believes that there is a “zone of reasonableness” in which different judges can reach different conclusions in the hard cases provided that the judicial discretion exercised is reasonable. When should a judge overrule precedent? Barak introduces an apparent paradox that overruling precedent upsets the normative framework within which judges act by introducing chaos that conflicts with reasonable expectation, yet failure to overrule certain precedents can also upset the normative framework by not responding to the changing needs of the society.

A constitutional jurist who is an originalist believes there is an intended model for the Constitution despite the fact most formal systems fail to distinguish between intended and nonstandard models. And given the fuzzy sets within natural language, the ability of a system like law to capture an intended interpretation is more problematic because the level of abstraction at which a fuzzy construct should be interpreted is unclear. Tribe and Dorf argue that historical traditions are vulnerable to greater manipulations than legal precedents, that an originalist like Scalia shows no way to measure or determine the most specific level of abstraction under which a tradition exists, and that Scalia’s

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189 Id. at 67.
190 BARAK, supra note 152, at 16.
191 Id. at 113.
192 Id. at 237.
193 Id. at 238.
approach would abrogate a judicial responsibility to protect individual rights.\textsuperscript{194} There also is the problem of meta intention for an originalist. Even if Scalia could determine a framer’s intent for the language of a certain text in the Constitution, is there any evidence that the framer intended a judge to interpret the Constitution based on that intent? H. Jefferson Powell gives a historical argument that the meaning of original intention was very different when the Constitution was formed from how it is viewed today by originalists,\textsuperscript{195} because early interpreters only employed standard common law techniques of statutory construction.\textsuperscript{196}

Whether Barak’s well conceived purposive interpretation is ideal for a justice system is hard to say, but the form of judicial interpretation practiced by courts today is far too chaotic and produces inconsistency. Vagueness of language may allow a judge to create law, and undecidability from the inherent limitations of a formal system may provide another area for judicial creativity, but the amount of variability in selecting the mode of interpretation should not be allowed.

\textbf{VI Conclusion}

If a Constitution embodied a fixed mode of judicial interpretation formally within the meta rules\textsuperscript{197}, it could lead to more consistency within the legal system. A purposivest interpretation could be flexible enough to allow for evolution within a system and still provide judges with a measure of discretion, while also

\textsuperscript{194} LAWRENCE TRIBE & MICHAEL DORF, ON READING THE CONSTITUTION 97-117 (1991).
\textsuperscript{196} Id. at 948. Noscitur a soccis is one such example.
\textsuperscript{197} INTERPRETING STATUTES 451 ( D. Neil MacCormick and Robert Summers eds., 1991). Some states have adopted meta rules for how statutes are to be interpreted. The Model Statutory Construction Act adopted in Colorado, Iowa, and Wisconsin is one such example.
providing a stable inference rule. Meta rules guiding judicial interpretation would be extremely complex and would need to take into account the various ways legal principles are utilized. While I agree with Rosenfeld that the meta rules may include a synthesis of competing norms, I disagree with his assessment that equilibrium is more important than the minimization of contradiction. Logical contradiction is distinct from tension or competition; it impairs the inherent formalism that must be a necessary component of legal activity.

Layman Allen suggested that logical connectives should be used in statutes to reduce the chance of serious logic error both in the drafting of statutes and their interpretation. I support such an increase in formalism and would further suggest that logical syntax should additionally employ quantificational logic in order to help ensure that the system produces valid results. Higher order logics or modal logics may also be necessary. Furthermore, constitutions should articulate the philosophical grounding behind the moral principles that they articulate.

198 Joseph Raz, Legal Principles and the Limits of Law, 81 YALE L.J. 823 (1972). Raz lists five ways that principles can be used: Grounds for interpreting laws, grounds for changing laws, grounds for exceptions to laws, grounds for making new rules, and the sole ground for action in particular cases.

199 ROSENFELD, supra note 155, at 111. “Paradoxically, contemporary law is more likely to fulfill its role by seeking to maintain an equilibrium between its conflicting tendencies than striving to minimize contradiction through a disproportionate development of one of these basic tendencies at the expense of the other.”

200 LTC would undoubtedly contain temporal operators. Because of overruling LTC at time \( \alpha \) may be inconsistent with LTC at time \( \beta \) for \( \alpha \neq \beta \). However, LTC at time \( \alpha \) should be consistent for any time \( \alpha \).


202 In Second Order Logic, quantification may take place over properties; in Third Order Logic quantifications over properties of properties occur. Higher order logics lack several desirable features of logic systems such as Compactness and Lowenheim-Skolem theorems, but by appealing to a Sorted System it is possible to essentially transform higher order logics into first order logics. See generally ENDERTON supra note 16, at 295-306.
implicitly contain. A greater grounding in logic could lead to more honesty and cohesion in judicial decisions; where judges disagree they should agree on where they disagree instead of giving the impression that other viewpoints are completely at odds with logic and reason.

A type theory similar to the one used by Bertrand Russell could be used to eliminate certain paradoxes. An example of a circularity that could be rescued through a type theory is found in the Lemon Test, where monitoring might be necessary in certain circumstances to ensure that an entanglement between government and religion does not occur, but monitoring itself is entanglement.

There still will be some undecidable cases because they involve paradoxical construction. Other cases may be undecidable because they are outside the limits of the axioms or because they involve constructions mired in the vagueness of natural language concepts. This only mandates the need for existence of a trap door in the system, an exception or rule allowing judicial discretion within the meta rules to handle such predicaments. Judges should be more careful in defining terms such as ‘state action’ and ‘entanglement,’ and they should try to avoid impredicative definitions. Judges should collaborate and find the basis for the differences and be forthright about how they are creating law when they render a verdict on a case that is formally undecidable.

204 Id. at 620. An entanglement of a first type occurs when the government is involved with an organization which is behaving inappropriately with respect to the Establishment clause. An entanglement of a second type occurs when the government is monitoring religious institutions. So one could view the Supreme Court’s definition of entanglement in Lemon as a proof that when there exists a substantial risk of an entanglement of the first type the only way to prevent it would be to do monitoring, but this would be itself a second type of entanglement and hence a substantial risk of a type one entanglement is a third way to arrive at an entanglement.
Such an increase in formalism would be counterproductive if natural law and morality were kept separate from the formal system. Lon Fuller lists eight criteria that make a legal system immoral. Fuller classifies the criteria as the inner morality of law.\(^{205}\) However, these criteria have more to do with a legal system being fair and equitable. Fuller would argue in defense of the definition that secret laws which made concentration camp killing lawful under the Nazi regime, for example, could have been prevented had the legal system in Germany adhered to the criteria.\(^{206}\) Nonetheless, it is theoretically possible for a legal system to be ‘moral’ under the Fuller standard and yet be immoral under a natural law interpretation.\(^{207}\) Hence the criteria for the inner morality of law should expand to embody more moral principles.

The normative universe within a Constitution must be afforded a lofty status. The meta rules for judicial interpretation should stress that decisions of courts need to be consistent with this universe and that when judges have maneuverability within the framework of constitutional theory, they should place a primacy on such moral principles in order to do the “right thing” in sharp contrast to the “judicial can’t.” The law can not escape its inevitable appeal to formal constructions and arguments; hence there is no avenue available to law if it

\(^{205}\) Lon Fuller, *The Morality of Law* 33-95 (1964). The eight criteria are: 1) failure to achieve rules and decisions on an adhoc basis 2) a failure to publicize rules 3) the abuse of retroactive legislation, 4) failure to make rules understandable, 5) the enactment of contradictory rules, 6) rules that require conduct beyond the powers of the affected party, 7) introducing such frequent changes in the rules that the subject can not orient his action by them, and 8) a failure of congruence between the announced rules and their administration.

\(^{206}\) Lon Fuller, *Positivism and Fidelity to Law—A Reply to Professor Hart*, 71 Harv. L. Rev. 630 (1958).

\(^{207}\) The imposition of the death penalty for those guilty of murder beyond a reasonable doubt discussed earlier is one such example.
is to avoid some of the judicial paradoxes other than to follow the lead of metamathematics and set theory and strengthen the formalism. An accommodation of natural law within both the axioms and the meta rules will provide internal consistency. A formal system of this kind might be more amenable to the rule of law and to justice. A legal system should embody the principle that its heart is found in its wisdom and that its wisdom is found in its heart.