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Logic for Lawyers* 

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This part of human philosophy which regards logic is disagreeable to the taste of many, as appearing to them no more than a net and a snare of thorny subtlety.... But if we would rate things according to their real worth, the rational sciences are the keys to all the rest.

—Francis Bacon

"Contrariwise," continued Tweedledee, "if it was so, it might be, and if it were so, it would be, but as it isn't, it ain't. That's logic."

—Lewis Carroll

It is nearly an article of faith of contemporary legal thinking that the law is not logical. The law involves complex considerations of justice, history, equity, facts, social customs, and economics. It cannot, as the saying goes, be reduced to a syllogism. Greater minds than ours have echoed the famous dicta "a page of history is worth a volume of logic,"¹ and "the life of the law is not logic but experience."² As a

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¹ The actual quote is: "Upon this point a page of history is worth a volume of logic." New York Trust Co. v. Eisner, 256 U.S. 345, 349 (1921).

² O. Holmes, The Common Law 1 (1938) [hereinafter cited as Holmes]. But see E. Coke, 1 Institutes 138: "Reason is the Life of the Law." Holmes' famous quote is quite similar to Rudolf von Jhering's comments on the civil law:

This desire for logic that turns jurisprudence into legal mathematics is an error and arises from misunderstanding law. Life does not exist for the sake of concepts but concepts for the sake of life. It is not logic that is entitled to exist but what is claimed by life, by social relations, by the sense of justice—and logical necessity, or logical impossibility, is immaterial.
result, from the opening moment of law school the words "thinking like a lawyer" and "legal reasoning" are used to convey a totally unique problem solving process.

This is truly unfortunate. In the first place, legal reasoning—divorced from traditional descriptions of analysis—is very difficult to define, difficult to teach, and all but impossible for the beginner to understand. In the second place, logical analysis can provide the lawyer and the law student with tools that greatly enhance their critical and persuasive abilities. Without explanations of how these tools can be used, the quality of legal reasoning suffers.

This paper describes exactly how logic and the law can and do meet. It begins with a sort of jurisprudential digression to provide a context for the discussion of logic and legal reasoning. There is a great deal of misunderstanding in this area. Then follows a very practical description of how logic and legal reasoning relate. The emphasis is on what can be learned by first year law students in their legal methods courses, so the discussion is very straightforward and nonphilosophical. There has been enough discussion in vague philosophical terms about the role of logic in the law.3

A SHORT DIGRESSION: THE HISTORICAL BACKGROUND

A. Why Is Logic Not Taught in Law School?

The idea of teaching traditional logic to law students does not seem to be very popular. Not one current casebook on legal method, legal process, or the like contains a chapter on logic.4 Only one text on legal writing, by Brand and White, contains even a list of common informal fallacies.5 The subject seems to have been relegated to the area of jurisprudence, and even there only in vague and often depreciating generalities.6

3. See Loevinger, An Introduction to Legal Logic, 27 IND. L.J. 471, 471-82 (1952) for an excellent summary of the literature on this subject.
6. E.G., W. BISHIN & C. STONE, LAW, LANGUAGE AND ETHICS: AN INTRODUCTION TO
There seem to be two reasons for this state of affairs. First, there is a great deal of misunderstanding of what logic is all about. Most writers describe logic as if it consisted solely of Aristotelian deductions.  

Others cower at the thought of logic being comprised of useless and complicated symbolic perambulations wholly unrelated to common thought processes. Small wonder that logic is avoided in law school classrooms.

Second, there is a grand "legal realist" tradition of twentieth century jurisprudence that legal reasoning cannot be described in terms of traditional logic. Legal reasoning is thought to be sui generis, a unique form of problem solving. Holmes' comments on the role of logic in legal reasoning are well known, perhaps too much so. Other names could be added to the list: Cardozo, Stone, Frank, and Pound. All of these men have been quoted at one time or another to support the view that logic is all but useless in the legal reasoning process. The "old tradition," says Cohen, "is that law is law, and has nothing to do with any other field of human inquiry."


7. All of Holmes' remarks on logic, for example, refer solely to deduction. See text accompanying notes 24-36 infra.

8. Professor Edwin Patterson, for example, thought that traditional logic had become too "abstract and complex" to have any application in law. Patterson thought that instead of traditional logical analysis, Dewey's "instrumental logic"—which involved more psychology of problem solving than logic—was the proper scientific method to apply to legal analysis. See generally Patterson, Logic in The Law, 90 U. Pa. L. Rev. 875, 889-94 (1942).

9. In addition to the remarks quoted at notes 1 and 2 supra, there are other well known Holmesian aphorisms on logic and law. For example "[T]he whole outline of the law is the resultant of a conflict between logic and good sense . . . ." and "The law embodies the story of a nation's development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics." Holmes, supra note 2, at 5. See also Holmes, The Path of the Law, 10 Harv. L. Rev. 457, 465-66 (1897): "The language of judicial decision is mainly the language of logic. And the logical method and form flatter that longing for certainty and for repose which is in every human mind. But certainty generally is illusion, and repose is not the destiny of man . . . ."

10. See generally Hynes v. New York Central R. Co., 231 N.Y. 229, 131 N.E. 898 (1920). Cardozo, however, considered logic—or as he termed it "the method of philosophy"—to be one of several useful tools of legal problem solving. See B. Cardozo, The Nature of the Judicial Process 31-50 (1949).

11. See Stone, supra note 6, at 137-46.

12. See generally J. Frank, Law and the Modern Mind (1930) [hereinafter cited as Frank].

13. See generally Pound, Mechanical Jurisprudence, 8 Colum. L. Rev. 605 (1908) [hereinafter cited as Pound].

Aside from espousing this rather elitist perspective of our profession, critics rely on a number of weaknesses of logical method itself to support the idea that it has no value in legal inquiries. What are these shortcomings of logic? Critics have filled volumes with discussions of these points, so I will certainly not be able to give just treatment to them all, but a short summary will provide a general idea.

1. Logic is concerned with form and not with truth. Perfectly ridiculous arguments may be logically correct. The law, in contrast, is concerned with attaining justice. Logic cannot guarantee arrival at a just conclusion, only a valid one.

2. The same set of facts may yield any number of perfectly logical solutions, without giving a clue as to which alternative is the best solution.

3. The use of logic as a mode of problem solving introduces resistance to change. As Pound remarked, "The effect of all systems is apt to be petrification of the subject systematized." New approaches to problem solving are discouraged. Independence of thought becomes stifled.

4. Logic is simply not used in day-to-day judicial decision-making.

is a third reason for not teaching the basics of argument. Many teachers probably think students should have picked up this information earlier in their education. Law school, for these teachers, is no place for such basics. The same reasoning has been used to object to undue emphasis on teaching basic writing skills at the law school level. The problem, of course, is that if law schools do not teach these basics we graduate incompetents, people who can recite the elements of larceny by heart but who cannot string sentences together in clear, logical English.

There are a number of books devoted to evaluating the role of logic and legal reasoning. Most, though not all, focus on deduction and are highly critical. Probably the best is C. Morris, How Lawyers Think (1938). Others include N. McCormick, Legal Reasoning and Legal Theory (1978); M. Radin, Law as Logic and Experience (1971); R. Wasserstrom, The Judicial Decision: Toward a Theory of Legal Justification (1961) [hereinafter cited as Wasserstrom].

"Logic, in short, is concerned with implication, not with proof, and the conclusions of logic are always subject to the risk that the premises [sic] may be proved to be not true, or in the law either not true or not just." Stone, supra note 6, at 137-38. See also Frank, supra note 12, at 66; E. Patterson, Jurisprudence: Men and Ideas of the Law 24 (1953) [hereinafter cited as Patterson].

This problem was identified by Matthew Hale rather early on (1668): "[M]en agreeing in the same common notions of justice and morality often times deduce different conclusions from them, and applications to them, even although interest and partiality of mind do not interpose . . ." Quoted in Hall, supra note 6, at 342. The stinging example of this problem was delineated by Cardozo in Hynes v. New York Central R. Co., 231 N.Y. 229, 131 N.E. 898 (1920). A more contemporary and detailed analysis is presented in Hall, supra note 6, at 356-63. For that matter pick up almost any hornbook on any subject. Contradictory rules set side-by-side are commonplace.

Pound, supra note 13, at 606. Pound continues: "Perfection of scientific system and exposition tends to cut off individual initiative in the future, to stifle independent consideration of new problems and of new phases of old problems, and to impose the ideas of one generation upon another." Id. See generally Frank, supra note 12, at 67-68; Patterson, supra note 16, at 25; and Stone, supra note 5, at 142.

"The deductive theory is an inadequate, quite inaccurate account of the way in which courts really have decided cases. Courts both past and present have clearly not invoked a formal
At first blush, these may seem like weighty criticisms. Indeed, it is not hard to understand, if we do not investigate these sources further, why logic has fallen into such a state of disrepute in legal education.

B. Providing a Better Context: Why Teach Logic in Law School?

We must look closer at the reasons for avoiding logic in law school. In so doing we will find that there is a great deal of misunderstanding about the nature of logical analysis, and that many supposed critics of logic in the law actually direct their barbs, not at logic itself, but at a small portion of it, namely deduction. Furthermore, we will find that the criticisms are not designed in large measure to remove logic from legal reasoning but to remove bad logic from legal reasoning.

About the nature of logic: the term “logic” covers a multitude of proverbial sins. For centuries it referred to Aristotle's analysis by syllogism, the science of deduction. Years later, Francis Bacon and subsequently John Stuart Mill defined and expanded logic to include induction, the methods of analogy, and determination of causes. At the turn of this last century, something of a revolution in intellectual history occurred. A totally symbolic mathematical logic developed in this context. This in turn has been refined and expanded to an amazing degree by the computer revolution of the latter half of this century.

Logic, then, means syllogisms; it also means truth tables; it is modus tollens and modus ponens; it is the fallacy of the slippery slope. To say then that logic is too complicated and comprehensive a subject to teach in law school is not totally off the mark. And to remark that logic does not seem to be a practical way of defining legal reasoning is not totally inaccurate.

But we are not faced here with an all-or-nothing proposition. I am not advocating a definition of legal problems based on logic alone, or the use of complicated analytical techniques to resolve sometimes basic disputes. I am, however, saying that there are portions of this science

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procedure by which cases are adjudicated in accordance with rules; on the contrary, their methodology has been and continues to be distinctively nondeductive.” WASSERSTROM, supra note 15, at 16. See text accompanying notes 48-50 infra.

20. The classic analysis of the syllogism is found in Aristotle’s Analytica Priora. See 1 THE WORKS OF ARISTOTLE (W. Ross ed. 1928).

21. Although Mill got most of the credit, the principles of induction were not created by him. Francis Bacon two centuries earlier described in great part what became known as “Mill’s Methods.” Indeed, there is mention of induction in the writings of early Greek philosophers. Mill’s classic treatise is A SYSTEM OF LOGIC (1848) [hereinafter cited as MILL].

22. The major work in this area is A. WHITEHEAD & B. RUSSELL, PRINCIPIA MATHEMATIC (1910).

23. For a fascinating—if unorthodox—examination of formal logic, artificial intelligence, and the future, see generally D. HOFSTADER, GÖDEL, ESCHER, BACH (1980).
of logic—fairly simple portions—that can be used as tools in legal reasoning, indeed, that are used as reasoning tools on a day-to-day basis. Much of what is currently taught in logic classes is entirely too cumbersome for analysis. However, there are certain techniques, namely deduction, induction and analogy, and the avoidance of informal fallacies, that can easily be taught to first-year students, that do have a direct bearing on the legal reasoning process, and that can definitely improve the quality of reasoning and critical thinking skills exhibited by students and lawyers alike. The definitions and applications of these different logical processes are addressed later in this article. Suffice it to say at this point that there is much about legal reasoning that is quite logical, and the understanding of basic principles of logic can facilitate, to a great extent, our understanding of legal reasoning.

About the jurisprudence context and the remarks of our great legal minds: I would like to suggest that to the extent that we read the works of the likes of Holmes, Cardozo, Stone, Frank, Pound, and others as advocating a jurisprudence or a system of legal reasoning devoid of logic, we make them roll in their coffins. I think that to a great extent the reason for the absence of logic in law school is a mistaken reliance on the works and words of these men. Their writings in general, and their remarks on the role of logic in particular, must be placed in proper context.

In the nineteenth century a major upheaval occurred that shook the foundations of arts and sciences. Until approximately the midpoint of the 1800’s, intellectual thought was dominated by the idea that by deduction and deduction alone man could describe the workings of the universe. Implicit in this attitude were a couple of important assumptions. First, that all of the premises are absolute and identified; and second, that deduction provides the sole analytical tool. This traditional perspective was shattered when scientists began to realize that their self-evident assumptions were no longer so self-evident. Mathematicians discovered that the time honored postulates of Euclidean geometry comprised only one way of viewing mathematics, that, for example, perhaps parallel lines do meet somewhere. Einstein shattered...
tered common assumptions about the physical world with his now well
known theory of relativity.26 Darwin destroyed the notion of a static
environment with his theories of adaptation and natural selection.27
Nothing, it seemed, could be viewed as absolute anymore.

This revolution was not limited to the sciences. It crept into the law
as well.28 Consider this classic statement of the nineteenth century po-

cition:

Every judicial act resulting in a judgment consists of a pure deduc-
tion. The figure of its reasoning is the stating of a rule to certain
facts, a finding that the facts of the particular case are those certain
facts, and the application of the rules a logical necessity . . . . The
rule of law and its application may be reached in a thousand differ-
ent ways but a judgment of a court is always this pure deduction.29

Here, as stated for the case of nineteenth century thought in general, we
have two assumptions. First, that the premises—in this case the rules
of law—exist apart from and antecedent to the findings of facts. Sec-
ond, that once again deduction is the only applicable analytical
method. Law becomes a process of simply locating the correct preexist-
ing rule and applying it to the facts. It is not hard to understand why
Pound called this “mechanical jurisprudence.”30 It is also not hard to

26. A. EINSTEIN, RELATIVITY: THE SPECIAL AND GENERAL THEORY (1961). This volume is
supposed to be “a clear explanation that anyone can understand.” Einstein, however, overesti-
mated what “anyone” can understand. Probably a better introduction—well-illustrated and with
numerous simple examples—is E. TAYLOR & J. WHEELER, SPACETIME PHYSICS (1966).
27. See generally C. DARWIN, THE ORIGIN OF SPECIES BY MEANS OF NATURAL SELECTION
(Mod. Lib. ed. 1936). “The prestige of biology [Darwin] caused men whose thinking was influ-
enced by science to apply biological rather than mechanistic categories to the world . . . . The
conception of organism came to be thought the key to both scientific and philosophical explana-
tions of natural laws, and the atomic thinking of the eighteenth century came to be regarded as out
of date.” B. RUSSELL, A HISTORY OF WESTERN PHILOSOPHY 727 (1972).

28. “Especially in the 18th and 19th centuries many western jurists sought to make legal
reasoning conform to syllogistic logic . . . . [I]t was supposed by many that if the entire body of
law could be summarized in a set of rules, the sole remaining task of law would be to classify
particular facts under one rule or another.” BERMAN & GREINER, supra note 4, at 415. See also
BERMAN, supra at 624-27; WESSERSTROM, supra note 15, at 15.

29. Zane, German Legal Philosophy, 16 MICH. L. REV. 287, 338 (1918). See also H. SEARLES,
LOGIC AND SCIENTIFIC METHOD 306-09 (1956). Some judges actually attempted to decide their
cases on pure deduction. Consider the remarks of a Maryland judge in a nineteenth century
opinion:

Obviously a principle, if sound, ought to be applied wherever it logically leads, without
reference to ulterior results. That it may in consequence operate in some instances with
apparent or even real harshness and severity does not indicate that it is inherently
erroneous. Its consequences in special cases can never impeach its accuracy.

30. “The idea of science as a system of deductions has become obsolete and the revolution
which has taken place in other sciences in this regard must take place and is taking place in
jurisprudence also.” POUND, supra note 13, at 608.
understand the criticisms and vituperations of the great legal minds of this century when we realize that it is against this backdrop that they pronounced the limitations of logic. These fellows were merely sounding the same sorts of alarms as the non-Euclidean mathematicians, the relativistic physicists, and the Darwinian biologists did in their respective fields. First, we can no longer be assured that our premises are absolute, even accurate. That is, we cannot be confident that all the rules of law already exist. Law, like other aspects of the universe, is forever changing. To think that the law can be catalogued in a time capsule is ridiculous. Second, deduction cannot possibly therefore be the sole method of reasoning. If we cannot trust our premises then what good is the formal validity of our arguments?

It is in this historical context that we must understand Holmes, for example, when he says that “general propositions do not decide concrete cases.” It is not logic that is in and of itself execrable. It is excessive reliance on deduction alone as a decision-making problem-solving crutch.

To be sure, much of the problem in interpreting the jurisprudence of this century is that writers more often than not have overstated their cases, and then some. Frank, for instance, devotes the better part of an entire volume berating decision-making by deduction and relegates to two one-sentence footnotes his ideas as to the great value of and the proper role of the syllogism. One reads a lot of Holmesian “history vs. logic” before stumbling on the qualifier that logic is yet an important aspect of legal reasoning, the problem simply being that “there is a fallacy in trusting too much this tool.” Pound, too, criticizes mechanical jurisprudence but only provides one reference—that logic must be an “instrument”—to the proper role of traditional analysis.

The idea remains, though. There is an important role for logic in the legal reasoning process, a role that should be defined, and taught to law students and lawyers alike.

**WHAT KIND OF LOGIC?**

The question at this point becomes what exactly is the proper role of

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31. This is, in fact, the issue that is largely responsible for the development of the so-called legal realist philosophy. *See* T. Benditt, *Law as Rule and Principle: Problems of Legal Philosophy* 2 (1978); Wasserstrom, *supra* note 15, at 2.


33. As Patterson said, “[l]ogic was made the whipping boy for the faults of nineteenth century political beliefs.” Patterson, *supra* note 16, at 24.

34. The two footnotes may be found at Frank, *supra* note 12, at 68 and 131.


logic in the legal reasoning process? The answer to this depends on the type of logic involved. What follows is a summary of a few of the traditional logical techniques that I have found to be useful in both participating in legal reasoning and in teaching the process to first-year students. The various methods are briefly defined. A few examples from common experience and the legal world are offered to clarify, and a description of the uses of this principle in legal reasoning is preferred.

There are certainly more applications of logic to the legal reasoning process than those I describe. With this in mind I would like to suggest that it is useful to discuss the basics of three different aspects of logical analysis: deduction, induction, and some common informal fallacies of "rhetoric." I should emphasize that I will only discuss basics, particularly when deduction is concerned. In the first place, there is probably insufficient time to educate law students about the finer points of logical analysis, and I am concerned about logic chiefly as a subject to be taught. In the second place, I am not convinced that anything more than some elementary principles are necessary for our purposes, for reasons I describe in greater detail as I define each particular method. On, then, to the heart of the matter: how logic and legal reasoning are related.

A. Deduction

1. Definition

Traditionally, logical inference is separated into two categories: deductive and inductive. Deductive reasoning is invariably illustrated by the following example taken from Aristotle:

All men are mortal.
Socrates is a man.
Therefore Socrates is a mortal.

37. I have, for example, devoted my attention exclusively to case law reasoning. An entirely different matter is the drafting, interpretation, and application of statutes. Professor Laymen Allen suggested that symbolic logic might be a useful tool for legal drafting. See Allen, Symbolic Logic: A Razor-Edged Tool for Drafting and Interpreting Legal Documents, 66 YALE L.J. 833 (1957). Professor Allen's methods are, however, a bit complicated, and the documents drafted by the methods are not always easy to read even though they are logically correct. For these reasons, the usefulness of symbolic logic in legal drafting has come under fire. See, e.g., R. Flesch, How to Write Plain English: A Book for Lawyers and Consumers 103-13 (1979); Summers, A Note on Symbolic Logic and the Law, 13 J. LEGAL EDUC. 486 (1961).

Other authors have also attempted to join more complex logic and the law. Felix Cohen, for example, analyzes the relevance of field-theory to legal decisions in Field Theory and Judicial Logic, 59 YALE L.J. 238 (1950). Ross, Tu-Tu, 70 HARV. L. REV. 812 (1957) delves into semantic considerations and the law. Formal logic is applied to judicial decision-making in Kayton, Can Jurimetrics Be of Value to Jurisprudence?, 33 GEO. WASH. L. REV. 287 (1964). And legal decision-making models are discussed in Mays & Jones, Legal Policy Decision Process: Alternative Thinking and the Predictive Function, 33 GEO. WASH. L. REV. 318, 325 (1964). But the subjects of these articles are beyond me and beyond the scope of this article.
The first two terms are called premises, major and minor respectively, and the last term is labeled the conclusion. The particular form of expressing arguments in terms of premises and conclusion is called the syllogism. Syllogisms come in different varieties, depending on the way the premises are stated. Deduction is, simply stated, an argument suggesting that a conclusion must follow from the given premises.\(^{38}\)

Induction, by way of contrast, is an argument suggesting that the conclusion may follow from the premises, but not necessarily.\(^{39}\) A variation on Aristotle’s example will clarify:

- Socrates is a man and is mortal.
- Plato is a man and is mortal.
- Aristotle is a man and is mortal.

Therefore probably all men are mortal.

More on induction later. For now, it is sufficient to understand the basic terms.

Just because a syllogism asserts only one conclusion does not mean that this is so or that the asserted conclusion even follows at all. Consider the following:

- Liberal democrats are disappearing.
- Edward Kennedy is a liberal democrat.

Therefore Edward Kennedy is disappearing.

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\(^{38}\) Most of what follows is a fairly simple outline of the principles of syllogistic logic. For greater depth see any of a large number of standard texts on logic. In preparing this article I found the following texts to be very helpful: J. BRENNAN, A HANDBOOK OF LOGIC (1957) [hereinafter cited as BRENNAN]; M. COHEN & E. NAGEL, AN INTRODUCTION TO LOGIC (1962); I. COPI, INTRODUCTION TO LOGIC (4th ed. 1972) [hereinafter cited as COPI]; E. EMMET, HANDBOOK OF LOGIC (1979); H. KAHANE, LOGIC AND PHILOSOPHY: A MODERN INTRODUCTION (2d ed. 1973) [hereinafter cited as KAHANE]; and SEARLEs, supra note 29.

\(^{39}\) I should also hasten to add that my discussion of deduction, in addition to being quite simplified, is very limited. There is much more to deduction than the syllogism, as even the most cursory glance at a modern logic text book will indicate. My main interest, however, is in what is most useful in terms of legal reasoning and in what first-year law students can grasp with little difficulty. This limits the scope of applicable logic considerably.

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\[^{29}\] Induction is not, contrary to popular opinion, reasoning from particulars to generalizations. Although it often involves this sequence of reasoning it may also include reasoning from particular to particular or even general to particular. For example, the argument

- Politician John Lansburg made promises in 1968, 1972, and 1973 that he did not intend to keep.

Therefore Lansburg probably does not intend to keep his promises made in 1980.

moves from particular to particular, yet it is inductive. Likewise, the argument

- So far, all Democratic candidates for President have been to the left of Ronald Reagan.

Therefore the next Democratic candidate for President will be to the left of Ronald Reagan.

reasons from general to particular and remains inductive. The same idea applies to deduction, too. It is not merely reasoning from general to particular. The argument

- All Republican politicians are to the right of Ted Kennedy.

Therefore all who are not to the right of Ted Kennedy are not Republican politicians.

moves from general to general and is a valid deduction. The examples are taken from H. KAHANE, LOGIC AND CONTEMPORARY RHETORIC: THE USE OF REASON IN EVERYDAY LIFE 6 (3d ed. 1980) [hereinafter cited as CONTEMPORARY RHETORIC]. See also COPI, supra note 38, at 23-26.
All casebooks are books intended for careful study.
Some comic books are books intended for careful study.
Therefore some comic books are casebooks.

In both of these examples the conclusions do not necessarily follow from the given premises. They are referred to as “invalid.” When a conclusion does necessarily follow from the premises it is termed “valid.” This concept of validity is central to logical analysis and is important to understand clearly. It refers only to the formal relationship of the premises and conclusion, regardless of the content of the propositions themselves. Our original syllogism:

All men are mortal.
Socrates is a man.
Therefore Socrates is a mortal.

is valid not because of the meaning of the words used, but because of the relationship of those words. We could, in fact, convert the syllogism into otherwise meaningless symbols and still know that the argument is valid, without ever knowing what the syllogism actually means.

All M is P.
All S is M.
Therefore all S is P.

Any logician would look at this symbolic representation and proclaim it a valid categorical syllogism without knowing what M, P, and S stand for. Virtually any words could be substituted for the symbols and the syllogism would remain valid. For example,

All birds are kangaroos.
George Washington is a bird.
Therefore George Washington is a kangaroo.

or

All defendants with orange hair will prevail.
Stu Kowalski is a defendant with orange hair.
Therefore Stu Kowalski will prevail.

Both of these syllogisms are perfectly valid, even though the substituted terms make the arguments perfectly ridiculous. This leads to an important point about the nature of valid arguments. Validity refers only to relationship. It has nothing to do with content. Validity concerns only the form of the arguments. It bears no relation to truth, justice, or the American Way. Arguments may be logically valid and absolutely nonsensical. The “truth” or “soundness” of a particular

40. The concept of “validity” is used and defined in various ways. Some writers use the terms “valid” and “sound” or “true” synonymously. Others give the term “valid” a more limited definition. I have chosen to keep distinct the concepts of validity and truth, in keeping with the usage in most logic texts. See Copi, supra note 38, at 32-34.
valid syllogism will depend on the premises that are used. Once the premises are selected the logical analysis is a matter of pure mechanics.

When analyzing an argument, therefore, there are several things to look for. First, analyze the premises. Are they true? Deduction is of little value here, and resort must be made to other types of analysis. But it is important nonetheless that the truth of the premises is a crucial element of a sound deductive argument.

Second, is the argument valid? There are two ways of testing the validity of a deductive argument. The argument can be tested against a number of rules and fallacies regarding the form of the syllogism. These rules, however, are numerous and a bit difficult to understand, especially in a short amount of time, so it is probably not practical to attempt to teach them in their entirety, to first-year students. Furthermore, it is often noted by logicians and lawyers alike that most fallacies in deduction are fairly obvious once the argument is reduced to a standard form of syllogism. "Most third-year law students," said Patterson, "can with little reflection recognize a formally invalid syllogism even if they cannot say what rule of logic makes it invalid." Consider, for example, the argument:

All crimes are punishable.
Murder is punishable.
Therefore murder is a crime.

It is not necessary to know that this syllogism illustrates the "fallacy of the undistributed middle" in order to realize that it is not logical. (Note, too, that it is invalid even though the premises and the conclusion are quite true.).

Even if an argument is not so obvious, there is a relatively simple method of testing its validity without resort to complicated rules and fallacies. Simply use the same form and substitute some different terms. This is often helpful when analyzing more complicated or lengthy arguments. It has been argued:

41. For example, some of the rules for standard categorical syllogisms are that the syllogism must contain only three terms, the middle of which must be distributed in at least one premise; that if either premise is negative the conclusion must be negative; that no valid conclusion can be drawn from two negative premises; and that no particular conclusion can be drawn from two universal premises. Reading about the rules of valid syllogisms is a natural cure for insomnia. Probably the easiest explanations to understand are BRENAN, supra note 38, at 46-50; and COPI, supra note 38, at 198-206. There is also a very straight-forward explanation of the rules of valid syllogisms—with exclusively legal examples—in TREUSCH, The Syllogism [hereinafter cited as TREUSCH], in HALL, supra note 6, at 539-60.

42. PATTERSON, supra note 16, at 21 (emphasis supplied). See also KAHANE, supra note 38, at 245. Still, the examples of fallacies in legal opinions described in TREUSCH, supra note 41, make one wonder.

43. See COPI, supra note 38, at 186.
A business affected with a public interest is subject to price regulation.
The business of reselling theatre tickets is not affected with a public interest.
Therefore the business of reselling theatre tickets is not subject to price regulation.\textsuperscript{44}

It may not be clear on the face of things that this is a fallacious argument (the fallacy of the "illicit major premise"). A simple way to check the validity of this argument is to reduce the terms to symbols. Thus the argument boils down to:

- All M is P.
- No S is M.
- Therefore no S is P.

The formula may then be given new, more easy to understand terms without affecting the validity of the argument at all, since deduction is purely a matter of form.\textsuperscript{45} For example:

- All cars are expensive.
- No diamonds are cars.
- (or cars are not diamonds.)
- Therefore diamonds are not expensive.

It is easy to see in the substituted argument that the conclusion does not follow from the premises. Simply because we assert that cars are expensive we cannot say that cars are the only objects that are expensive. Likewise, it becomes clearer that in our original example when we say that a business affected with a public interest is regulated, it does not follow that other activities cannot be regulated.

2. Application

Of what value is all of this talk about syllogisms and premises and conclusions? Is this kind of analysis really applicable to legal reasoning? The answer is no. And yes.

a. Deduction as a problem solving tool

There is no doubt that legal opinions are extremely amenable to deductive analysis. Nearly every opinion ever written follows the basic pattern of the standard categorical or hypothetical syllogism. A rule of

\textsuperscript{44} This example has been lifted from TREUSCH, supra note 41, at 551.

\textsuperscript{45} There are, of course, inevitable hazards in using this or any type of symbolic approach. The major problem is that when you translate an argument into syllogistic form, then into symbols, and then into another argument, you increase the possibility of introduced error. The syllogism may not accurately reflect the argument, the symbols may incorrectly represent the syllogism, and as a result the new argument may bear no resemblance to the original one. This is not to say that the procedure is not useful; just be careful. See M. SCRIVEN, REASONING XV (1976) [hereinafter cited as SCRIVEN].
law that applies to certain categories of facts is stated (major premise). The facts of a case are categorized (minor premise). And when the fact categories of the case coincide with those of the rule then the rule is applied to those facts (conclusion). For example:

Any person under the age of 16 who has in his possession a firearm without a license is guilty of a misdemeanor.
Mo Gallo, age 14, has a pistol, but no license.
Therefore Mo Gallo is guilty of a misdemeanor.

This particular example happens to involve a statute, and statutory problems are particularly susceptible to syllogistic description. The same, however, could be said of common law cases:

A person has a right to the fruits of his labor.
Private correspondence is a fruit of the author's labor.
Therefore private correspondence is the property of the author.46

The fact that legal opinions very conveniently can be expressed in syllogistic form should not be taken as an indication that the syllogism expresses the way in which the judges actually arrive at their conclusions.47 Deduction is not a very good problem solving technique with which to begin. Moreover, a deductive analysis simply does not accurately describe the ways in which people in general, and lawyers in particular, go about solving most of their problems.

The main reason that deduction is of little help in solving legal problems is that it can only be applied once the premises have been selected. In the law this is ninety-nine percent of the battle! Properly categorizing a given set of facts and selecting one of a nearly infinite variety of rules of law is the toughest part of legal problem solving. Once the premises—that is, the facts and the rules—have been selected, the rest of the job is fairly mechanical. Deduction in most cases has little or nothing to do with the selection of one premise over another. Here we can recall appropriately the words of Holmes and others that legal problems cannot be solved by using syllogisms. Here too, we can cite the list of other weaknesses of decision-making by deduction.48

A more telling reason for not teaching deduction as a legal problem solving technique is that deduction simply does not accurately describe the legal reasoning process. Judges do not search the volumes of case

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46. Again, I purloined the example from TREUSCH, supra note 41, at 541.
47. To say this would be to commit the fallacy of the false cause. Just because the decision is accompanied by syllogistic analysis does not mean that the decision was necessarily made by syllogistic analysis. Other decision-making factors could—and probably are—more important. The syllogistic argument could be an after-the-fact justification for the decision. See notes 49-51 and accompanying text infra.
48. See notes 15-19 and accompanying text supra.
law for a rule, then categorize the facts, and then reach a conclusion. Jerome Frank's well-known description is probably closer to the truth:

[S]ince the judge is a human being, and since no human being in his normal thinking processes arrives at decisions by the route of any such syllogistic reasoning, it is fair to assume that the judge merely by putting on the judicial ermine, will not acquire so artificial a method of reasoning. Judicial judgments, doubtless, in most cases, are worked out backwards from conclusions tentatively formulated.49

This is certainly not to say that all legal decisions are made by determining a conclusion and instructing a clerk to find a rationale.50 Not even a realist like Frank suggests this, although it certainly happens on occasion. In virtually any legal problem the judge or lawyer or law student is faced with several possible rules and more than one possible result. To frame it in the vocabulary of deduction there are several different possible premises as well as conclusions. The problem solver will try out each of the combinations. He may adopt one conclusion and evaluate its several possible premises, and then try out other conclusions and other rules. What causes the problem solver to choose a set of premises and conclusions? Certainly not deduction, for as we have seen, deduction only functions after the premises have been chosen. A truly accurate answer to this can be supplied only by delving into the workings of the brain of each problem solver. But it is fair to say that the factors would include personal philosophy, a sense of equity, social policy, history, economics, and another type of logic—induction—but not deduction.51

b. Deduction as a tool of verification and of persuasion

The fact that deduction is of no value in the selection of premises or the interpretation of facts does not mean that this form of logical analysis is without value in legal reasoning. To the contrary, deduction can be quite useful, but within certain limits. When a judge, for example, finally decides upon a rule of law, an interpretation of the facts, and a conclusion, does he know that the rule and facts are correctly applied? Reconsider the argument in the price regulations case described above:

49. FRANK, supra note 12, at 101. See also Berman and Greiner, supra note 4, at 416; and Radin, supra note 15 at 56-57.


51. Or as Cardozo stated "[L]ogic [analogy], and history, and custom, and utility, and the accepted standards of right conduct are the forces which singly or in combination shape the progress of the law." CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 112 (1949). Holmes thought the factors were "[t]he 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 . . . ." HOLMES, supra note 2, at 5.
A business affected with a public interest is subject to price regulation.
The business of reselling theatre tickets is not affected with a public interest.
Therefore the business of reselling theatre tickets is not subject to price regulation.

There is no doubt that the judge correctly stated the rule of law. Likewise, there is no problem in his interpretation of the facts. But does the conclusion in the case follow from the application of the rule to the facts? Not necessarily, as we have already seen. "Businesses affected with a public interest" may describe only one of several activities subject to price regulation, at least given the premises used in the example case. The judge here could have greatly improved the argument by either modifying the major premise, the rule of law, ("Only a business affected with a public interest . . .") or more correctly "All businesses subject to price regulation are businesses affected with a public interest.") provided the modification would not threaten the truth of the rule, or change the conclusion. It is in verifying, double-checking, and trouble-shooting that knowledge of the principles of deduction is crucial. Application of the principles of deduction can ensure that whatever premises are selected are applied correctly. This is the role of deduction in legal reasoning: to make sure that solutions, however arrived at, are in the end justifiable. It is as John Stuart Mill said a century ago:

The value of the syllogistic form and of the rules for using it correctly does not consist in their being the form and rules according to which our reasonings are necessarily, or even usually, made; but in their furnishing us with a mode in which those reasonings may always be represented and which is admirably calculated, if they are inconclusive, to bring their inconclusiveness to light.52

And as Jerome Frank said years later,

The conscientious judge, having tentatively arrived at a conclusion can check up to see whether such a conclusion, without unfair distortion of the facts can be linked with the generalized points of view theretofore acceptable. If none such are discoverable, he is forced to consider more acutely whether his tentative decision is wise, both with respect to the case before him and with respect to possible implications to future cases.53

52. MILL, supra note 21, at 133.
53. FRANK, supra note 12, at 131. Numerous authors have joined in this chorus. STONE, supra note 6, at 145 says that the syllogism is an "indispensable ingredient" in exposing faulty premises and non-sequiturs. MORRIS, supra at 41, echoes that "traditional logic is a critical rather than a constructive aid—a technique to diagnose recognized trouble rather than a means of going to work." See also Adler, Book Review, 31 COLUM. L. REV. 82, 94 (1931); Berman & Greiner,
In legal decision making it is not enough to simply reach a solution. Centuries of tradition require that most decisions must be explained. They must be justified. In justifying judicial decisions, it is rarely sufficient to simply aver "this is the most equitable result." And it is certainly not acceptable to employ blatantly illogical arguments. Future decisions must be based on the reasonings of past decisions. And if the law is to be consistent, and to some degree predictably applied, decisions must be logical. Logic after all is little more than the principles of consistent thinking. And the application of some very basic deductive tools—no more, in fact than the simple principles described in this article—can greatly improve the consistency of legal thinking.

B. Induction

The second major division into which reasoning is usually divided is induction. Unlike deduction, which argues that a conclusion must follow from certain premises, induction argues only that a conclusion probably follows from the premises given. Recall the example given earlier in this article:

- Socrates is a man and is mortal.
- Plato is a man and is mortal.
- Aristotle is a man and is mortal.

Therefore all men are probably mortal.

It does not necessarily follow from the three premises that all men are mortal. (Indeed, one could cite the life of Enoch, who, according to Biblical tradition, never died.) The only way to ensure the absolute

\textit{ supra} note 4, at 415; C. Morris, \textit{The Justification of the Law} 89 (1971) [hereinafter cited as \textit{Justification of the Law}]; Wasserstrom, \textit{supra} note 15, at 23. Even authors who think the syllogism does not really provide a method of proof admit that even to organize an argument according to syllogistic rules makes the argument "almost compelling." See Cook, Book Review, 31 COLUM. L. REV. 82, 115 (1931).

54. "It has been a cardinal rule of the common law . . . and it is the practice of the modern civil law that judges should attempt to account for their judicial behaviour [sic]. A fortiori, it [logic] is an essential technique of the counsel who must persuade the court to his view of the law." Stone, \textit{supra} note 6, at 145. This tradition, of course, is contrary to Lord Mansfield's advice to the intelligent layman recently appointed to the bench. His advice was to use his common sense and give his decisions boldly, for the decision would probably be right. But never, he said, give reasons for the decision, since they will almost assuredly be wrong. Mill, \textit{supra} note 21, at 127.

55. No attorney would relish the thought of appearing before a judge who had a reputation of being a fine person but incapable of logical reasoning. Likewise, the lawyer who consistently tenders patently illogical arguments—however equitable the end results might be—will likely change professions in short order. See Scott, \textit{A Plea for the Study of Logic}, 21 J. LEGAL EDUC. 206, 207 (1968).


57. \textit{See note 39 supra.}

58. According to Genesis 5:24 (New Am. Standard Version): "Enoch walked with God; and he was not, for God took him." The apostle Paul centuries later reported the traditional interpretation of "took." "Enoch was taken up so that he should not see death; and he was not found because God took him up . . . ." \textit{Hebrews} 11:5 (New Am. Standard Version). Nowadays of course, "getting taken" means something entirely different.
accuracy of this particular conclusion would be to catalogue the mortality of all men living and dead. An impossible feat to be sure. This illustrates both the major weakness and major strength of reasoning by induction. The weakness is that in most cases conclusions reached by induction are non-verifiable. (This flaw, according to philosopher David Hume, renders the entire method of reasoning suspect.) On the other hand, if we were to be limited in our knowledge and reasoning to only what we can actually experience we would know very little about the universe in which we live. Induction allows us to make a probabilistic leap from what we have observed to what we have not yet observed.60

1. Analogy

a. Definition

One of the most common—and useful—forms of induction is the analogy. Analogy refers to the kind of reasoning based on the assumption that if certain objects or phenomena are similar in some known respects, they will probably be similar in other respects as well.61 For example, the U.S. Food and Drug Administration conducts tests on white laboratory mice to determine whether there is anything on earth that is not carcinogenic. Why use white mice? Aside from the fact that they are a lot cheaper than human subjects, the reason is that the folks at the FDA rely on an analogy between the physiology of mice and men. They reason that if the chemistry and reactions of the mice are very similar to that of human subjects in a number of known areas, then the reactions of mice will be predictive of human reactions in currently unknown areas. The same reasoning process is at the bottom of psychological experiments with pigeons and rhesus monkeys.62

Consider another example. Mortimer Kofax has purchased most of his household needs at Ripco, a local discount department store. He has been very pleased with the quality of his purchases over the years, particularly the shoes, the clothing, and the household appliances. Last month Ripco announced the opening of a new department, to wit, a grocery store. Mortimer proclaims that he will buy his groceries at Ripco as well. In doing so, Mortimer reasons by analogy, unless of

60. For a discussion of the strengths and weaknesses of induction see Kahane, supra note 38, at 296-300.
61. For more detailed discussions of analogical reasoning see Copi, supra note 38, at 351-68; Kahane, supra note 38, at 255-57; and Scriven, supra note 45, at 211.
course he happens to be a major shareholder in Ripco, Inc. He decides that since Ripco produces high quality shoes, clothing and appliances, the company probably sells high quality food as well. The analogy could be schematically represented as follows:

- A (shoes), B (clothes), and C (appliances) have the properties X (Ripco-produced) and Y (high quality).
- D (food) has the property of X (Ripco-produced).
- Therefore D (food) probably has the property of Y (high quality).

Note that these analogies can never be conclusively proven. There is no deduction per se involved here. We can only speak of conclusions that are more or less likely, or "probable" as logicians like to say. How do we know when an analogy produces a likely or probable conclusion? There is no hard and fast rule. But there are a number of helpful "criteria" by which analogies and analogical arguments can be evaluated. One, for example, is the number of confirming instances. Assume I am interested in purchasing a dog but am not interested in purchasing a cocker spaniel because I think they are ill tempered. If I base my conclusion on the fact that I know of two other cocker spaniels that are ill tempered then I am arguing by analogy. The analogy is

- A and B (the two dogs) have the properties X (spaniels) and Y (ill tempered).
- C (another dog) has the property X (spaniel).
- Therefore C (the other dog) is probably Y (ill tempered).

This is a fairly weak analogy on its face. If I refuse to purchase a spaniel because I know of only two others that were ill tempered I am probably wrong. My sample is too small to make any really forceful analogy. Now if I recently read an article in Veterinarian's Monthly that reported that out of 903 spaniels, 903 were ill tempered, then I would be in a much better position to argue by the analogy.

- A,B,C,D,E,F,G,H,I... etc. have the properties X and Y.
- Q has the property X.
- Therefore Q probably has the property Y.

This is a much more solid argument. It is still not conclusive. There could always be 903 spaniels locked up in some unknown kennel that are perfectly good natured. But as far as analogies go this would be quite forceful. The greater the number of analogous instances, the better the argument.

Another criterion of a "good" analogy is the number of respects in

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63. The example is based on one provided by Copi, supra note 38, at 352.
64. The only texts that describe the makings of a good analogy appear to be Brennan, supra note 38, at 158-67; and Copi, supra note 38, at 358-68.
65. The example is a slight modification of one provided by Copi, supra note 38, at 358, who objected to chow dogs instead of cocker spaniels.
which the entities are said to be analogous. If Eliza Periwinkle purchases her shoes exclusively at Ripco simply because Ripco's shoes have always given good wear we have the following analogy:

A (shoes) has the properties X (Ripco-produced) and Y (quality).
B (more shoes) have the property of X.
Therefore B probably has the property Y.

This is another weak analogy. It could be strengthened considerably if Ms. Periwinkle discovered that not only were the shoes sold by the same store, but also that they were manufactured by the same company, from the same materials, and that they are intended for the same use. Now we have a different argument:

A has the properties U,V,W,X and Y.
B has the properties U,V,W and X.
Therefore B probably has the property Y too.

The third criterion of acceptable analogies is the number of dis.analogies that can be constructed, particularly relevant ones. A "dis-analogy" is any characteristic held by any of the supposedly analogous entities that is not held by all of them. The more differences you can discover the less appealing the analogy. Assume that you are a book publisher. Tanya Telltale is one of your clients. She has published seven detective novels that were million sellers. Now she is pressing you for an increase in her percentage of the profits, since she has just completed her eighth book. She argues that she is a "proven commodity." Her past books sold, so her future one will, too. On its face this argument does not seem too objectionable. But what if you find out that Tanya's new book is not a detective story but a romantic comedy, that her last seven books were co-authored by Skip MacDonald, who recently passed away, and that this eighth novel is Tanya's first solo effort? The argument crumbles with each dissimilarity between the new book and the previous seven. In the same way, any analogy will crumble under the weight of piling disanalogies.

A final characteristic of convincing analogies is the relevance of the analogy. Imagine this example. Ira Birnbaum owns a 1952 Cadillac. It is blue, with a grey landau-type top, tinted windshields, bench seats, wonderbar radio control, and a Rolls Royce hood ornament. It runs like the proverbial top. Ira decides to buy his wife a car. Based on his experience with the fine running Cadillac he purchases another Cadillac. This one was also built in 1952, blue, with a grey landau-type top,

66. Copi, supra note 38, at 358.
67. Again, I have borrowed from Copi, supra note 38, at 358.
68. Copi, supra note 38 at 359; Scriven, supra note 45, at 212.
69. Copi, supra note 38, at 360-61.
tinted windshields, bench seats, wonderbar radio control, and a rolls royce hood ornament. What's wrong with Ira's analogy? The analogy is almost totally irrelevant. The characteristics compared have nothing whatsoever to do with how a car, any car, runs. The analogy must be relevant to the point of the argument being made.\(^7\)

**b. Application: Understanding Legal Analogies**

The process of analogization is at the root of almost all legal problem solving, at least in English and American legal systems.\(^7\) One of the strongest forces in legal reasoning is the idea of "precedent," that in order to preserve continuity and consistency, problems should be solved today as they have been solved in the past. Past decisions, therefore, become "authority" for current cases. Not all cases decided in the past will, however, "bind" a court considering an immediate case. Only the principles used in similar cases are important. Only analogous cases are used.

The reasoning proceeds in quite orderly fashion in three basic steps.\(^7\) First, search for a series of cases the facts and issues of which are comparable to the facts and issues of the problem at hand.\(^7\) Second, extract from the previously decided similar cases principles upon which they are decided. And third, apply that principle to the problem at hand. Schematically represented, the analogy looks familiar.

A & B (prior cases) have the properties X (facts and issues) and Y (principle applied).

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70. A difficult but important question is what is "relevance?" I will not pretend to answer. See James, Relevancy, Probability, and the Law, 29 CALIF. L. REV. 689 (1941); Trautman, Logical or Legal Relevancy—a Conflict in Theory, 5 VAND. L. REV. 385 (1952). Legal relevancy is slightly different from logical relevancy. Still, these articles raise and discuss the common, basic issues.

71. In continental European systems, where the civil law emphasis on codes prevails, the idea of precedent has a diminished role in legal decision-making. France, in particular, gives extremely little weight to past decisions: There is nothing to prevent reference in the opinion to earlier court decisions, and the practice of citing precedents is in fact becoming more frequent. But reference to one or more prior cases does not constitute a self-sufficient legal argument and is not a valid basis for decision. The Court of Cassation refrains rigorously from citation to earlier decisions it has made or the existence of an established line of precedents. Judges fear that this might give the impression that they consider themselves bound by doctrines in their decisions.


72. See Berman & Greiner, supra note 4, at 416; and E. Levi, An Introduction to Legal Reasoning I (1949) [hereinafter cited as Levi]: "The basic pattern of legal reasoning is reasoning by example." Levi, however, operating on the basis of an incorrect concept of induction, does not believe that reasoning by example constitutes inductive logic.

73. I say "series" of cases for two reasons. First, rarely is a single case dispositive of an issue. It would be unrealistic to teach legal reasoning as if a single case would be controlling. But see generally Statsky & Wernet, supra, which avoids entirely the process of synthesizing cases. Second, in a theoretical sense, it does not seem possible or desirable to decipher a single case in vacuo. As Llewellyn said so emphatically, "No case can have meaning by itself!" K. LLEWELLYN, THE Bramble Bush 48 (1960).
C (instant case) has the properties X.
Therefore C should also have the property Y.
The reasoning pattern is very similar to the more ordinary examples discussed above. Because two objects (cases) share some properties, it is argued that they should also share others. Cases with the same facts should apply the same rules of law. Consider the following example.

Suppose I am faced with a case involving an individual's right of free speech. My client is a member of the Ku Klux Klan and has just been interviewed on local television advocating that Jews and Blacks should be expelled from the country or deprived of their civil rights. For saying these things my client has been arrested for violating a local statute proscribing the "advocacy of terrorism." My client feels that even if the statute was violated he is protected by his constitutional right of free speech.

The answer to this question will lie in the manner in which courts have treated similar problems in the past. My research reveals three cases that are more or less "on point." One involves a communist speaking out for world revolution, another involves a socialist printing pamphlets urging laborers to strike and join the socialist cause, and the third involves a socialist advocating resistance to the draft during the first world war.

I compare the facts of these cases with the facts of my own and I note a number of important similarities. "Speech" is involved in all cases. Whether in the form of vocalization or printed word, I have communication and this, I feel, is the relevant factor. In all cases I have at issue the constitutionality of the application of a statute proscribing advocacy of revolution or obstruction of normal government activities. In all cases I am faced with the speeches of representatives of "subversive" or unpopular political groups. And in all cases the speakers are advocating actions that are allegedly illegal. These similarities in facts convince me that an analogy can effectively be drawn between the prior cases and the problem at hand. As a result I extract what I think is the rule that the court used in deciding these cases—a process that is discussed later in this article—and apply the rule to my client's case.

The reasoning process is no different than any other analogy discussed so far. Reduced to a simple formula, the argument presents no surprises.

A, B, and C (prior cases) have the properties X (facts) and Y (rule).

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75. These facts are roughly based on Dennis v. United States, 341 U.S. 494 (1951); Abrams v. United States, 250 U.S. 616 (1919), and Schenck v. United States, 249 U.S. 47 (1919). There are certainly many more cases on point.
D (instant case) has the properties X. Therefore D should have the property Y.

Understanding the process of analogization can greatly enhance understanding of legal reasoning. It certainly seems less confusing and less threatening when it is understood that at the root of legal reasoning is a simple, logical process.76

Understanding the principles of drawing convincing analogies is helpful for the same reason. It facilitates an understanding of why judges, lawyers, and teachers insist on one analogy as opposed to others. Indeed, knowledge of the few simple rules of constructing good analogies is an exceptionally useful tool when arguing for a particular analogy or attempting to criticize analogies drawn by others. Arguing over competing analogies is, after all, the heart of nearly every legal controversy.77 One lawyer argues that his cases are analogous. The other lawyer contends that his cases are analogous. And the judge may choose from among the competing analogies or select some of his own. In any event, the weighing and selection of analogies is crucial to the ultimate decision of the court.

How do you know which legal analogies will probably prevail? Recall the four simple criteria of good analogies. Each of them is extremely relevant to the legal reasoning process. Consider the first criterion, the number of entities—cases in this instance—with the salient features of the analogy. This certainly applies to legal analogies as well as to other sorts. The more cases illustrating the same salient features the stronger the analogy. This is not to say that by citing numerous cases in a brief an argument by analogy will be more convincing. Indeed it is a veritable maxim of first year legal writing that a few good analogies are the goal and that string citations are as loathsome as the plague.78 The reasons for these rules, however, are practical and not logical. Judges, senior partners, and teachers have a limited amount of time so arguments, both oral and written, must be brief. A lawyer must make his point in a minimum amount of time and space. It is far more convincing and practical to explain in detail a few good analogies rather than to list one hundred without accompanying analysis. Still, it is a comforting thought to the researcher when he finds a large number of cases in agreement, and conversely the researcher is likely to be on

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76. Still there are some who maintain that analogization or at least legal analogization is not logical. Levi, for example, is unique to legal reasoning. Berman & Greiner, too, feel that this aspect of legal reasoning is not inductive, though for reasons less clear than Levi's. Berman & Greiner, supra note 4, at 418.
77. See Levi, supra note 72, at 5.
78. See, e.g., E. Re, Brief Writing and Oral Argument 150 (1974); and R. Stern & E. Gressman, Supreme Court Practice 712 (5th ed. 1978).
shakey ground if in all of legal history there is only a single case that is analogous to a given problem.

The second criterion is particularly useful. Recall that it concerns the number of respects in which the entities—again the cases—are said to be analogous. Simply stated: the greater the similarity in facts the more convincing the analogy. In fact, if you can find a case with exactly the same facts you will have won the day. The analogy will be considered to be “on all fours,” and the court will be all but compelled to reach the desired conclusion.79 Unfortunately, cases “on all fours” are one in a million. Most of the time legal reasoning involves dealing with cases that are not identical dealing instead with ones that are similar in some respects and different in others. As a result, the goal of legal research and reasoning is to find a case that is as close to the fact of the problem at hand as possible.

The usefulness of the third criterion becomes relevant here, for the greater the dissimilarities in the facts of the cases, the less convincing the analogy. This is one of the keys to arguing a legal issue in court. When an opponent argues that a judge should adopt one analogy you should attempt to discredit that analogy by citing as many differences between the cases mentioned as you can. Just as the number of similarities strengthens an analogy, so also does the number of dissimilarities weaken an analogy.

But it is not a matter of simple arithmetic. The judge will not simply pull out his plastic statue of the blind lady of justice and weigh the similarities and dissimilarities on the hallowed scale. Although quantity is important, quality is superior. The similarities or differences in facts must be relevant to the issue of law being argued in order for the analogy to be convincing. A hit-and-run case involving a Hell's Angel member, riding a 90cc Yamaha dirt cycle, with knobby tires, competition stripes, and a hole in the muffler, going thirty-two miles per hour in a hospital zone may have little relevance to a nuisance or civil disturbance case with precisely the same facts. The facts must be not only similar. They must be relevant.

79. The "all but" is an important qualifier. In the first place if a court is faced with an "all fours" case, that case can be overruled. Courts are in no absolute sense "bound" by prior decisions. In the second place even cases that seem obviously to be on point sometimes get distinguished anyway. It is the well known phenomenon of the "brown cow case" (red cow in New York). The case involved a farmer's cow that broke through a fence and marched over a neighbor's crop lands, eating all the way. The neighbor sued. The owner of the cow, however, cited a case on all fours with the facts of the dispute, which provided an absolute defense. The judge declined to adopt the rule of that case since the case involved a white cow and in the dispute at bar the cow was brown.
2. Causation and the Development of Theories

a. Definition

Inductive reasoning is not limited in its application to the use of analogies. It is also used quite frequently to determine the causes of a series of events, and to develop theories or rules that help explain the events and help predict them with greater accuracy. The English philosopher John Stuart Mill is the best known proponent of this type of inductive analysis. In fact his methods or canons of inductive inference are called "Mill's Methods" to this day. These canons are fairly simple to understand and very easy to apply.

The first method Mill called the "method of agreement." It is best explained in terms of an example. Suppose six law students who regularly eat at the school cafeteria suddenly suffer from violent nausea and stomach cramps. Dr. Hammelberg is called in to investigate the cause of the students' illness. She interviews the students in order to identify some common antecedent conditions. The interviews reveal that on the day of the illness the first student ate soup, salad, and a tuna sandwich; the second student ate soup, salad, a tuna sandwich, and some donuts; the third student ate a tuna sandwich and some donuts; the fourth student ate a salad, a tuna sandwich, and some donuts; the fifth student ate a tuna sandwich and a bowl of chili; the sixth student ate soup, a tuna sandwich, and some donuts. Dr. Hammelberg noted all of this information in graphic form for clarity:

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<thead>
<tr>
<th>Food</th>
<th>Soup</th>
<th>Salad</th>
<th>Tuna</th>
<th>Chili</th>
<th>Donuts</th>
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<tbody>
<tr>
<td>Student</td>
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From this illustration it is clear that the element common to all of the sick students was eating a tuna sandwich. Having located this common element Dr. Hammelberg concludes that there is probably something wrong with the latest batch of tuna fish sandwiches. This is the method

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80. See note 21 supra.
81. Mill's methods of inductive inference can be found at MILL, supra note 21, at 222-47. They are also described in BRENNAN, supra note 38, at 167-76; COPI, supra note 38, at 369-421; and KAHANE, supra note 38, at 261-65.
82. The example is a very common one in logic books. Mine is an adaptation of one provided by COPI, supra note 38, at 376-78.
of agreement at work. Whenever we can identify the antecedents—particularly single antecedents—common to all instances of a given phenomenon we can suggest that we have discovered its cause.

This method is of course subject to some severe limitations. In the first place it can never prove conclusively that the common antecedent is the cause. This is induction, not deduction, and we can only suggest probable causes, not conclusive ones. Moreover, the method functions best when there is but a single antecedent. Rarely do we encounter several instances of a given phenomenon that have only one antecedent in common. It is more likely that several antecedents will be common to all of the instances. And determining which antecedent is the cause can be difficult. Finally, properly classifying the antecedents can be a challenging task. Consider the example of two famous scientists, Chesterton and Belloc, who attempted to find the cause of intoxication. They drank brandy and water and got drunk. They drank whiskey and water and got drunk. They drank vodka and water and got drunk. They drank gin and water and got drunk. Over a stiff cup of coffee they plotted the antecedents of their insobriety and found only water common to each binge. They scientifically concluded that water was the cause of drunkenness and solemnly took oaths to never imbibe the substance again.

The limitations of the method of agreement are militated somewhat by the use (often the concurrent use) of a second method, the method of difference. This method is particularly useful when there are several common antecedents. The method of difference can be simply stated as follows. Identify the antecedents of both the occurrence of a given phenomenon and the nonoccurrence of the same phenomenon. If every antecedent but one is common, then the uncommon antecedent is probably the cause.

An example will clarify. Suppose famous attorney Justin Case suffers from occasional fatigue, exhaustion, and a terrible case of indigestion. Case has little faith in psychiatrists, and so he conducts an experiment on his own. He begins to chart his regular activities to see if he could use some of Mill's methods to identify his problem. He charts a week of activity, noting the instances of his following a bland diet, engaging in fifteen minutes of exercise, going to trial, watching television, and smoking his pipe.

83. This well known example is recounted in BRENAN, supra note 38, at 169-70.
84. The example is adapted from BRENAN, supra note 38, at 171.
When Case compares the instances of his illness with the absence of illness he finds that all but one antecedent were in common: the pipe smoking. When Case smoked his pipe he became ill. When he did not smoke his pipe, he avoided the illness. Reasoning by the method of difference, Case decides that smoking pipes was probably the cause of his ill condition, and he promptly switches to smoking cigars.

This is an admittedly simple example but it makes the point. And even simple as it is, the method can lead to remarkable discoveries. It was primarily the application of this method, for example, that led to the discovery of the cause of yellow fever. During the Spanish-American war an army doctor compared the incidence of yellow fever with the conditions in the hospital, including sleeping areas, cleanliness of environment, contact with other patients, and so forth. The observant army doctor noticed that the single difference in conditions when the incidence of fever was high was absence of mosquito screens.\(^8^5\)

There are weaknesses with this method too, of course. Again the method is inductive and never conclusively proves causation. And like the method of agreement, this method is most convincing when only a single difference in antecedents exists. The combination of the methods of agreement and difference is, however, an effective way of minimizing some of these limitations.

A third method of inductive inference is called the method of concomitant variation. It is slightly different from the two discussed thus far. According to this method of inductive inference when one of the antecedents varies and the occurrence of a given phenomenon also varies then there is probably a causal connection between them. If, for example, there is an increase in cigarette smoking followed by a similar increase in lung cancer, it is probable that cigarette smoking is a cause, if not the cause, of lung cancer. This is the very common reasoning

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85. Brennan, supra note 38, at 170-71.
process also known as "correlation." It must not be forgotten, though, that correlation does not conclusively prove causation. Simply because the price of cocaine varies directly with the salaries of law school deans does not mean that there is some causal relationship.

Although none of Mill's methods will provide an indicator of causation with slide rule efficiency, their usefulness should not be underestimated. In the first place, they may be combined in many instances to at least partially mitigate the uncertainty that shrouds all inductive reasoning. In the second place, despite the fact that the methods cannot be used with deductive precision, they are excellent tools for creating hypotheses that can be verified by observation or other types of research. Some of the most important discoveries in the history of science were based on theories suggested by some or all of Mill's methods of inductive inference.

b. Application: The extraction of rules of law

Even legal problem solving can be facilitated by the use of Mill's methods, as long as it is kept in mind that these methods of inference are not conclusive, but rather suggestive and probabilistic. Recall the three-step process that is often used to describe legal reasoning. First you look for analogous cases, then you extract the rule of those cases, and finally you apply the rule to the facts of the case at hand. In previous sections the process of selecting the analogous cases has been described. Now it is time to investigate the process of "extracting the rule of law." This process, "case synthesis" is probably the most difficult facet of legal reasoning for law students, and even lawyers, to understand. It need not be so threatening.

Once we have selected the analogous cases we are faced with a situation that is very similar to the example described in the analysis of Mill's methods. We are faced with a series of given phenomena, the results of the cases, and we are faced with a host of antecedents, the facts and dispositions of the cases. If we can identify some sort of pattern in the facts and the reasonings of the courts, we can suggest a rule that explains the results of those cases in a consistent fashion and that will serve as a likely predictor of how a judge will, or should, rule in the case at hand. Note that both facts and reasonings of judges are considered in defining the antecedents. A simple comparison of the rules of all of the cases will not explain much at all. The facts will flesh out those rules, giving them meaning and context. If the courts all seem to think that the element of "advocacy" is important in determining the nature of first amendment rights, it is important to know exactly what
advocacy means. The best indicators of the meaning of rules are the ways in which the rules are applied to the facts of actual cases.

How exactly are Mill's methods applied to this aspect of legal reasoning? Essentially in the same ways that we could discover probable causes of the food poisoning of the six law students described earlier. A very graphic approach, in fact, can be helpful. Simply plot the cases and their results against the categories of facts involved in each of the cases.

<table>
<thead>
<tr>
<th>Facts 1 2 3 4 5 6 Result</th>
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<tr>
<td>Cases</td>
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<td>A v. B</td>
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<td>E v. F</td>
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<td>G v. H</td>
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Thus, in the illustration above the use of the methods of difference and agreement would seem to suggest that in the four cases analyzed the general rule is that facts represented by the category 4 lead to legal consequence P. Only those facts were in common with the result P, and the absence of those facts is accompanied by a different result.

This all seems very simplistic and mechanical at first blush, hardly suited to the complexities and subtleties of the law. And this is partly true. If this type of analysis is the sole basis for the conclusion that "the rule of law is (fill in the blank)," then whoever says so is on shaky ground indeed. There are many other considerations—equity, social policy, prevailing philosophy, economics, and others, to name only a few—that enter into the decision of what rule to follow. But at least the application of these simple principles can steer us on to the right path. These charts and principles are only tools and nothing more. Still they are useful tools.

Recall the example involving the Ku Klux Klan client. My research indicated that there were three cases on point. Assuming that they are analogous, what rule of law can be inferred from these cases? The answer here always involves comparing and contrasting the facts. Mill's methods makes the process a little easier. If I plot my facts on an inductive type chart, I am given considerable help in coming up with a rule of law.
From this simplified example we can—applying the methods of agreement and difference—infer that when we have a socialist who advocates imminent lawless action and there is a likelihood that that advocacy will incite the imminent lawless action, then there is no first amendment defense to the application of a statute prohibiting certain kinds of speech. The elements of socialism, advocacy of imminent lawless action, and the likelihood of incitement were the three antecedents to the "no defense" result. Similarly, the absence of those elements accompanied a different result. Is this then the rule? Certainly not. Much more investigation is needed. Remember that induction leads only to probable conclusions. Remember also that Mill's methods work best when only single common antecedents are identified. If we have identified more than one it does not necessarily follow that all of the fact categories are crucial to the result. What, for example, is the importance of the fact that in all of the "no defense" cases above, the defendants were socialists? Probably not much when you consider that in the third case the communist was treated differently and when you begin to look deeper into the social and ethical implications of the new rule.

There is an additional weakness in using this kind of charting as if it lead to necessary conclusions. The patterns that are formed will depend on how the categories are defined. Someone else could categorize the facts of the three free speech cases and come to a totally different conclusion. Indeed, in a legal proceeding, that is exactly what will happen. My opponent will look at the very same cases and attempt to convince the court that they stand for a different rule or principle, and the
court may adopt my analysis, or my opponent's, or create one of its
own. It is the same problem as the one encountered by Chesterton
and Belloc, our friends who decided that water was the cause of inebri-
ation. This, however, should not be taken as a reason to avoid the
application of methods of inductive inference. For the opponents reach
their contrary conclusions by the very same methods. The categoriza-
tion of facts is a complex and creative aspect of legal reasoning. But
once the facts are categorized, the application of Mill's methods can
make more plain what is otherwise a hapless assortment of facts. Induc-
tion is a tool that carries with it some limitations. But within those
limitations it can be extremely useful in solving legal problems.

C. Common Fallacies

Since the time of Aristotle, nearly every textbook on logic has in-
cluded a list of common fallacies of reasoning. Most of them do not
concern deductive reasoning, the analysis of the form of certain argu-
ments, hence they are often labeled "informal fallacies." These common
fallacies consist of a large list (over 120 by one count) of mistakes in
everyday arguments. They are easy to understand, and they are ex-
emplified by abundant, often humorous examples. They are also prob-
ably the most useful of logical principles both in ordinary rhetoric and
in legal arguments. There is neither time nor reason to analyze each of
these fallacies. A few should suffice in showing the utility and the
value of knowing some common reasoning traps.

1. Ad Hominem

Whenever someone attacks not an opponent's argument, but the op-
ponent himself, the fallacy of ad hominem—to the person—is commit-
ted. It is a fallacy to do so because rarely does a person's morality,
political leanings, looks, religion, or membership in the American Civil
Liberties Union have anything to do with the merits of the argument
being posited. When Senator Jennings Randolph dismissed supporters

86. See LLEWELLYN, supra, at 48-52 for a nice description of this point.
87. If nothing else, Mill's methods provide useful organizational tools. For an excellent ex-
ample of Millian charting applied to a Supreme Court case see Justice Frankfurter's opinion
(with several charts) in McGowan v. Maryland, 366 U.S. 420, 551 (1960). Frankfurter charted 49
Sunday laws and the facts covered by the laws to illustrate their common purposes.
88. See Sophistical Refutations, THE WORKS OF ARISTOTLE (W. Ross ed. 1928) for the origi-
nal thirteen fallacies. All of the sources cited at note 38, supra, include chapters on logical falla-
cies. There are also some excellent books devoted exclusively to fallacies. Among them are: T.
DAMER, ATTACKING FAULTY REASONING (1980); W. FEARNSIDE & W. HOL ther, FALLACY:
The Counterfeit of Argument; and CONTEMPORARY RHETORIC, supra note 39.
89. D. FISHER, HISTORIAN'S FALLACIES (1970) lists 112 fallacies and discusses even more in
the text of the book.
90. Actually ad hominem means "to the man" but that would be sexist.
of the proposed Equal Rights Amendment by calling them a “small band of bra-less bubble heads,” he provided a sterling example of this reasoning error.91

The *ad hominem* fallacy is particularly at home in the legal profession. Countless times sly trial lawyers have jumped at the chance to discredit witnesses by slipping in the fact that the witnesses are closet communists,92 homosexuals,93 or prior felons.94 The famous case of Sacco and Vanzetti provides an excellent illustration.95 These two Italian-Americans were arrested for murder during the height of the “Red scare” in this country in the 1920s. Much of the trial focused not on the guilt of the two men, but rather on their radical politics. They were ultimately found guilty and executed. Consider an example closer to home. Many states in this country still have evidence laws that permit a victim’s prior sexual history to be admitted in a rape prosecution. The past behavior of a woman, sexual or not, would seem to be of little if any relevance to the establishment of the facts of a particular case of sexual assault.96 In a lighter vein, consider the example of the refusal of Texas lawyers to cite any cases written by a group of reviled judges.97

The fallacy even crops up in the nation’s highest court. In the case of

91. After describing the great advances women have made in the last century, Senator Ran- dolph comments: Today, I fear, this progress is being retarded by a strange and strident voice that pro- fesses to speak of all women—everywhere. It parades under a banner of odd acronyms claiming “oppression,” and screams for an ill-defined liberation . . . . The small band of bra-less bubble heads who consider free and unlimited abortions an absolute “right” are not a valid voice for the American woman anymore than the fashion designers or makers of slimmer cigarettes and more kissable lipsticks. Passage of the so-called equal sexual rights amendment is morally laudable, but it could create a jungle of jurispru- dence that might result in such inanities as maternity leave for male employees . . . . 116 CONG. REC. 30,099 (1970). The senator’s speech provides a minor goldmine of logical falla- cies, among them distortion (does any feminist group profess to be the exclusive voice for all women?), and the slippery slope (a “jungle of jurisprudence?”). See notes 103-107, 114-122 and accompanying text infra.

92. It is still a general rule of evidence that, for the purpose of attacking credibility, a witness may be asked on cross examination whether he is a member of the Communist Party. NLRB v. Fulton Bag & Cotton Mills, 180 F.2d 68 (10th Cir. 1950); see 98 C.J.S. Witnesses §515(i) (1957).

93. Although the general rule is that evidence of “illicit relations” is not admissible, except for the purposes of proving bias, the number of appellate cases on the subject seems to indicate that attorneys are still diligently trying to slip such information into trial proceedings. See Annot., 25 A.L.R.3d 537 (1969).

94. This is a thorny issue of evidence. For a discussion of the several approaches see C. McCormick, HANDBOOK OF THE LAW OF EVIDENCE 85-90 (2d ed. 1972).

95. See generally F. Frankfurter, THE CASE OF SACCO AND VANZETTI: A CRITICAL ANALYSIS FOR LAWYERS AND LAYMEN (1927).

96. There are a host of cases and law review articles on this subject. See, e.g., Ordover, Admissibility of Patterns of Similar Sexual Conduct: The Unlamented Death of Character for Chas- tity, 63 CORNELL L. REV. 90 (1977); Comment, Due Process Challenge to Restorations on the Sub- stantive Use of a Rape Prosecutrix’s Prior Sexual Conduct, 9 U.C.D. L. REV. 443 (1976).

97. The judges—those serving during the reconstruction period that followed the Civil War—were considered uniformly incompetent. See JUSTIFICATION OF THE LAW, supra note 53, at 80-81.
Papish v. University of Wisconsin\(^98\) the Supreme Court decided that a student passing out allegedly indecent newspapers was protected by the first amendment. Justice Rehnquist dissented in this 1972 case, including in his opinion disparaging remarks concerning the defendant's academic standing and evident lack of academic motivation.\(^99\) It is not clear why this is at all relevant to the merits of the case. It is clear that the *ad hominem* is alive and well in the courtroom.

This is not to say that *all* attacks on persons instead of arguments are fallacious. In a case involving abortion it may be quite relevant to know that a witness is a Catholic Cardinal. The element of bias is an important factor in assessing the credibility of a witness's testimony.\(^100\) Likewise it is relevant to assert that a witness has been convicted of eighty-seven counts of perjury.\(^101\) And there are certain cases when the character of a witness or defendant is the very fact that may determine rights and liabilities.\(^102\)

The point remains, though, that it is advisable to be wary of arguments that attack persons rather than other arguments. Double check the relevance of such comments before advancing them too hastily.

2. The Slippery Slope

This is an amusing but dangerous fallacy. It is committed whenever someone says if we take one stand, then another one certainly follows, and another one, and so on until we reach a result that every sane person would easily recognize as ludicrous or undesirable.\(^103\) It is the bureaucrats' favorite remark: "You may have a good case. But if we let you have your way, we'll have to let everyone do likewise and that just wouldn't do...

It is the tried and true justification for wars of all shapes and sizes: "If we weren't [in Vietnam] those Commies would have the whole thing, and it wouldn't be long until we'd be looking off the coast of Santa Monica."\(^104\) It is also the lame excuse for a justification of a judicial decision in innumerable legal opinions. It is the dom-

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99. Id. at 673-75.
100. See generally McCormick, *supra*, at 78-80.
101. See id. at 86.
102. For example, a case of defamation, see *id.* at 443-44.
103. This is often mistakenly labeled "*reductio ad absurdum*," which is actually an acceptable method of indirectly proving the invalidity of a deduction. Generally speaking the rule of *reductio ad absurdum* is whatever leads to a contradiction is false. See Brennan, *supra* note 38, at 127, 130; Cohen & Nagel, *supra* at 89-91; and Kahane, *supra* note 38, at 67-70.
104. Bob Hope, quoted in Contemporary Rhetoric, *supra* note 39, at 44. Similar comments have cropped up recently in the Reagan administration as attempted justifications for United States aid to the nation of El Salvador. We are not just protecting a tiny Central American country, the argument goes, ultimately the security of our own borders is at stake. See Salvador's Arms Pipeline, *Time*, March 2, 1981, at 41.
The theory of litigation: "If we hold for the plaintiff a flood of litigation will follow..." In the first place, it is not always so clear that a flood of litigation will in fact follow. In the second place, so what? It would be a sad day for our legal system when the equitable and otherwise legal solution to problems gives way to predictions of administrative inconvenience.

A marvelous old example of the fallacy of the slippery slope is the English case of *Priestly v. Fowler.* The defendant in this case was injured while driving an allegedly defective wagon in the service of his master. The defendant attempted to convince the court that masters have a duty to keep such equipment in proper repair, and that duty being violated, they are liable to injured servants. The court commented that such a rule would be untenable because of its natural consequences:

If the owner of the carriage is therefore responsible for the sufficiency of his carriage to his servant, he is responsible for the negligence of his coach-maker, or his harness-maker, or his coachman. The footman, therefore, who rides behind the carriage may have an action against his master for a defect in the carriage owing to the negligence of the coachmaker, or for a defect in the harness arising from the negligence of the harness-maker, or for drunkenness, neglect, or want of skill in the coachman; nor is there any reason why the principle should not, if applicable in this class of cases, extend to many others. The master, for example, would be liable to the servant for the negligence of the chambermaid, for putting him into a damp bed; for that of the upholsterer, for sending in a crazy bedstead, whereby he was made to fall down while asleep and injure himself; for the negligence of the cook, in not properly cleaning the copper vessels used in the kitchen; of the butcher, in supplying the family with meat of a quality injurious to the health; of the builder, for a defect in the foundation of the house, whereby it fell, and injured both the master and the servant by the ruins.

This, said the court, is both inconvenient and absurd. So, it would seem, is the court's reasoning.

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105. See, e.g., Textile Workers Union of America v. Lincoln Mills of Alabama, 353 U.S. 448, 493 (1957):

'By offering easy access to the courts in cases where a breach of a collective-bargaining agreement is alleged, it would act as an inducement to litigate every alleged grievance, and would result in a flood of litigation making the courts again [a] battlefield...'


107. Id. at 1031-32.
3. Suppressed Evidence

This is not exactly a fallacy of logic. Still it is an extremely common error in argument. The fallacy of suppressed evidence occurs whenever an argument is stated and relevant damaging information is either intentionally or negligently omitted. Think of all the automobile commercials on television touting a particular model as “the number one selling car in America.” How can all those cars be number one at the same time? It’s easy once you know the information that is conveniently left out of the commercial: that, for example, the XG-7 is the hottest selling car in the mid-price-subcompact-domestic-body-foreign engine-category. Movie ads are another fine example. Often an ad for a movie will contain such recommendations as “exhilarating and fantastic . . . ” to give the impression that a reviewer actually liked the film. Frequently a closer look at the original reviewer’s remarks will reveal something like: “The director attempts to create exhilarating and fantastic special effects, but unfortunately he fails miserably . . . .” 108

Consider also the comments of a nutritionist who defends the value of dry breakfast cereals. “Cereals with milk,” says the expert, “provide approximately the same amount of protein and calories as a bacon and eggs breakfast. And they also provide substantially more calcium, riboflavin, niacin, thiamin, iron, and substantially less fat . . . .” 109

What the expert fails to say is that much if not most of the nutritive value in the cereal breakfast comes from the milk, and in addition there is no mention of the fact that many of the breakfast cereals contain large amounts of sugar. 110

It comes as no great surprise that this type of reasoning flaw crops up frequently in legal writing. It is, however, a dangerous and embarrassing mistake. The most common example of this error in the legal context is conveniently forgetting to mention a case that is on point but that reaches an undesirable conclusion. It is to be sure not so common for lawyers to indulge in this fallacy, for lawyers realize that if they do not cite all of the cases on point, their opponents surely will. 111 But law students do not seem to learn this lesson easily, and the fallacy occurs

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108. For example, recent ads for the new movie Superman II appeared with the comments of one reviewer: “It is that rarity of rarities, a sequel that readily surpasses the original.” What the ads fail to include is the next sentence, which continues: “This is not, perhaps, a task requiring Kryptonic levels of wit and wisdom, because the initial effort was more than a little crude.” Flying High, TIME, June 8, 1981, at 74.


110. See CONSUMER REP., February 1981, at 68.

111. Even more important, it is the lawyer’s ethical responsibility to cite all relevant case law. The American Bar Association Code of Professional Responsibility states clearly:

Where a lawyer knows of legal authority in the controlling jurisdiction directly adverse to the position of his client, he should inform the tribunal of its existence unless his
with alarming frequency in student, particularly first-year student, legal writing.

4. *Ad Misericordiam*

*Ad misericordiam* is the logician's Latin expression for an appeal to pity. It is the first cousin of the *ad hominem*, an appeal to the character of the arguer rather than the argument itself. The appeal to pity occurs whenever someone asserts a point of view not on the basis of the merits of that point of view but on the basis of some irrelevant fact that might appeal to the sympathies of the audience.

The appeal to pity is one of the trial lawyer's favorite tactics. Clarence Darrow, for example, used it in the trial of Thomas Kidd, who was accused of criminal conspiracy:

I appeal to you not for Thomas Kidd, but I appeal to you for the long line—the long, long line reaching back through the ages and forward to the years to come—the long line of despoiled and downtrodden people of the earth. I appeal to you for those men who rise in the morning before daylight comes and who go home at night when the light has faded from the sky and give their life, their strength, their toil to make others rich and great. I appeal to you in the name of those women who are offering up their lives to this modern god of gold, and I appeal to you in the name of those little children, the living and the unborn.¹¹²

What do the famous lawyer's comments have to do with the guilt or innocence of the defendant? Of what relevance is the plight of the “despoiled and downtrodden people” in this case?

Appeals to pity, like arguments *ad hominem*, are not always fallacious. There may be cases involving social or moral questions when such considerations are quite relevant. Too, in the courtroom, the appeal to pity is an extremely effective tool of persuasion, especially in arguments before a jury. When “doing your best” for a client it might seem difficult to throw out a tactic that works simply because it violates adversary has done so; but having made such disclosure, he may challenge its soundness in whole or in part.


¹¹². ATTORNEY FOR THE DAMNED: CLARENCE DARROW IN HIS OWN WORDS 325 (A. Weinberg ed. 1957). Darrow's closing statement to the jury in this case is a masterful example of distortion and irrelevancy. “It is impossible,” said Darrow to present this case to you without a broad survey of the great questions that are agitating the world today. For whatever its form, this is really not a criminal case. It is but an episode in the great battle for human liberty, a battle which was commenced when the tyranny and oppression of man first caused him to impose upon his fellows, and which will not end so long as the children of one father shall be compelled to toil to support the children of another in luxury and ease.

Id. at 269.

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a rule in a dusty logic book. But at the very least it is important to know that the fallacy exists, to clarify arguments being advanced as well as critiquing and attacking arguments in opposition.

5. **Distortion**

A frequent method of argument involves distorting an opponent's position and attacking the distortion to prove an opposite point. Distortions are always easier to attack than the opponent's real arguments. Distortion is a subtle art that can be practiced in several different ways. An argument can be extended beyond its original bounds allowing inferences to be drawn that are totally unwarranted. An argument can simply be misstated, though this is a risky tactic. An argument can also be carefully simplified in such a way as to make it look absurd.

Distortion is a favorite of politicians, particularly during campaign seasons. Former Vice-President Spiro Agnew was an expert at distortion. Consider his remarks made during a 1970 congressional campaign trip:

"The issue [in the November elections] is whether a free people operating under a free and representative system of government will continue to govern the United States, or whether they will cede that power to some of the people—the irresponsible people, the lawbreakers on the streets and campuses and their followers, their sycophants and the people who subscribe to their activities behind the scenes, the radical liberals."

Was that really the issue? Was the Democratic party really advocating power to the "radicals"?

In a similar vein President Ronald Reagan ran on a platform that was riddled with distortions, among them that the Democratic party, 114. Quoted in *Contemporary Rhetoric*, supra note 39, at 34.

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113. If the appeal to pity is too obvious or too inflammatory, though, an attorney runs the risk of having the tactic backfire. "Not only," says one commentator, "do they [appeals to pity] involve serious risk of reversal of a favorable judgment because of an improper argument, but also there is some risk that the jury will consider the argument a plea for a gift rather than a plea for justice." R. Keeton, *Trial Tactics and Methods* 276 (1973). *See also* Annot., 99 A.L.R.2d 1249 (1968).

Still every standard trial advocacy textbook contains advice on how to appeal to the sympathies of the jury. Consider the advice of one in the case of a personal injury suit:

Tell them about the injury, how it occurred and what has happened to him [plaintiff] since the injury. Use descriptive terms... if bones are fractured, tell the jury about the bone and its fracture. If the femur is involved, tell the jury about it, that it is the longest bone in the body. That it is a weight bearing bone, that it is important to walking, lifting, running, squatting, and so forth. Describe the healing process, the reason for the pain. Describe the soft tissues in the areas of the fracture, the tendons, muscles, blood supply, and nerves. If rib fractures are present, describe the function of the ribs, the expansion and contraction while breathing, why it hurts when the client breathes. Add up the number of breaths taken during the day and tell the jury.

and in particular former President Jimmy Carter, were directly respon-
sible for the current inflation, that government regulation is responsible
for the nation's current economic ills, and that current environmental
programs are unjust since trees and volcanoes create as much pollution
as do automobiles.\textsuperscript{115} The nation's economic problems have more to
do with the cost of energy and a host of other complicated economic
factors than party politics. And they certainly cannot be attributed to a
single man. Moreover, the statement concerning tree pollution is
plainly false. Trees and volcanoes do not create as much pollution as
human activities. Even if this were not the case, the fact remains that
nature-created pollution does not significantly affect human welfare,
whereas industrial and auto pollution, occurring in the heart of
America's urban centers, poses an immediate threat to public health.\textsuperscript{116}

As might be expected, the fallacy of distortion is as common to the
legal profession as it is to politics. Briefs often rely on distortions of
opposing arguments, or even distortions of cases themselves. Even
judges have been known to distort the positions of parties to buttress
their own decisions and rationales. In Supreme Court cases involving
more than one opinion it is not uncommon for a dissenting justice to
misrepresent an opinion by the majority or vice versa. Consider the
well known case of \textit{Konigsberg v. State Bar of California}.\textsuperscript{117} Konigs-
berg was denied admission to the California Bar because he refused to
answer questions regarding his alleged prior affiliations with the Com-
munist party. His refusal was based on his belief that the questioning
violated his rights of free speech and association guaranteed by the first
and fourteenth amendments. A majority of the Supreme Court dis-
agreed. However, there was stiff opposition from a four-member mi-
nority. The resulting opinions comprise oft-quoted statements of

\textsuperscript{115} See 11 ENVIR. REP. (BNA) 811 (Oct. 17, 1980). Reagan's "talk first, qualify later" cam-
paign style left him subject to considerable criticism. Indeed, at one point in the campaign he
refused to speak to the press except from a carefully prepared address. See \textit{Meet the Real Ronald
Reagan}, \textit{TIME}, October 20, 1980, at 18-27. President Carter, of course, descended to the chal-
lenge, and bandied about more than his share of distortions and gaffes. Carter, for example,
repeatedly characterized Reagan as a "warmonger," eager to do battle with the Soviet Union.
Although Reagan was certainly representing a more conservative foreign policy, such appellations
as "warmonger" and "trigger happy" are plainly exaggerations. See \textit{War, Peace and Politics,
TIME}, October 6, 1980, at 22, 23.

\textsuperscript{116} Nature is responsible for about 90 percent of the carbon monoxide in the earth's atmos-
phere, and about 99 percent of all oxides of nitrogen. Sulfur dioxide, however, is almost exclu-
sively the creation of man, as are most hydrocarbons, lead emissions, and particulates. C.
\textsc{Stewart}, \textit{Air Pollution, Human Health, and Public Policy} 7-8 (1979). Reagan's com-
ments concerning volcanoes and auto pollution represent a faulty comparison since the types of
pollution associated with these activities are different. Moreover, that some or even a large por-
tion of pollution occurrences are attributable to natural process does not bear much relevance to
the control of man-made pollution. Whereas there is no way to control natural pollution, man-
made pollution can be regulated. Volcanoes cannot be corked. Smoke stacks can be.

\textsuperscript{117} 366 U.S. 36 (1961).
opposing views regarding first amendment theory. Justice Harlan began the first amendment portion of the majority opinion by remarking that the first amendment is not absolute and does not protect free speech in all circumstances. He indicated that freedom of speech is not absolute, not only in the undoubted sense that where the constitutional protection exists it must prevail, but also in the sense that the scope of that protection must be gathered solely from a literal reading of the First Amendment . . . . [C]onstitutionally protected freedom of speech is narrower than an unlimited license to talk. With this characterization of the so-called absolutist position set forth, Harlan dealt an easy blow by simply citing the laws of libel, slander, misrepresentation, and obscenity as examples of the good sense of a more limited view of the first amendment. The trouble with Justice Harlan’s opinion is that it described a view of the first amendment that no one seriously adhered to, at least not Justice Black, who wrote the dissenting opinion. Not even Justice Black considered the first amendment to be an “unlimited license to talk.” Yet when Justice Black took the majority to task he succumbed to the same sort of distortion that Justice Harlan did. The dissenting opinion characterized the majority holding as “a sweeping denial of the existence of any inalienable right to speak . . . ,” something that Justice Harlan’s opinion never came close to saying. Just because Justice Harlan said that the first amendment did not guarantee the right of free speech in all cases, it does not necessarily follow, as the dissent plainly stated of the majority opinion, that the first amendment never provides unassailable protection. If only lawyers and judges could direct their attention to the actual arguments at issue and not some straw creations to be nimblly jostled, cases would likely be easier to decide. Decisions would be easier to understand. And opinions would certainly be much shorter in length.

CONCLUSION

Logic is not the answer to all of the difficulties of learning legal reasoning. The process of legal problem solving is rich with complexities and considerations that logic simply cannot comprehend. It is a very human, creative process. And yet logic cannot be left out. There is much to legal reasoning that is quite logical, and attempts to describe

119. 366 U.S. at 49-50.
120. Id. at 49 n.10.
121. Id. at 56.
122. Id. at 67.
legal reasoning as an allogical process ignore the facts and leave little that is clear and understandable in logic's place. Logic is an inextricable part of legal reasoning. The process of analogization for instance is crucial to legal problem solving. It is also an indispensible tool in ensuring that legal reasoning is correct. No one should have much faith in a system of laws that was not applied with consistency and predictability. And what is logic—for example the rules of deduction or the avoidance of common fallacies—except a series of rules to ensure consistency and predictability in problem solving? The principles of logic, at least the very basics, can and should be emphasized in legal education and in the legal profession as a whole. The students will understand legal reasoning with greater ease and clarity, their work will be performed with greater attention to consistency and critical analysis. And when they become lawyers the quality of their problem solving abilities should be improved and enhanced.