Chapter 4

INTRODUCTION TO DEDUCTIVE AND INDUCTIVE REASONING

The logic of the law is neither all deductive nor all inductive. To be sure, where the law is clear and the application of the facts to the law equally plain, the argument often sounds solely in deductive reasoning. Where the law is clear and the sole question is application of facts to the law, both inductive and deductive reasoning are used. And where the law is not clear, in Cardozo's phrase, where the courts "work for the future," both types of reasoning are very much involved.

Any development of the law becomes a recursive process. First, as cases are compared and their resemblances and differences noted, a judicial decision is made and a legal precept is created. Next there is a period when that newly minted precept becomes more or less fixed. A further stage takes place when the "new" precept becomes "old" and breaks down, or evolves, as new cases are decided. Inductive reasoning usually dominates the first stage—the creation of the precept. Deductive reasoning is used in refining the created precept and in applying it to the facts before the court. Inductive reasoning appears again at a later stage when efforts are made in subsequent cases to break down the precept.

This being so, what form of reasoning do we discuss first? Here we have a chicken-or-the-egg question. As we have explained, the common law develops from specific narrow rules to broader precepts, a classic process of inductive reasoning. Yet, to understand induction, it is best to first learn deduction. Hence we put the deductive cart before the inductive horse with some introductory observations on deductive reasoning.

DEDUCTIVE REASONING

Deductive reasoning is a mental operation that a student, lawyer or judge must employ every working day. Formal deductive logic is an act of the mind in which, from the relation of two propositions to each other, we infer, that is, we understand and affirm, a third proposition. In deductive reasoning, the two propositions which imply the third proposition, the *conclusion*, are called *premises*. The broad proposition

that forms the starting point of deduction is called the *major premise*; the second proposition is called the *minor premise*. They have these titles because the major premise represents the *all*; the minor premise, something or someone included in the all.

Logical argument is a means of determining the truth or falsity of a purported conclusion. We do this by following well established canons of logical order in a deliberate and intentional fashion. In law we must think and reason logically. We must follow a thinking process that emancipates us from impulsively jumping to conclusions, or frees us from argument supported only by strongly felt emotions or superstitions. That which John Dewey said for school teachers in generations past is still vital and important today: Reflective thought "converts action that is merely appetitive, blind and impulsive into intelligent action."[1]

The classic means of deductive reasoning is the *syllogism*. Aristotle, who first formulated its theory, offered this definition: "A syllogism is discourse in which, certain things being stated, something other than what is stated follows of necessity from their being so."[2] He continued: "I mean by the last phrase that they produce the consequence, and by this, that no further term is required from without to make the consequence necessary."[3] From this definition we can say that a syllogism is a form of implication in which two propositions jointly imply a third.[4]

Special rules of the syllogism serve to inform exactly under what circumstances one proposition can be inferred from two other propositions. Consider the classic syllogism:

All men are mortal.

Socrates is a man.

Therefore, Socrates is mortal.

This is a *categorical syllogism*, an argument having three propositions—two premises and a conclusion. A categorical syllogism contains exactly three terms or class names, each of which occurs in two of the three constituent propositions. A few definitions from the Socrates-is-a man syllogism:

- The major term is the predicate term of the conclusion, and of the major premise.

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1. John Dewey, How We Think 17 (1933).
2. L.S. Stebbing, A Modern Introduction to Logic 81(6th ed. 1948) (quoting *Anal. Priora* 24b).
3. *Id.* (quoting *Anal. Priora*, 18).
4. *Id.*

- The minor term is the subject term of the conclusion, and of the minor premise.
- The middle term does not appear in the conclusion, but must appear in each of the two other propositions.
- The major premise is the premise containing the major term.
- The minor premise is the premise containing the minor term.

Because the first proposition contains the major, or larger term, it is named the *major premise*, the larger precept laid down. Because the second contains the minor, or smaller term, it is called the *minor premise*, the lesser statement laid down. Because it follows from the major to the minor premise, the third proposition is called the *conclusion*. In the standard form categorical syllogism as used in the law, the major premise is stated first, the minor premise second and finally the conclusion. Returning to our classic example:

Major Premise:	All men are mortal
Major Term:	Mortal
Middle Term:	All men
Minor Premise:	Socrates is a man
Minor Term:	Socrates
Middle Term:	Man
Conclusion:	Therefore, Socrates is mortal
Minor Term:	Socrates
Major Term:	Mortal

Let us parse this syllogism identifying its parts:

Major Premise: The subject, "All men" (middle term); the copula "are" that connects the middle term with "mortal" (major term).

Minor Premise: The subject, "Socrates" (minor term); the copula "is" that connects the minor term with "man" (the middle term).

Conclusion: Therefore, "Socrates" (the minor term); the copula "is" that connects the minor term with "mortal" (the major term).

Some helpful hints derive from the foregoing rules: the middle term ("All men") may always be known by the fact that it does not occur in the conclusion. In law, the major term ("mortal") often is the predicate of the conclusion. The minor term ("Socrates") is always the subject of the conclusion.

INDUCTIVE REASONING

Deductive reasoning and adherence to the Socrates-is-a-man type of syllogism is only one of the major components of the common-law logic tradition. Inductive reasoning is equally important. In legal logic, it is often used to fashion either the major or the minor premise of the deductive syllogism. Often, a statute or specific constitutional provision unquestionably qualifies as the controlling major premise. It is the law of the case, with which the facts (minor premise) will be compared, so as to reach a decision (conclusion). Where no clear rule is present, however, it is necessary to draw upon the collective experience of the judiciary, to use Lord Diplock's felicitous phrase, to fashion a proper major premise from existing legal rules, the specific holdings of other cases. This is done by inductive reasoning.

As we now proceed to explain the difference between deductive and inductive reasoning, we do so with a pronounced caveat. This is a book on *legal* reasoning. It is not a book on *general* reasoning, nor an introduction to the general study of logic. Our formulations of definitions are guided by Max Radin's comment that the test of a definition is whether it is useful. We therefore acknowledge that our explanations may be considered by some logicians to be simplistic, if not precisely accurate when viewed against the universal cosmos of logic.

General logic, as well as law logic, deals with universal and particular propositions. And within this specialty it is possible in deductive logic to reason from a universal to another universal. For example:

All animals are mortal.

All men are animals.

Therefore, all men are mortal.

But the law is made up of particulars. In litigation, it is the particular facts found by the fact-finder that is the objective of any trial. In a commercial or business transaction it is the particulars of the conduct, deal, arrangement, agreement, bargain or understanding that create the conflict between the parties. Tight particulars are controlling in the law. And although in a series of syllogisms (polysyllogisms) we may reason deductively from the universal to a less broad universal before reaching the conclusion of the last of a series of syllogisms, the ultimate conclusion sought in deductive reasoning in the law is a particular.

Thus, for our purposes in this study, we can say that deductive reasoning moves by inference from the general ultimately to the

particular; inductive reasoning moves from the particular to the general, or from the particular to the particular.

In law, as in general logic, there are fundamental differences between the two types of reasoning:

- In deduction, the connection between a given piece of information and another piece of information concluded from it is a *necessary* connection. A deductive argument is one whose conclusion is claimed to follow from its premises with absolute necessity. If its premises are valid, the conclusion is valid. If the conclusion is valid, the premises are valid.
- In a valid deductive argument, if the premises are true, the conclusion *must* be true.
- An inductive argument is one whose conclusion is claimed to follow from its premises only with *probability* and not absolute necessity. All that is represented is that the conclusion is more probable than not.
- In induction, the connection between given pieces of information and another piece inferred from them is *not* a logically necessary connection. Its premises do not provide *conclusive* support for the conclusion; they provide only *some* support for it. Inductive arguments may be evaluated, for better or for worse, by the degree of likelihood or probability which their premises confer upon the conclusion.
- In a valid inductive argument, the conclusion is not necessarily an absolute truth; by induction, we reach a conclusion that is only *more probably* true than not.
- Thus, the core of the difference between deductive and inductive reasoning lies in the strength of the claim that is made about the premises and its conclusion. In the deductive argument, the claim is that if the premises are true and valid, then the conclusion is true and valid. In the inductive argument, the claim is merely that if the premises are true, the conclusion is more probably true than not.[5]
- In the law deductive reasoning moves from the general (universal) to the particular.
- In the law inductive reasoning moves:
  —from the particular to the general (universal)
  (induced generalization by enumeration of instances), or
  —from the particular to the particular (analogy).

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5. *See* discussion in Irving M. Copi & Carl Cohen, Introduction to Logic 57-61 (9th ed. 1994).

INDUCTIVE GENERALIZATION

For an introductory look at the process of induction, let us start with the all-men-are-mortal major premise. The premise, in general form, resulted from the process of enumeration; it was created by enumeration of billions of particulars to create a general statement. It is an example of inductive generalization:

> Adam is a man and Adam is a mortal.
>
> Moses is a man and Moses is a mortal.
>
> Tiberius is a man and Tiberius is a mortal.
>
> George Washington is a man and George Washington is a mortal.
>
> John Marshall is a man and John Marshall is a mortal.
>
> Pope John Paul II is a man and Pope John Paul II is a mortal.
>
> Therefore, all men are mortal.

It should be clear that the truth of the conclusion drawn from this inductive process is not guaranteed by the form of the argument, not even when all the premises are true, and no matter how numerous they are. We always run the risk of the fallacy of hasty generalization, about which we will learn more later. We can say, however, that the creation of a major premise in law by the technique of *inductive enumeration*, although not guaranteed to produce an absolute truth, does produce a proposition more likely true than not. This is the classic reasoning from a group of particulars to the general. This premise (which is the conclusion reached by inductive reasoning) is then, of course, always subject to modification as new cases are decided. Formulating a generalization in the law, that is, enumerating a series of tight holdings of cases (legal rules) to create a generalized legal precept (legal principle), is at best a logic of probabilities. We accept the result, not because it is an absolute truth, like a proposition in mathematics, but because it gives our results a certain hue of credibility. The process is designed to yield workable and tested premises, rather than truths.

From this you can see the interrelationship in the law between inductive and deductive argument. We use inductive enumeration to reach a conclusion that embodies a general class. The inductive conclusion then becomes the major premise in a deductive argument to reach the conclusion urged upon the court.

ANALOGY

Closely akin to reasoning by generalization is reasoning by *analogy*, which is the heart of the Socratic method used in teaching law and in the dialogues between judges and lawyers at oral argument. Although we find it convenient to classify analogy as a type of inductive reasoning, not all logicians agree, many suggesting that there is a difference between argument by enumeration and argument by analogy.[6] We place both processes under the heading of inductive reasoning because each process begins with an examination of particular instances. Moreover, as we shall see later, the strength of analogy in legal analysis is sometimes measured by an enumeration of relevant resemblances. In both forms the conclusion from the premises is represented as more probable than not. No further representation is made.

For our purposes, the specific room to which analogies should be assigned in the house of logic is not as important as understanding the criteria to be applied to analogies. Pursuant to the method of analogy, the courts do not generalize from a series of holdings, but proceed from certain relevant resemblances and differences between the case at bar and another single case or a relatively small group of cases. The relation between enumeration and analogy is close. Both use probability in reasoning. The force of an induced generalization by enumeration is measured by the *quantity* of instances. The force of analogy depends upon the *quality* of the positive and negative resemblances.

Lawyers and judges are often vulnerable to attacks on their reasoning by analogy. A proper analogy should identify the number of respects in which the compared cases, or fact scenarios, resemble one another (let us call these resemblances positive analogies) and the number of respects in which they differ (negative analogies). In analogy, unlike the method of enumeration, the quantity of cases is not significant. Instead, what is important is *relevancy*—whether the compared facts resemble, or differ from, one another in relevant respects. John Stuart Mill asked the question: "Why is a single instance, in some cases, sufficient for a complete induction, while in others myriads of concurring instances, without a single exception known or presumed, go such a very little way towards establishing an universal

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6. *See e.g.*, Joseph Gerard Brennan, A Handbook of Logic 154 (1957) ("Current logicians, however, tend to regard all inductions as following the first pattern, that is, as inferences to generalizations [rather than from particular to particular].") *But see* Irving M. Copi, Introduction to Logic 433 (7th ed. 1986). ("Because of the great similarity between argument by simple enumeration and argument by analogy, it should be clear that the same types of criteria apply to both.")

proposition? Whoever can answer this question knows more of the philosophy of logic than the wisest of the ancients, and has solved the problem of Induction."[7]

To refer again to the all-men-are-mortal syllogism, we can also use the process of analogy to conclude that Plato is a man:

> Socrates is a man and possesses physiological characteristics X, Y and Z.
>
> Plato possesses physiological characteristics X, Y and Z.
>
> Therefore, Plato is a man.

Let us turn to more practical examples of the process of analogy:

> Able Chevrolet Company is liable for violating the antitrust laws by requiring a tie-in purchase of a refrigerator manufactured by Mrs. Able if you want to buy a Camaro.

It is not difficult to analogize that liability also would follow from these facts:

> Baker Pontiac Company requires a tie-in purchase of a refrigerator manufactured by Mrs. Baker if you want to buy a Firebird.

What about other circumstances? Must the resemblances be relevant? Absolutely. Consider the following:

> State College had a championship basketball team last year. Team members came from high schools A, B, C, D, E and F.
>
> State College has recruited new players from high schools A, B, C, D, E and F for this year's team.
>
> Therefore, State College will have a championship basketball team this year.

Are the resemblances relevant? We must ask if the resemblance (players from the same high schools) is relevant, i.e., critical to the conclusion we seek to draw—a championship basketball team. An irrelevant similarity cannot provide the proper basis for an analogy.

An appreciation of these methods of reasoning will both sharpen your power of analysis and facilitate your study of law. We have outlined here only an introduction to deductive and inductive reasoning. We will describe the methods in depth in the following chapters.

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7. John Stuart Mill, A System of Logic Ratiocinative and Inductive 206 (8th ed. 1916).

Chapter 5

DEDUCTIVE REASONING

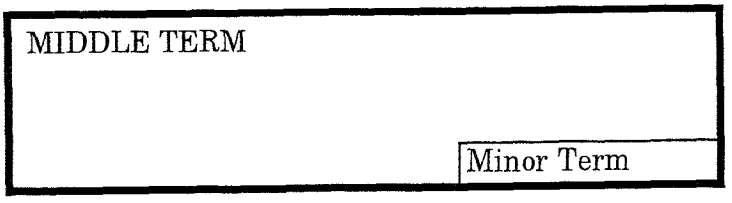
We are now ready to take a closer look at deductive reasoning. Here we should look from two viewpoints. When we participate in the reasoning process we naturally begin with the premises and arrive at a conclusion. When we analyze or evaluate reasoning, however, we reverse the process; we begin with the conclusion, for it is in the conclusion that, as brief writers, brief readers, oral advocates and judges, we examine the quality of the reasoning and evaluate the soundness of the arguments. To do this properly, it is essential to understand the *terms* of the categorical deductive syllogism:

A "term" is defined as a word or group of words contained in a premise or conclusion. Understand this concept completely, because logicians use this expression to identify certain fallacies of form, or formal fallacies. Learn to identify the three terms of a categorical syllogism:

Major Term: Usually the predicate of the major premise and also of the conclusion.

Minor Term: The subject of the minor premise and also of the conclusion. It is called minor because it is less inclusive than the middle term, which is often the subject of the major premise. It is usually part of the class represented by the middle term. In most arguments, the minor term is the fact found or to be found by the fact-finder in the case.

Middle Term: Appears in the two premises, but not in the conclusion. It is the medium of comparison between the major and minor term. In the categorical syllogism, it usually appears as the subject of the major premise and the predicate of the minor premise.



The syllogism traces its ancestry to mathematics. Euclid's first axiom lies at the heart of the modern syllogism: Things which are equal to the same thing are equal to each other. Three canons or fundamental principles of the syllogism build on Euclid:

> Two terms agreeing with one and the same third term agree with each other.
>
> Two terms, of which one agrees and the other does not agree with one and the same third term, do not agree with each other.
>
> Two terms both disagreeing with one and the same third term may or may not agree with each other.[1]

To recapitulate, by definition the categorical syllogism consists of (a) a proposition called the major premise, in which the major and middle terms are compared together; (b) a minor premise, which compares the minor and middle terms; and (c) a conclusion, which contains the major and minor terms only.

Deductive reasoning is a mental operation that a lawyer must employ every working day in his or her life. Formal deductive logic is the act of the mind in which, from the relation of two propositions to each other, we infer, that is, we understand and affirm, a third proposition. In deductive reasoning, the two propositions which imply the third proposition, the conclusion, are called premises.

The broad proposition that forms the starting point of the deduction is called the major premise; the second proposition is called the minor premise.

They have these titles because the major premise represents the all, and the minor premise, something or someone included in the all.

Major Premise: **All men are mortal.**
Minor Premise: **Socrates is a man.**
Conclusion: **Socrates is mortal.**

All oral real estate conveyances are invalid.
Alpha's real estate conveyance is oral.
Alpha's real estate conveyance is invalid.

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1. W. Stanley Jevons, Elementary Lessons in Logic: Deductive and Inductive 121-22 (1965).

All persons in police custody must be given *Miranda* warnings if their statements are used.

Mr. Bravo is in police custody.

He must be given *Miranda* warnings.

Understand the nomenclature used by logicians in identifying the quantity of propositions or terms. Unfortunately, logicians use two different expressions when discussing these quantities.

Propositions: If the proposition is broad or general it is called a *universal* proposition. If it is narrow or specific, it is called a *particular*.

Terms: If a term is broad or general it is called a *distributed* term; if narrow or particular, it is called *undistributed*.

Thus, a universal proposition (All offers in contract law) is described as containing a "distributed" subject term. A particular proposition (Some offers in contract law) has an "undistributed" subject term. In each case the subject term is the Middle Term of the syllogism. We explain this in detail in the pages that follow.

CATEGORICAL SYLLOGISM

The categorical syllogism lies at the heart of all legal argument. Learn these fundamental concepts:

Syllogism: A syllogism is an argument containing premises and a conclusion.

Categorical Syllogism: A categorical syllogism is a deductive argument which consists of

1. Three categorical propositions,
2. Containing exactly three terms,
3. In which each of the three terms occurs in exactly two of the propositions.

Categorical Propositions and Classes

A class is a collection of objects that have in common some specified characteristic. "Categorical propositions" are statements about classes. There are four ways classes can be said to relate to one another:

1. Relationship of Containment: Every member of one class is said to be a member of (included or contained in) another class.
2. No relationship: No member of one class is said to be a member of a second class.
3. Relationship of Partial Containment: Some, but perhaps not all, members of one class are said to be members of (included or contained in) another class.
4. Relationship of Partial Non-Containment: Some, but perhaps not all, members of one class are said not to be members of (included or contained in) another class.

Four Standard Forms of Categorical Propositions

Categorical propositions affirm or deny these relationships between classes. There are four standard forms of categorical propositions as illustrated by the following:

1. All judges are honest.
2. No judges are honest.
3. Some judges are honest.
4. Some judges are not honest.

Each standard form categorical proposition has a name and a letter (A, E, I or O) which logicians traditionally use to identify each standard form. We can represent each standard form categorical proposition by way of a statement using the letters S and P to represent the Subject and Predicate of the proposition. The four standards forms are as follows:

A: Universal Affirmative Proposition

All S is P: Every member of the first class is also a member of the second class.

All oral contracts for the sale of real estate are invalid.

E: Universal Negative Proposition

No S is P: No member of the first class is also a member of the second class.

No oral contract for the sale of real estate is valid.

I: Particular Affirmative Proposition

Some S is P: Some members (at least one) of the first class are also members of the second class.

The oral contract for the sale of the Three Rivers Stadium, Pittsburgh, to the New York Yankees is invalid.

O: Particular Negative Proposition

Some S is not P: Some members (at least) of the first class are not members of the second class.

The oral contract for the sale of the Three Rivers Stadium, Pittsburgh, to the New York Yankees is not valid.

The letters **A, E, I, O** emanate from the Latin **A**ffi**r**mo (affirm) and **N**eg**o** (deny). Logicians describe the three propositions in the all-men-are-mortal syllogism as AII.[2]

Categorical Propositions: Quality and Quantity

Every standard form categorical proposition is said to have both a quality and a quantity:

Quality:	Affirmative or Negative
Quantity:	Universal or Particular
	Universal Quantifiers: "All," "No"
	Particular Quantifiers: "Some"

Categorical Propositions: Distribution

A proposition distributes a term (subject class or predicate class and middle, major or minor term) if it refers to all members of the class designated by the term.

Universal Affirmative (A) Propositions:

Subject Term:	Distributed
Predicate Term:	Undistributed

2. For a detailed discussion of A, E, I and O and how they are applied to propositions, *see* Irving M. Copi and Carl Cohen, Introduction to Logic 210, 214 (9th ed. 1994).

laconic briefs or judicial opinions setting forth only the bare bones of a syllogism. Very few do. Lawyers and judges write and talk too much. Arguments are loaded with declarative sentences that are not the necessary propositions of our argument. They are not the necessary premises of the syllogism. Rather, they are inserted to convince the reader to accept the argument in an adversarial environment. But the argument eventually stands or falls on the bare bones of the syllogism. Thus, a fifty-page brief in the United States Court of Appeals is soon reduced to a fifteen minute oral presentation that features a lively colloquy between the judges and the lawyers. In the judges' conference following argument, a decision is often reached by mere recitation of the naked syllogism. This is because experienced judges are familiar with the subject matter. They soon cut through to the basic structure of the argument because they are familiar with most, if not all, of the reasons supporting the propositions. Fortunately, or unfortunately, when the statement of reasons appears in print, however, judicial opinions are filled with countless pages giving reasons for (1) selecting the major premise, (2) interpreting the major premise, (3) interpreting the minor premise, (4) applying the premises to the facts found by the fact-finder and (5) stating the conclusion. Too often judicial opinions are overwritten and it becomes necessary always to identify the precise structure of the argument by stripping away explanatory materials. It is important not to confuse these materials with the critical framework of the argument.

RULES OF THE CATEGORICAL SYLLOGISM

All logicians refer to six rules for categorical syllogisms.[14] They vary in language only slightly. These rules are traceable to definitions first articulated by Aristotle, now summarized by the principle *dictum de omni et nullo* because it is an axiom concerning *all* or *none* of a class. For our purposes, I will use the formulations of Professor Copi.

Rule One: A valid categorical syllogism must contain exactly three terms, each of which is used in the same sense throughout the argument.

Three terms (major, middle and minor) must be involved in every valid syllogism. Any categorical syllogism that contains more than

14. Irving M. Copi & Carl Cohen, Introduction to Logic 261-268 (9th ed. 1994); W. Stanley Jevons, Elementary Lessons in Logic 127-129 (2d ed. 1952); L.S. Stebbing, A Modern Introduction to Logic 87-88 (6th ed. 1948); James Edwin Creighton, An Introductory Logic 139 (1898); Ralph M. Eaton, General Logic, An Introductory Survey 95-100 (1931); John C. Cooley, A Primer of Formal Logic 306 (1942).

three terms is said to commit the formal Fallacy of Four Terms *(quaternio terminorem)* (see Chapter 10). If a term is used in different senses in the argument, it is being used equivocally, and the informal fallacy of equivocation results (see Chapter 12).

Rule Two: In a valid categorical syllogism, the middle term must be distributed in at least one premise.

Any syllogism that violates Rule Two is said to commit the formal Fallacy of the Undistributed Middle (see Chapter 10). For the two terms of the conclusion (minor and major) to be connected through the third (middle) term, at least one of them must be related to the whole of the class designated by the third or middle term. Otherwise each may be connected with a different part of that class, and not necessarily connected at all. This is what happens in the following:

All dogs are mammals.

All cats are mammals.

Therefore, all cats are dogs.

Dogs are included in part of the class of mammals and cats are included in part of the class of mammals. But different parts of the class may be (and, in this case, are) involved so that the middle term does not connect the major and minor terms. Because it is through the middle term that the connection between the extreme terms is secured, it is essential that the same part of the middle term should be related to both extreme terms.

In the law, the fallacy may occur when the middle term is not broad enough to encompass the entire class of which the minor term is a part. Thus, we cannot proceed too far in the following major premise in a contest over a will's validity:

> In some non-holographic wills, the testator's signature must be witnessed.

The middle term "In some non-holographic wills" is not distributed. It does not represent the whole of a class. For the argument to proceed properly, the term must read "In all non-holographic wills."

Rule Three: In a valid categorical syllogism, no term can be distributed in the conclusion which is not distributed in the premise.

Because to distribute a term is to take in its whole extent, a distributed term refers to every member contained under the term. If

a term is undistributed in one of the premises (Some defendants found guilty of the crime of mopery must go to jail under the Sentencing Guidelines), the conclusion must not be distributed (and refer to all such defendants) because the conclusion would go beyond the data. The rule rests upon the fundamental principle that if the data refer to some only of a class, no conclusion referring to every member of the class can be deduced. Violation of this rule is known as a formal Fallacy of Illicit Major or Illicit Minor as set forth in Chapter 10.

In the law, this rule is closely related to Rule Two, depending on how the lawyer or judge structures the argument.

Rule Four: No categorical syllogism is valid which has two negative premises.

This rule proceeds from the same consideration as in Rule Three, i.e., that both premises must refer to the same part of the middle term, whether by inclusion in one case or exclusion in the other. If all that were given were the exclusion of the minor and the major term from the middle in the form of negative premises, no connection between the minor and the major would be established.

No U.S. Circuit Judges are infallible.

No Russian citizens are U.S. Circuit Judges.

From this no connection between those who are infallible and Russians can be deduced.

Rule Five: If either premise of a valid categorical syllogism is negative, the conclusion must be negative.

An affirmative conclusion asserts that one class is either wholly or partly contained in a second. This can be justified only by premises that assert the existence of a third class that contains the first and is itself contained in the second. To entail an affirmative conclusion both premises must assert class inclusion.

All oral real estate contracts are invalid.

This contract is an oral real estate contract.

This contract is invalid.

The middle term "All oral real estate contracts" is included the class of the major term, invalid contracts. The minor term, "This contract" is included in the class of the middle term, "All oral real estate contracts."

But class inclusion can be stated only by affirmative propositions. Because an affirmative conclusion can only follow from affirmative

premises, if either premise is negative, the conclusion cannot be affirmative; it must be negative, too. Because it is so obvious, in the law we seldom encounter the Fallacy of Drawing an Affirmative Conclusion from a Negative Premise.

Rule Six: No valid categorical syllogism with a particular conclusion can have two universal premises.

This is but to say that an undistributed term, usually the minor term, must appear in one of the premises. Otherwise, it may not properly appear in the conclusion for the first time.

As we shall see in Chapters 9 and 10, a departure from these rules results in a fallacy of form, or formal fallacy. Unfortunately, such fallacies occur frequently in oral arguments, written briefs and judges' opinions.

A MISSION: LOCATE THE SYLLOGISMS IN THE FOLLOWING CASES

We are now ready to examine excerpts from leading United States Supreme Court cases. Read them not for their substantive content, but for their syllogisms. Identify the major and minor premises. In what order do the premises appear? Does the conclusion appear first? Look out for enthymemes and polysyllogisms, and decide if the court leaped to conclusions or followed logical order. Test your knowledge of the foregoing materials by locating the syllogisms in the following excerpts. After completing the exercise, test your results against the analysis set forth in Appendix "B" at the end of the book.

Marbury v. Madison
5 U.S. (1 Cranch) 137, 177-78 (1803)

[In the Judiciary Act, Congress had authorized the Supreme Court "to issue writs of mandamus, in cases warranted by the principles and usages of law, to any courts appointed or persons holding office, under the authority of the United States." The ultimate question in this case was whether the Court had the power to issue mandamus directed to Secretary of State James Madison, because he was "such a person holding office." The Court concluded that it had no jurisdiction to issue the writ and declared the statute giving the Court jurisdiction to be

repugnant under Article III, section 2 of the Constitution. Chief Justice Marshall reasoned:]

Certainly, all those who have framed written constitutions contemplate them as forming the fundamental and paramount law of the nation, and consequently, the theory of every such government must be that an act of the legislature, repugnant to the constitution, is void. This theory is essentially attached to a written constitution, and is, consequently, to be considered, by this court, as one of the fundamental principles of our society. It is not, therefore, to be lost sight of, in the further consideration of this subject.

It is, emphatically, the province and duty of the judicial department, to say what the law is. Those who apply the rule to particular cases, must of necessity expound and interpret that rule. If two laws conflict with each other, the courts must decide on the operation of each. So, if a law be in opposition to the constitution; if both the law and the constitution apply to a particular case, so that the court must decide that case, conformable to the law, disregarding the constitution; or conformable to the constitution, disregarding the law; the court must determine which of these conflicting rules governs the case: this is of the very essence of judicial duty. If then, the courts are to regard the constitution, and the constitution is superior to any ordinary act of the legislature, the constitution, and not such ordinary act, must govern the case to which they both apply.

McCulloch v. State of Maryland
17 U.S. (4 Wheat.) 316, 435-36 (1819)

[This case required interpreting the Supremacy Clause. Speaking through John Marshall, the Court held that Maryland could not tax the operations of a branch of the bank of the United States.]

It has also been insisted, that, as the power of taxation in the general and state governments is acknowledged to be concurrent, every argument which would sustain the right of the general government to tax banks chartered by the states, will equally sustain the right of the states to tax banks chartered by the general government. But the two cases are not on the same reason. The people of all the states have created the general government and have conferred upon it the general power of taxation. The people of all the states, and the states themselves, are represented in Congress, and, by their representatives, exercise this power. When they tax the chartered institutions of the states, they tax their constituents; and these taxes must be uniform. But when a state taxes the operations of the government of the United

States, it acts upon institutions created, not by their own constituents, but by people over whom they claim no control. It acts upon the measures of a government created by others as well as themselves, for the benefit of others in common with themselves. The difference is that which always exists, and always must exist, between the action of the whole on a part, and the action of a part on the whole—between the laws of a government declared to be supreme, and those of a government which, when in opposition to those laws, is not supreme.

Dred Scott v. Sandford
60 U.S. (19 How.) 393, 403, 408, 416, 426, 454, 572, 576, 582 (1856)

Mr. Chief Justice Taney delivered the opinion of the Court:

The question is simply this: can a Negro whose ancestors were imported into this country and sold as slaves, become a member of the political community formed and brought into existence by the Constitution of the United States, and as such become entitled to all the rights, and privileges, and immunities, guaranteed by that instrument to the citizen. One of these rights is the privilege of suing in a court of the United States in the cases specified in the Constitution.

The opinion thus entertained and acted upon in England was naturally impressed upon the colonies they founded on this side of the Atlantic. And, accordingly, a Negro of the African race was regarded by them as an article of property, and held, and bought and sold as such, in every one of the thirteen Colonies which united in the Declaration of Independence, and afterwards formed the Constitution of the United States. The slaves were more or less numerous in the different Colonies, as slave labor was found more or less profitable. But no one seems to have doubted the correctness of the prevailing opinion of the time.

The legislation of the different Colonies furnishes positive and indisputable proof of this fact. . . .

The legislation of the States therefore shows, in a manner not to be mistaken, the inferior and subject condition of that race at the time the Constitution was adopted, and long afterwards, throughout the thirteen states by which that instrument was framed; and it is hardly consistent with the respect due to these states to suppose that they regarded at that time, as fellow citizens and members of the sovereignty, a class of beings whom they had thus stigmatized; whom, as we are bound, out of respect to the state sovereignties, to assume they had deemed it just and necessary thus to stigmatize, and upon whom they had impressed such deep and enduring marks of inferiority