LEGAL REASONING

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1. THE FOUR TYPES OF REASONING

Reasoning is either deductive or inductive:

- Deductive reasoning begins with a general proposition (e.g., "all dogs");

- Inductive reasoning begins with a particular proposition (e.g., "this dog").

There are two types of deductive reasoning. Deductive reasoning begins with a general proposition, and ends either:

- With a general proposition (such "general-to-general" reasoning is rarely used), or

- With a particular proposition ("categorical syllogism").

There are two types of inductive reasoning. Inductive reasoning begins with a particular proposition, and ends either:

- With a general proposition ("reasoning by generalization"), or

- With a particular proposition ("reasoning by analogy").

In summary:

Deductive Reasoning	From general to general *(rarely used)*	From general to particular *(categorical syllogism)*
Inductive Reasoning	From particular to general *(generalization)*	From particular to particular *(analogy)*

A conclusion obtained through deductive reasoning is certain. Mathematics is based on deductive reasoning.

A conclusion obtained through inductive reasoning is probable, not certain. Science is based on inductive reasoning.

Law employs both inductive and deductive reasoning:

1. Case law principles are created by *inductive generalization*;

2. The legal principles to be used in a particular case are determined by *inductive analogy*; and

3. The relevant legal principles are applied to the facts of a particular case by *deduction*.

2. THE TWO TYPES OF DEDUCTIVE REASONING

Here are examples of the two types of deductive reasoning:

A. From General To General (Rarely Used)

Premise One *All mammals* are warm blooded.

Premise Two <u>*All dogs* are mammals.</u>

Conclusion Therefore, *all dogs* are warm blooded.

B. From General To Particular (Categorical Syllogism)

Major Premise *All mammals* are warm blooded.

Minor Premise <u>Dog *Fido* is a mammal.</u>

Conclusion Therefore, *Fido* is warm blooded.

The statement "all mammals are warm blooded" is certain and can never be disproved, not even if a cold-blooded, doglike creature were discovered on a remote island. No matter how doglike the creature was, it wouldn't be a mammal unless it were warm blooded. The reason is that being warm blooded is part of the *definition* of being a mammal.

Thus, unlike an inductive statement (which is subject to being disproved upon discovery of new empirical evidence), a deductive statement is always true – because it is true by definition.

3.   THE TWO TYPES OF INDUCTIVE REASONING

Here are examples of the two types of inductive reasoning:

A.   From Particular To General (Inductive Generalization)

Premise One	Pavlovian conditioning caused dog *Fido* to salivate when a bell rings.
Premise Two	Pavlovian conditioning caused dog *Rover* to salivate when a bell rings.
Premise Three	Pavlovian conditioning caused dog *Spot* to salivate when a bell rings.
Premises Four+	[etc.]_____
Conclusion	Therefore, Pavlovian conditioning causes *all dogs* to salivate when a bell rings.

As scientists conduct more and more conditioning experiments and discover that all conditioned dogs salivate when a bell rings, it seems increasingly safe to inductively conclude that "Pavlovian conditioning causes all dogs to salivate when a bell rings." The conclusion will never be certain, however, because some day science may discover a dog that receives Pavlovian conditioning but doesn't salivate when a bell rings.

B.   From Particular To Particular (Inductive Analogy)

Premise One	Pavlovian conditioning causes dog *Fido* to salivate when a bell rings.
Premise Two	Cat *Felix* resembles *Fido* by [Similarity A], [Similarity B] and [Similarity C].
Conclusion	Therefore, Pavlovian conditioning will cause *Felix* to salivate when a bell rings.

Similarities create positive analogies; differences create negative analogies.

Positive analogies require meaningful similarities (and the meaningful similarities must outweigh any meaningful differences). What similarities between Fido and Felix are "meaningful" for purposes of predicting their responses to Pavlovian conditioning? How compelling is the above analogy if the similarities are that Fido and Felix both:

- possess autonomic nervous systems?

- are intelligent?

- are domesticated?

- get fleas?

Is Harry the Hamster sufficiently analogous with Fido? What about Patty the Parakeet?

4. THE THREE TYPES OF LEGAL REASONING

Law uses three types of reasoning:

Deductive **Reasoning**	~~From general~~ ~~to general~~	From general to particular (categorical syllogism) *Applies legal principles to a particular case*
Inductive **Reasoning**	From particular to general (generalization) *Creates appellate case legal principles*	From particular to particular (analogy) *Selects relevant legal principles to be applied*

A. Inductive Generalization (Particular-To-General Reasoning) Creates Appellate Case Legal Principles

Here is an example of legal reasoning by inductive generalization:

Premise One   Appellate Case 1 held that *a contract* with a vague term was void.

Premise Two   Appellate Case 2 held that *a contract* with a vague term was void.

Premise Three   Appellate Case 3 held that *a contract* with a vague term was void.

Premises Four+   [etc.]_____

Conclusion   Therefore, *all contracts* with vague terms are void.

As more and more appellate cases hold that presented, litigated contracts with vague terms are void, it seems increasingly safe to inductively conclude that this case law principle exists: "all contracts with vague terms are void."

The process of generalizing a legal principle from a series of specific appellate rulings must be undertaken carefully, and must give special attention to the *obiter dictum* rule. A jurist who proceeds without caution risks committing what logicians call the "fallacy of hasty generalization."

The case law principle "all contracts with vague terms are void" will never be certain, but will remain subject to exceptions and modifications.

Exceptions to the principle include equitable doctrines of waiver and estoppel.

Modifications to the principle occur whenever a new appellate case (or new statute or constitutional amendment) deals with the enforceability of contracts with vague terms. Modifications to case law principles include:

- minor judicial "tweaking" (e.g., subsequent decisions applying and refining a precedential appellate principle);

- incremental, yet powerful, judicial erosion (e.g., so many subsequent decisions distinguishing an appellate case that it becomes "limited to its facts," and "dead letter law");

- a major judicial "sea change" (e.g., the United States Supreme Court's sanctioning racial segregation in *Plessy v. Fergusion* (1896) 163 U.S. 537, then outlawing it in *Brown v. Board of Education* (1954) 347 U.S. 483); and

- a new statute or constitutional provision superseding a line of case authority.

B. **Inductive Analogy (Particular-To-Particular Reasoning) Selects Relevant Legal Principles To Be Used**

Plaintiff sues Defendant to rescind a contract. Here is an example of Plaintiff's reasoning by inductive analogy:

Premise One The *present case* deals with [Vague Term A], [Fact B] and [Fact C].

Premise Two *Appellate Case 1* dealt with [Vague Term A], [Fact B] and [Fact C], and held that the contract was void.

Conclusion Therefore, the contract in the *present case* is void.

It is every lawyer's dream to cite an appellate case, the facts of which are completely congruent ("on all fours") with the facts of the present case. It never happens. In

the real world, there are always differences between the precedential case and the present case.

Consider a more realistic example – one in which:

- Plaintiff cites Appellate Case 1, which favors him because it held *void* a contract with an arguably vague term;

- Defendant cites Appellate Case 2, which favors her because it held *enforceable* a contract with an arguably vague term; and

- Neither Appellate Case 1 nor Appellate Case 2 is "on all fours" with the present case.

Here is Plaintiff's analogy:

Premise One	The present case deals with [Vague Term A], [Fact B] and [Fact C].
Premise Two	Appellate Case 1 dealt with [Vague Term D], [Fact E] and [Fact F], and held that the contract was void.
Premise Three	Vague Term A and Vague Term D are similar.
Premise Four	Fact B and Fact E are similar.
Premise Five	<u>Fact C and Fact F are similar.</u>
Conclusion	Therefore, Appellate Case 1 is controlling precedent, and the contract in the present case is void.

Here, on the other hand, is Defendant's analogy:

Premise One	The present case deals with [Vague Term A], [Fact B] and [Fact C].
Premise Two	Appellate Case 2 dealt with [Vague Term G], [Fact H] and [Fact I], and held that the contract was enforceable.
Premise Three	Vague Term A and Vague Term G are similar.
Premise Four	Fact B and Fact H are similar.
Premise Five	<u>Fact C and Fact I are similar.</u>
Conclusion	Therefore, Appellate Case 2 is controlling precedent, and the contract in the present case is enforceable.

Thus, the lineup in "the Battle of the Similarities":

Present Case	Appellate Case 1 (Plaintiff urges)	Appellate Case 2 (Defendant urges)
Vague Term A	Vague Term D	Vague Term G
Fact B	Fact E	Fact H
Fact C	Fact F	Fact I

Initially, the judge must make three decisions:

First Decision   Is Vague Term A more similar to Vague Term D or Vague Term G?

Second Decision   Is Fact B more similar to Fact E or Fact H?

Third Decision   Is Fact C more similar to Fact F or Fact I?

If the judge makes all three Decisions in Plaintiff's favor, Appellate Case 1 is controlling precedent and Plaintiff wins – the contract is void.

If, for example, the judge instead makes the First Decision in Plaintiff's favor and makes the Second and Third Decisions in Defendant's favor, the judge must then decide which similarities are *more meaningful*:

- The similarity (favoring Plaintiff) between Vague Term A and Vague Term D; or

- The combined similarities (favoring Defendant) between:

    o Fact B and Fact H, and

    o Fact C and Fact I.

If Facts B and H are that both contracts were typed on blue paper, the judge will ignore the alleged "similarity" – it is no more meaningful than the fact that dogs and cats both get fleas.

What if the similarities were as follows:

- Vague Terms A and D (the purchase price of the vehicle) are fundamental to the contract, whereas Vague Term G (whether extra windshield wiper blades come with the vehicle) is incidental to the contract?

- Facts B and H are that the contract was fully performed before the plaintiff filed the rescission lawsuit, whereas Fact E is that contract performance hadn't begun before the plaintiff filed suit?

- Facts C and I (unlike Fact F) are that the plaintiff told the defendant that the vague term was "no big deal," and assured the defendant that the plaintiff won't contend that the contract is void because of the vague term?

Which similarities are more meaningful? Should the judge rule that Appellate Case 1 or Appellate Case 2 is controlling precedent?

As the California Supreme Court stated in *Harris v. Capital Growth Investors XIV* (1991) 52 Cal.3d 1142, 1157:

> . . . prior decisions are controlling only as to cases presenting the same factual situation . . . .

As stated in *Southern Cal. Enterprises v. Walter & Co.* (1947) 78 Cal.App.2d 750, 757:

> A litigant cannot find shelter under a rule announced in a decision that is inapplicable to a different factual situation in his own case, nor may a decision of a court be rested on quotations from previous opinions that are not pertinent by reason of dissimilarity of facts in the cited cases and those in the case under consideration. An extract from an opinion must be read in the light of the subject there under discussion and with reference to the facts in that case, and rules applicable to the decision in which they appear cannot be repeated in exemplification of a theory different from that to which they were applied in the case wherein the opinion was rendered. Principles that may serve to illustrate a point are considered by the court in relation to the case decided but are not necessarily announced as universally applicable.

As stated in *Harris v. Superior Court (Smets)* (1992) 3 Cal.App.4th 661, 666-667:

> It is understandable that lawyers often view a case only from the perspective that favors their client. Lawyers, however, should not practice "... the art of proving by words multiplied for the purpose, that *white* is *black*, and *black* is *white*, according as they are paid." (Swift, Gulliver's Travels (1726) A Voyage to the Country of the Houyhnhnms, ch. 5.)
> * * *
> Even "[t]he devil can cite scripture for his purpose ...." (Shakespeare, Merchant of Venice, act I, scene 3, line 99.) Counsel must therefore not misconstrue the holding of an opinion in order to make it applicable to the facts of his or her client's cause. * * *

Even the dispassionate critic must take heed. "[S]ome misimpressions are created by the reader or critic who takes a sentence or paragraph from an opinion, sometimes out of context, and analyzes it as a Shakespeare scholar would, or as though it were a verse from Holy Writ, discovering hidden meanings, innuendoes, and subtleties never intended." [citation omitted.]
In an attempt to extract legal principles from an opinion that supports a particular point of view, we must not seize upon those facts, the pertinence of which goes only to the circumstances of the case but is not material to its holding. The *Palsgraf* rule, for example, is not limited to train stations. [citations omitted.] The reader who distinguishes between facts germane to the holding, and those that are not, can assess the reasonable extensions of the holding. A reader must realistically appraise what he or she reads and resist the temptation to see a grin without a cat. (Carroll, Alice's Adventures in Wonderland, ch. 6.) Ultimately this approach is more effective to advance a client's cause and the cause of justice.

Reasoning by inductive analogy can become intricate. (For even more fun, mix in a roomful of first year law students and the Socratic method.)

Good lawyering requires mastery of analogous reasoning.

C. Deduction (General-To-Particular Reasoning) Applies Legal Principles To A Particular Case

Here is an example of legal reasoning by deduction:

Major Premise (Legal Principle)	*All contracts* with vague terms are void.
Minor Premise (Fact)	<u>The contract in the *present case* has a vague term.</u>
Conclusion (Judgment)	Therefore, the contract in the *present case* is void.

A legal principle comprises the syllogism's major premise, the facts of a particular case comprise the syllogism's minor premise, and the court's judgment comprises the syllogism's conclusion.

A jury, as fact finder, is in full charge of the minor premise, but swears not to alter the major premise.

If there is an appeal, a major premise mistake (an "error of law") is subject to *de novo* review and may readily merit reversal, whereas a minor premise mistake (an "error of fact") warrants reversal only if no credible evidence supports the factual finding.

Law school teaches the deductive syllogism as "IRAC" ("Issue, Rule, Analysis, Conclusion"), where:

- "Issue" defines the syllogism's *subject matter*;

- "Rule" is the syllogism's *major premise*;

- "Analysis" is the syllogism's *minor premise*; and

- "Conclusion" (naturally) is the syllogism's *conclusion*.

5. DEDUCTIVE VALIDITY, TRUTH, AND SOUNDNESS

A. A Deductively Valid Argument May Have False Propositions

A syllogism's premises and conclusion are called its "propositions." The classic deductive syllogism ("categorical syllogism") has three propositions: two premises and a conclusion.

Mathematically speaking, the propositions of a deductive syllogism may be true (and false) in eight possible combinations:

Combination #	1	2*	3	4	5	6	7	8
Major premise	True	True	True	True	False	False	False	False
Minor premise	True	True	False	False	True	True	False	False
Conclusion	True	False	True	False	True	False	True	False

*Combination #2 cannot be a valid argument.

A *valid* argument is an argument in which, *if its premises are true*, its conclusion must also be true.

By this definition, one of the eight combinations (viz., Combination #2) cannot comprise a valid argument. The reason is that Combination #2 (having true premises, but a false conclusion) contradicts the definition of a valid argument.

Syllogistic rules don't care whether a proposition is true or false. Logic is a tool, like a telescope, that enables us to see clearly both true events (e.g., a person riding a bicycle) and false events (e.g., an actor playing a role).

An argument may be valid, even if one or more of its propositions is false. In other words, a proposition's truth or falsity (shown in the far right column below) is irrelevant to its argument's validity.

Each of the following seven arguments is logically valid:

Combination #1 (True-True-True)

Major Premise	All mammals are warm blooded.	True
Minor Premise	Fido is a mammal.	True
Conclusion	Therefore, Fido is warm blooded.	True

[For reasons explained above, Combination #2 (True-True-False) cannot comprise a valid argument]

Combination #3 (True-False-True)

Major Premise	All mammals are warm blooded.	True
Minor Premise	A parakeet is a mammal.	False
Conclusion	Therefore, a parakeet is warm blooded.	True

Combination #4 (True-False-False)

Major Premise	All mammals are warm blooded.	True
Minor Premise	The moon is a mammal.	False
Conclusion	Therefore, the moon is warm blooded.	False

Combination #5 (False-True-True)

Major Premise	All pets are mammals.	False
Minor Premise	Fido is a pet.	True
Conclusion	Therefore, Fido is a mammal.	True

Combination #6 (False-True-False)

Major Premise	All mammals live on the moon.	False
Minor Premise	Fido is a mammal.	True
Conclusion	Therefore, Fido lives on the moon.	False

Combination #7 (False-False-True)

Major Premise	All cold-blooded animals are mammals.	False
Minor Premise	<u>Fido is a cold-blooded animal.</u>	False
Conclusion	Therefore, Fido is a mammal.	True

Combination #8 (False-False-False)

Major Premise	All cold-blooded animals are mammals.	False
Minor Premise	<u>The moon is a cold blooded animal.</u>	False
Conclusion	Therefore, the moon is a mammal.	False

B. An Argument With True Propositions Isn't Necessarily Valid

Contrariwise, the fact that all of an argument's propositions *happen to be true* doesn't make the argument *valid*. True propositions don't render an argument valid, any more than false propositions render an argument invalid.

For example, this argument is *invalid*, although all three of its propositions are *true.*

Major Premise	All mammals are warm blooded.	True
Minor Premise	<u>Fido is warm blooded.</u>	True
Conclusion	Therefore, Fido is a mammal.	True

This argument doesn't satisfy the definition of a valid argument: "an argument in which, *if its premises are true*, its conclusion must also be true."

The above argument's conclusion doesn't necessarily follow from its premises. The major premise makes it impossible to be a cold-blooded mammal, but doesn't make it impossible to be a warm-blooded non-mammal. Because the only fact we are given about Fido is that he is warm blooded, we can't conclude that he is a mammal, because he might be a warm-blooded non-mammal. Logicians call this the "fallacy of the undistributed middle term."

C. Argument Validity vs. Propositional Truth

The concept of *validity*:

- Relates to an *entire argument*, not to a proposition;

- Relates to the *connection* between propositions;

- Relates to *validity or invalidity;* and

- Ignores *truth or falsity.*

As can be seen, an argument is *valid or invalid,* not true or false. It would make no more sense to call an argument "false" than to say that an entire jigsaw puzzle "doesn't fit." A piece of a puzzle may not fit, but the entire puzzle always "fits."

The concept of *truth*:

- Relates to a *proposition,* not to an entire argument;

- Relates to *truth or falsity;* and

- Ignores *validity or invalidity.*

As can be seen, a proposition is *true or false*, not valid or invalid. It would make no more sense to call a proposition "valid" than to say that a single word "rhymes." A word can rhyme only in relationship with another word.

D.   **Argument Soundness**

A *sound* argument is a *valid* argument with *true premises*.

You make a sound courtroom argument when your syllogism is logically valid and you introduce evidence sufficient to prove its premises.

An unsound argument is an argument which has one or more false premises, or is invalid, or both. The six nonsensical arguments set forth above (excluding Combination #1, which is sensible) are unsound because, although valid, they have one or more false premises.

6.   **FURTHER READING**

If these matters interest you, you might enjoy:

Aldisert, Ruggero J., *Logic for Lawyers: A Guide to Clear Legal Thinking.* Notre Dame, Indiana: National Institute for Trial Advocacy, 1988

Bowell, Tracy, and Kemp, Gary. *Critical Thinking: A Concise Guide.* London: Routledge, 1965

Levi, Edward H. *An Introduction To Legal Reasoning.* Chicago: University of Chicago Press, 1949