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 (“syllogism”).

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

- With a general proposition (“generalization”), or
- With a particular proposition (“analogy”).

In summary:

<table>
<thead>
<tr>
<th>Deductive Reasoning</th>
<th>From general to general (rarely used)</th>
<th>From general to particular (syllogism)</th>
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<td>Inductive Reasoning</td>
<td>From particular to general (generalization)</td>
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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. Appellate case legal principles are created by (inductive) generalization;
2. The relevant legal principles to be applied are selected by (inductive) analogy; and
3. Legal principles are applied to the facts of a particular case by (deductive) syllogism.

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 All dogs are mammals.

Conclusion Therefore, all dogs are warm blooded.

B. From General To Particular (Syllogism)

Major Premise All mammals are warm blooded.

Minor Premise Dog Fido is a mammal.

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 (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 (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 domesticated?
- get fleas?

4. THE THREE TYPES OF LEGAL REASONING

Law uses three types of reasoning:

**Deductive Reasoning**

From general to general (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. 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. Ferguson* (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. **Analogy (Particular-To-Particular Reasoning) Selects Relevant Legal Principles To Be Applied**

Plaintiff sues Defendant to invalidate a contract on the ground that the contract has a vague term. If an appellate court case existed having exactly the same facts as the present case and holding the contract void, Plaintiff’s job would be simple. Here is how Plaintiff would reason by inductive analogy:

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

**Premise Two** *Appellate Case* 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 a precedential case and the present case.

In actuality, Plaintiff and Defendant would each cite a favorable appellate case, and the contest would be: “which of the two precedential cases more closely resembles the present case”?

**Plaintiff’s analogy would look like this:**

**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**  Fact C and Fact F are similar.

**Conclusion**  Therefore, **Appellate Case 1 is controlling precedent**, and the contract in the present case is **void**.

**Defendant’s analogy would look like this:**

**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**  Fact C and Fact I are similar.

**Conclusion**  Therefore, **Appellate Case 2 is controlling precedent**, and the contract in the present case is **not void**.

The judge’s job is to weigh the similarities and differences. It is not the mere *numbers* of similarities and differences, but the *importance* of those similarities and differences, that matters. For example, if both contracts are typed on blue paper, the judge will ignore that “similarity,” which is no more meaningful than the fact that dogs and cats both get fleas.
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.)

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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. **Syllogism (General-To-Particular Reasoning)**

**Applies Legal Principles To The Fact Of 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)*
  
  *The contract in the present case has a vague term.*

- **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” applies the syllogism’s *major premise* (rule) to its *minor premise* (facts); and
- “Conclusion” is the syllogism’s *conclusion*.

5. **LEGAL LOGIC CONCLUSION**

Have fun!