

A Process Model of Legal Argument with Hypotheticals

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Argument

- Developed a process model of hypothetical argument (PMHA)
 - involves posing hypotheticals to critique proposed tests for deciding a case.
 - common feature of SCOTUS oral argument examples and Socratic teaching.
- Present two kinds of evidence in support of the PMHA:
 1. Worked out examples of SCOTUS arguments.
 2. Evaluation with LARGO (Legal Argument Graph Observer)
 - embodies the process model.
 - provides feedback on students' diagrams reconstructing oral argument examples.
- Evaluated PMHA with statistical analysis of students' LARGO diagrams:
 - Relate features of their diagrammatic argument reconstructions to real-world markers of legal argument abilities.
 - If PMHA is effective model of SCOTUS examples, then students with higher LSAT scores or more years in law school should make better diagrams.
 - Diagram features correlated with students' LSAT scores and number of years of law school study.
- Tends to confirm:
 - Potential diagnostic utility of diagrams made according to the process model,
 - Process model as explaining a realistic phenomenon of legal argument.

Outline

- Present process model of hypothetical argument (PMHA)
 - Illustrate paths through the model in SCOTUS oral argument examples.
- Present LARGO program
 - Explain how it embodies the PMHA.
- Evaluation of the PMHA
 - Hypothesis
 - Analysis of argument diagrams from three LARGO studies
 - Results and discussion.
- Conclusions

Process Model of Hypothetical Argument-Pt.1

→ **1. Propose test: For *proponent*, propose test for deciding the current fact situation (cfs):**

Construct a proposed test that leads to a favorable decision in the cfs and is consistent with applicable underlying legal principles/policies and important past cases, and give reasons.

← **2. Pose hypothetical: For *interlocutor*, pose hypothetical example to probe if proposed test is too *broad*:**

Construct a hypothetical example that:

- (a) emphasizes some normatively relevant aspect of the cfs and
- (b) to which the proposed test applies and assigns the same result as to the cfs, but
- (c) where, given legal principles/policies, that result is normatively wrong in the hypothetical.

→ **3. Respond: For *proponent*, respond to interlocutor's hypothetical example showing test too broad:**

(3.a) Justify the proposed test: Analogize the hypothetical example and the cfs and argue that they both should have the result assigned by the proposed test. *Or*

(3.b) Modify the proposed test: Distinguish the hypothetical example from the cfs, argue that they should have different results and that the proposed test yields the right result in the cfs, and add a condition or limit a concept definition so that the narrowed test still applies to the cfs but does not apply to, or leads to a different result for, the hypothetical example. *Or*

(3.c) Abandon the proposed test and return to (1) (i.e., construct a different proposed test that leads to a favorable decision in the cfs and is consistent with applicable underlying legal principles/policies, important past cases, and hypotheticals...)

Examples of Hypothetical Reasoning

California v. Carney, 105 S. Ct. 2066 (1985) Oral Argument

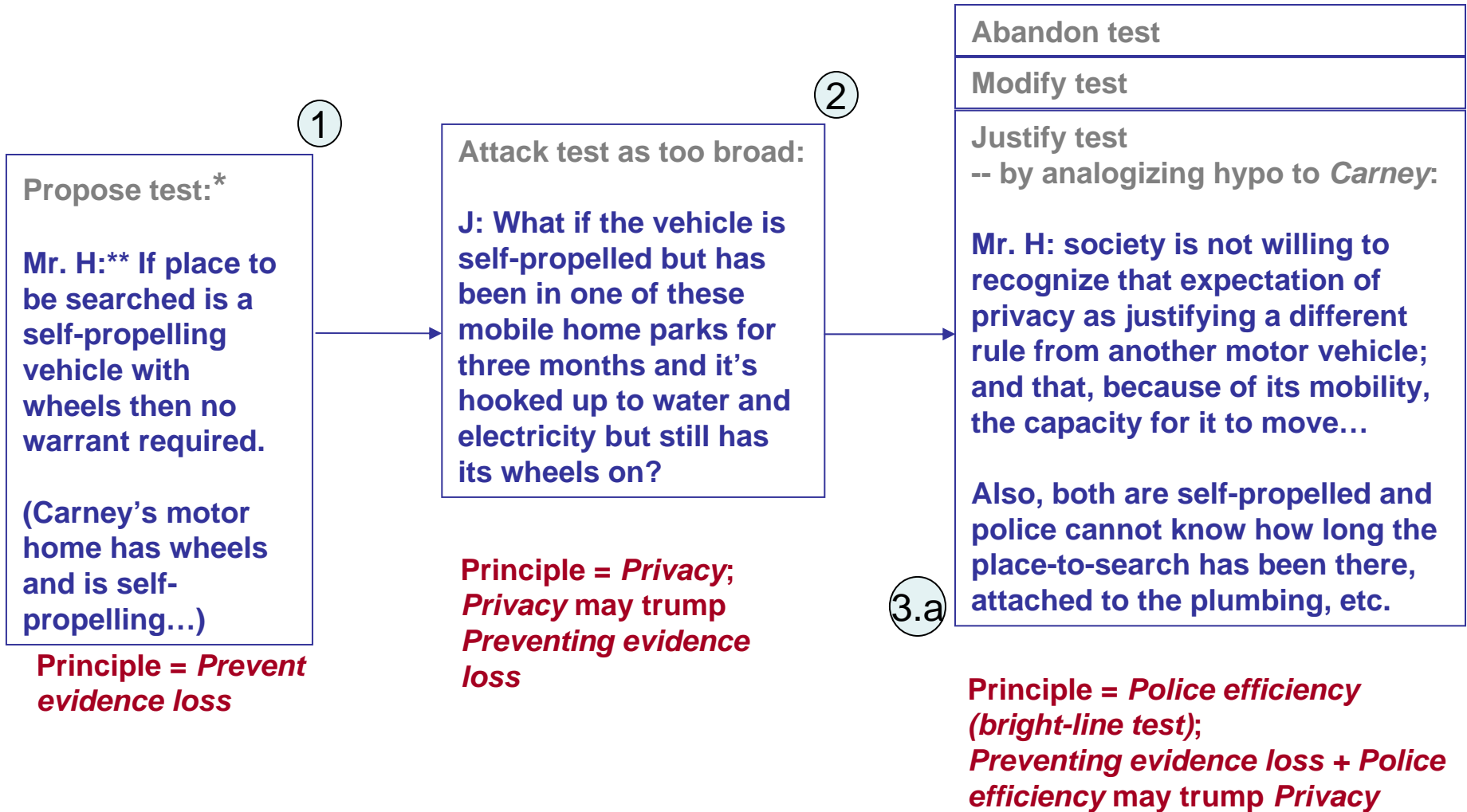
Issue: Legality, under 4th Amendment, US Constitution, of warrantless search of a motor home.

Facts: Police suspected def. Carney of trading drugs for sex in motor home located in a downtown San Diego parking lot. After questioning a boy leaving Carney's motor home, agents entered without a warrant or consent, observed drugs, and arrested Carney.

Conflicting principles:

- ***Prevent evidence loss:***
 - Prevent loss of evidence in emergency situation.
- ***Privacy:***
 - Constitutional right of privacy and autonomy in ones home.
- ***Police efficiency:***
 - Bright line rule that police can apply efficiently.

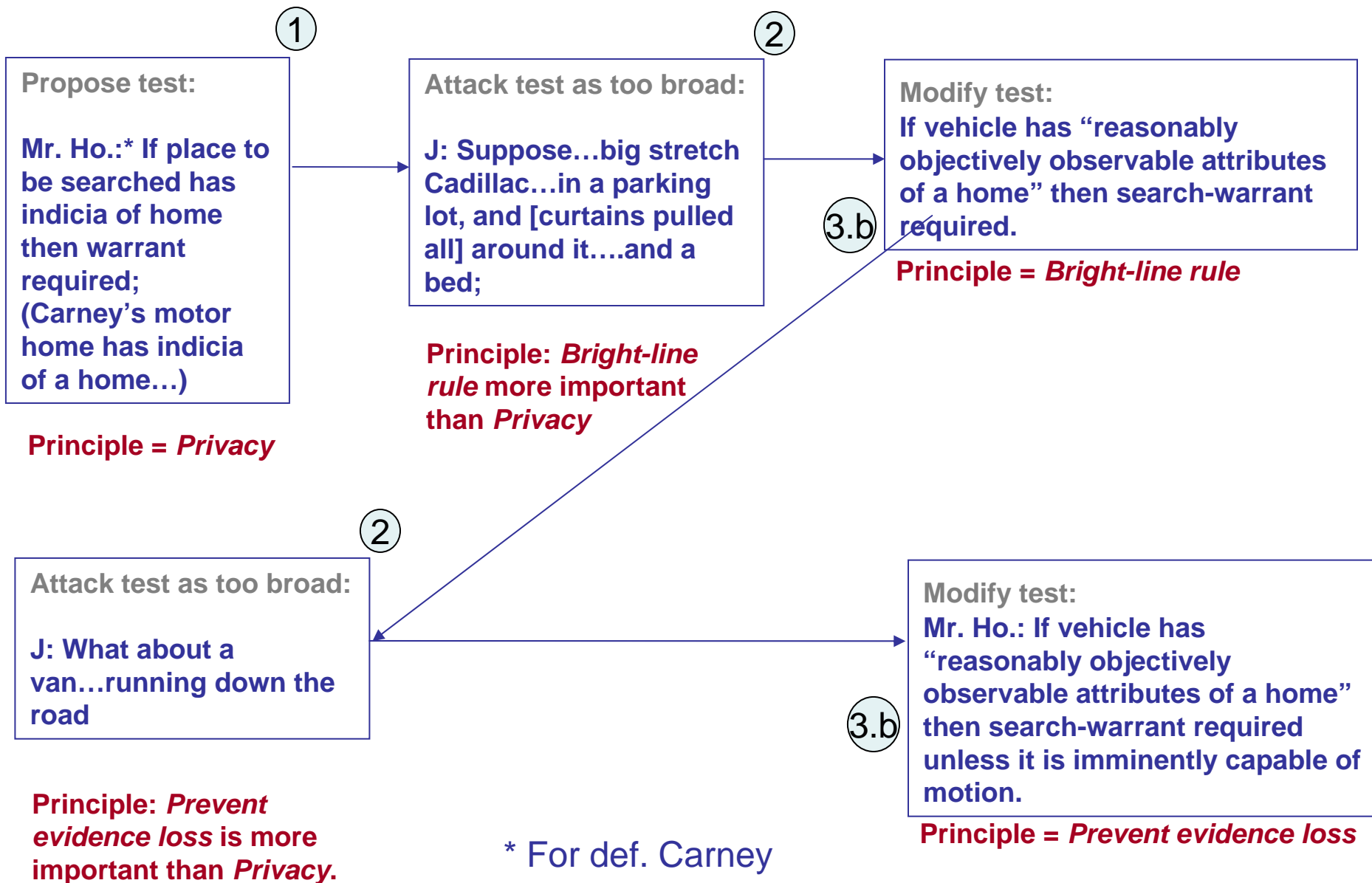
Attacking Test as Too Broad / Justifying Test



* Proposed test is a warrant

** For the State of California

Attacking Test as Too Broad / Modifying Test



Process Model of Hypothetical Argument-Pt.2

→ **1. Propose test:** For *proponent*, propose test for deciding the current fact situation (cfs):

Construct a proposed test that leads to a favorable decision in the cfs and is consistent with applicable underlying legal principles/policies and important past cases, and give reasons.

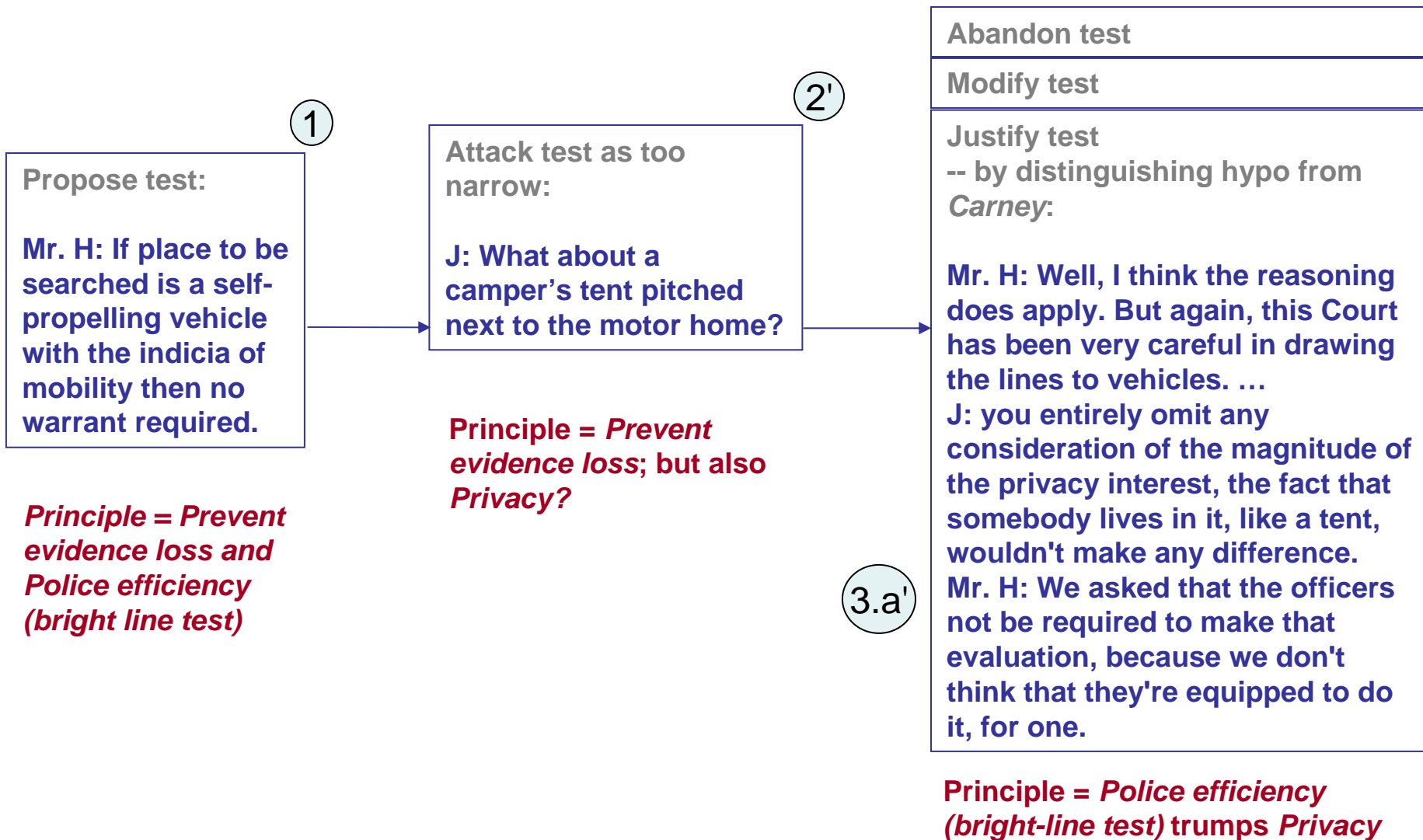
← **2'. Pose hypothetical:** For *interlocutor*, pose hypothetical example to probe if proposed test is too *narrow*: Construct a hypothetical example that:

- (a) emphasizes some normatively relevant aspect of the cfs, and
- (b) that normatively should have the same result as the cfs, but
- (c) to which the test does not apply or assigns a different result.

→ **3'. Respond:** For *proponent*, respond to hypothetical example showing test too narrow:

- (3'.a) Justify the proposed test:** Distinguish the hypothetical and the cfs, arguing that they should not have the same result or that they should have the same result but for different reasons. *Or*
- (3'.b) Modify the proposed test:** Analogize the hypothetical example to the cfs, conceding that the result should be the same in each and arguing that the proposed test yields the right result in the cfs, and eliminate a condition or expand a concept definition so that the test applies to both the cfs and the hypothetical example and leads to the same result in each. *Or*
- (3'.c) Abandon the proposed test and return to (1)** (i.e., construct a different proposed test that leads to a favorable decision in the cfs and is consistent with applicable underlying legal principles/policies, important past cases, and hypotheticals...)

Attacking Test as Too Narrow / Justifying Test



LARGO (Legal ARgument Graph Observer)

- Students reconstruct hypothetical reasoning in SCOTUS oral arguments
- They make argument diagrams:
 - Diagram elements based on a process model of hypothetical reasoning
 - Nodes: Proposed tests, hypotheticals, current facts
 - Links: Relations such as: modified to, distinguished from, analogized to, leads to
- LARGO provides feedback
 - Feedback based on “argument patterns”, text mark-up, and collaborative filtering
 - Detects:
 - important parts of argument text not diagrammed
 - mistaken linkages
 - opportunities for reflection
- Outputs advice prompting students to:
 - Remediate apparently weak parts of diagrams.
 - Reflect on significance of relations among tests, hypotheticals, and responses.
- LARGO uses PMHA to perform above tasks.

LARGO Diagram of Carney Oral Argument

start.xml - LARGO 1.0

Date:

Transcript

Search: next

an officer.

80. Then secondly, there is the more fundamental problem of which one of these parking spaces is or is not entitled to the added protection.

81. QUESTION: May I inquire, just so I understand your position? Is it that the vehicle have wheels? Could a trailer without a tractor in front of it qualify?

82. MR. HANOIAN: No, I don't think it would, Your Honor, because it would be more or less like the suitcase.

83. QUESTION: I'm sorry? What is your position. You tell me your position.

84. MR. HANOIAN: Our position is that if the officer looks at this conveyance and determines that it has the objective indicia of mobility --

85. QUESTION: [*13] Now does that mean self-propelled?

86. MR. HANOIAN: Self-propelled.

87. QUESTION: It has to be self-propelled?

88. MR. HANOIAN: Yes. I would agree with that.

89. QUESTION: So you wouldn't apply your thought to a trailer park?

90. MR. HANOIAN: Not when it's parked, no. When it's attached, yes, in the same way that one would --

91. QUESTION: But when what about a self-propelled vehicle that's plugged into the plumbing and the

ADVICE

SHOW LIST OF PAST ADVICE

Elements

Hypothetical

Test

IF

THEN

Facts

Relations

- modified to
- distinguished from
- analogized to
- leads to
- general relation

Process Model of Hypothetical Argument (PMHA) and LARGO

- LARGO implements computational version of PMHA to provide advice:
 - where to look in transcript for model-based elements (e.g., tests, hypos)
 - how to fix up parts of diagram that appear to be non-standard given PMHA
 - what patterns of elements worth reflecting about in terms of model.
- Graph grammar implements expectations of PMHA in generating advice.
 - Flags where elements/relations miss relevant parts of text, do not conform to PMHA, or are complete enough for reflection.
 - Operationalizes concepts for classifying if diagram is consistent with PMHA.
 - Determines advice “phase” of parts of student’s diagram:
 - (1) orientation, (2) transcript mark-up, (3) diagram creation, (4) analysis, or (5) reflection.
- LARGO prompts students to reflect on principles underlying PMHA-related moves, e.g.:
 - “Attorneys should give a reason why the distinction matters from a legal viewpoint. For instance, does it matter in terms of the principles and policies underlying the issue?”)
 - “Does applying the test to the hypothetical represent an acceptable tradeoff of the underlying policies/principles?”

Analysis of LARGO diagrams

Goal: Compare LARGO diagrams made by 1L and 3L students.

Hypothesis: features of argument diagrams reflect differences in students' LSAT scores and number of years in law school.

Task: Read SCOTUS oral arguments; represent hypothetical reasoning.

Experimental condition (Diagram): Use LARGO graphical argument representation and feedback to id/relate elements of hypothetical reasoning.

Control condition: Not applicable.

Analysis: Compare diagrams across studies (2006, 2007, 2008) in relation to LSAT scores and populations (volunteer 1Ls; nonvolunteer 1Ls; 3Ls).

	Fall 2006	Fall 2007	Spring 2008
Participants	28 1Ls in Legal Process, randomly assigned (38 paid volunteers less 10 failed-to-complete)	70 1Ls in one Legal Process section, randomly assigned (85 unpaid conscripts less 15 failed to spend time)	17 3Ls (paid volunteers) (25 less 8 not ready at time of analysis)
Procedure	(2h) Pre-test & tool intro w/ <i>Carney</i> example	⇒ Same	⇒ Same
		(2h) Analyze <i>Asahi</i> case oral arguments (personal jurisdiction) and answer 2 questions	⇒ Same
	2h) Analyze <i>Burnham</i> case oral arguments (personal jurisdiction)	⇒ Same (+ 2 questions)	⇒ Same
	(2h) Analyze <i>Burger King</i> case oral arguments (personal jurisdiction)	⇒ Same (+ 2 questions)	⇒ Same
	(2h) Post-test: Near transfer: <i>Keeton</i> case Far transfer: <i>Sony</i> copyright case	Same except no far transfer case	⇒ Same

Results: LSAT scores

For 1Ls, 2007:

- Relations-to-node ratio -- a measure of how connected the nodes in the diagrams were to other nodes --
- correlated positively with students' LSAT scores ($r=.32$, $p<.05$)
- as did the number of relations ($r=.32$, $p<.05$).

For 1Ls, 2006:

- Similar trend for the 2006 1Ls' relations-to-node ratio but not for the number of relations.
- No statistically significant correlation between the number of diagram elements and LSAT scores for any of the 1Ls (2006 or 2007).

For 3Ls, 2008:

- None of the above correlations, but LSAT scores may have become stale.

Results: Number of years in law school

ANOVA with post-hoc Tukey tests showed that 3Ls' diagrams had significantly ($p < .05$):

1. more relations ($m=12.3$) than volunteer 1Ls ($m=7.9$) who produced significantly more than non-volunteer 1Ls ($m=5.2$);
2. more elements (i.e., nodes and relations) ($m=10.5$) than those of 1Ls; 1L volunteers ($m=9.6$) had significantly more than 1L non-volunteers ($m=7.5$);
3. larger relations-to-node ratios (avg. 1.14) than 1Ls (avg. .82, .67).

For PMHA-based concepts LARGO uses to assess student's phase for advice-giving (in 2007, 2008), best predictors:

1. No_facts (Chi-square, $c2(8.61, N=51)=1.00$, $p < 0.01$, precision=32/51)
2. Unlinked_test (Chi-square, $c2(4.46, N=51)=1.00$, $p < 0.05$, precision=32/51)
3. Test_revision_suggested (Chi-square, $c2(12.40, N=51)=1.00$, $p < 0.001$, precision=41/51)
4. Test_facts_relation_specific (Chi-square, $c2(7.44, N=51)=1.00$, $p < 0.01$, precision=39/51)

1Ls: more instances of

- No-facts (Phase 1: fail to represent cfs in a node to analogize or distinguish with hypothetical)
- Unlinked-test (Phase 2: fail to link test in diagram to oral argument text.)

3Ls: more instances of

- Test_revision_suggested (Phase 5: student's test could be improved)
- Test_facts_relation_specific (Phase 4: relation of test/facts not general)

Discussion

- Statistical evidence tends to confirm the hypothesis :
 - features of students' LARGO argument diagrams systematically reflect differences in LSAT scores and number of years in law school.
- Features plausibly relate to students' aptitude for and experience with making legal arguments.
 - LSAT: assess student's ability to analyze/evaluate reasoning and arguments of others.
 - Makes sense that students with higher LSAT scores produce more connected graphs with more relations.
 - These students more likely to be sensitive to subtler relations and connections revealed as argument process unfolds.
- Differences re no. of years in law school (1L vs. 3L) relate to effect of legal education in training students to “think like lawyers”
 - inculcates a greater attention to the text,
 - carefully formulate proposed legal rules,
 - draw inferences by analogizing/distinguishing facts of case, hypotheticals, and precedents.

Conclusions

- We developed a process model of hypothetical argument
 - involves posing hypotheticals to critique proposed tests for deciding a case.
 - common feature of legal pedagogy and argument, as illustrated in Supreme Court oral argument examples and Socratic teaching.
- LARGO (Legal Argument Graph Observer) embodies the process model.
 - provides feedback on diagrams reconstructing oral arguments.
- We evaluated the model using statistical analysis
 - Relate features of students' model-based diagrammatic argument reconstructions to real-world markers of legal argument abilities
 - If PMHA is effective model of SCOTUS examples, then students with higher LSAT scores or more years in law school should make better diagrams.
 - Diagram features correlated with students' LSAT scores and number of years of law school study, both of which relate to the ability to make and understand legal arguments.
- Tends to confirm:
 - Potential diagnostic utility of diagrams made according to the process model
 - Process model as explaining a realistic phenomenon of legal argument.
- Follow-up study under way:
 - instructors, blinded as to diagrams' source, develop criteria and evaluate the diagrams.
- Evaluation methodology may help assess other diagrammatic models of legal argument.

Hypothetical Reasoning in Civil Law Context

- Civil law scholars discuss decisions in treatises.
 - Critique bad decisions to guide judges in future decision-making.
 - Pose situations with undesirable consequences resulting from decision.
 - “In performing their roles as organizers, rationalizers and critics of precedent, academics in some systems in the study make extensive use of hypothetical cases in their work...Indeed, it is a major technique used in the United Kingdom and in the United States, and also in most civil law countries.... D. MacCormick and R. Summers (ed.) *Interpreting Precedents*, pp. 528-9, Ashgate/Dartmouth (1997).
- Prior to decision, civil law judges engage in a series of deliberative meetings and talk about precedents.
 - European Court of Justice: Advocate General reviews case law and delivers a treatise reporting an alternate path from problem to solution.
 - French Court of Cassation: Reporting judge drafts alternate judgments leading to different results and submits before the oral hearing.