


Inference to the Best Explanation

PHL 320
Critical Thinking
Lectures Six, Seven, and Eight



The Recipe

- Schematize
 - As originally presented
- Rival explanation
 - No, no, no, not t_0 , rather ...
- Rank order
 - t_0 and the rivals
- Assess quality of evidence for t_0
 - Based on rank ordering

Explanatory Plausibility

- Step 3 in the recipe
- Intersubjective agreement?
- Harman's criteria
 - Simplicity
 - Completeness
 - Not *ad hoc*
 - Plausibility
- Wright's criterion

A Curious Mistake

- Many years of teaching this stuff
- A small group in any given class
- Yet, the mistake remains persistent
- Rank ordering the data (premises) in terms of plausibility
- **THIS IS A MISTAKE!**
- Ambiguity in the phrase "assess the quality of the evidence for ..."

What About Ties?


- What happens if t_0 and one of the rivals are tied for being the best explanation?
- The glass is half full
 - There's *some* evidence for the hypothesis
- The glass is half empty
 - The evidence could be a heck of a lot stronger
- The need for more data

- e₁. Forshufvud scanned valet's records.
 - e₂. Records show 22 of 30 accepted signs of arsenic poisoning.
 - e₃. Drawings shows edema – a symptom of arsenic.
 - e₄. Forshufvud obtained six hair samples from last months of Napoleon's life.
 - e₅. Analysis showed many hundreds of times more arsenic than normal for those times.
 - e₆. Arsenic content appeared in waves.
 - e₇. Waves match records' account of attacks, as well as account of wine ingestion from a particular source.
 - e₈. When Napoleon's body was exhumed 19 years after death flesh was preserved.
 - e₉. Arsenic is used to preserve flesh.
- =====
- t₀. Napoleon was slowly poisoned to death.

Napoleon




- Rivals
 - t_1 . Died of cancer
 - t_2 . Died of a rare disease that mimics arsenic
 - t_3 . Napoleon's body was treated after his death
- Ranking
 - Simplicity
 - Completeness
 - Not *ad hoc*
- Assessment
 - Since the hypothesis that Napoleon was slowly poisoned by arsenic is the best explanation, the evidence is strong

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- e_1 . The *Supreme Court Economic Review* issued a retraction of Mr. O'Neill's article.
- e_2 . "Substantial portions" of the article, the editors wrote, were "appropriated without attribution."
- e_3 . Details of the similar passages.
- e_4 . Other articles by O'Neill have similar problems.
- e_5 . Mr. O'Neill voluntarily stepped away from tenure.
- e_6 . Mr. O'Neill attributes the similar passages to "poor work method," and not "keep[ing] appropriate track of things."
- e_7 . One of the authors of a source article admires Mr. O'Neill and does not believe he would copy such banal points.
- e_8 . Republican congressional leaders and the President knew of the charges and have accepted Mr. O'Neill's explanation.
- =====
- t_0 . Mr. O'Neill plagiarized from the book review in his *Supreme Court Economic Review* article.


O'Neill



- Rivals
 - t₁. Inadvertent mistake – poor note keeping
 - t₂. Both authors plagiarized from 3rd source
 - t₃. Liberal law student revenge
- Ranking
 - Simplicity
 - Completeness
 - Not *ad hoc*
- Assessment
 - Since the hypothesis that Mr. O'Neill plagiarized his article is the best explanation, the evidence is strong



Quite by accident I discovered a glitch in the ipod software. On a Saturday night last year my wife and I went to a banquet for the League of Oregon Cities. The entertainment was **Pink Martini**, a Portland band I like a lot. I had already planned that I was going to ask for two songs when they came back for an encore – “Lilly” and “Que Sera Sera.” As it turned out they did “Que Sera Sera” as part of their concert, and there was no chance to ask when they did their encore. On Sunday as we drove back from Portland I plugged in my ipod to listen to them again. I set the settings to “All” and to “Shuffle Songs.” This meant that my ipod searched through both of their albums, found all 36 songs and played them in “random” order. That’s the glitch! The last two songs were “Lilly” and “Que Sera Sera.” The exact encore I had imagined the night before! What are the odds of this? My theory is that these two songs came up last, not randomly, but because of all the **Pink Martini** songs, I listen to these two the most often. I am thinking of writing to Apple to tell them about the problem.

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- e₁. Johnson went to a Pink Martini concert, planning to ask for a specific encore.
- e₂. "Que Sera Sera" was played during the concert.
- e₃. He never got a chance to ask for "Lily."
- e₄. On the ride home the next morning he set his ipod to play all 36 of the Pink Martini songs.
- e₅. He set the ipod to "shuffle songs."
- e₆. He listened to all 36 songs.
- e₇. The last two songs played were "Lily" and "Que Sera Sera" -- the imagined encore from the night before!
- e₈. "Lily" and "Que Sera Sera" are the two Pink Martini songs he listens to most often.

- =====
- t₀. There is a glitch in the ipod software -- rather than playing the songs in completely "random" order, it is weighting things according to how often songs are listened to.

Pink Martini



- Rivals
 - t₁. This was just a true, 1/630, coincidence.
 - t₂. This is not a software glitch; the ipod software is designed to do exactly this.
 - t₃. The ipod software is illegitimately weighting things, not by number of times played, but something else -- length of the songs, where they occur in the album, etc.
 - t₄. The philosopher set his ipod incorrectly.
 - t₅. The philosopher dozed in and out on the drive home and only thought that these two songs came up last.
 - t₆. The problem is in Johnson's ipod, the hardware, not the software.
- Ranking
- Assessment