

# Christensen: "Higher-order Evidence"

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*What is HOE, according to Christensen?*

All evidence wrt  $p$  affects how confident one should be in  $p$ . But it can do so in two different ways:

**First-Order Evidence:** Reasons to believe  $p$  is true/false

**Higher-Order Evidence:** "rationalizes a change of belief precisely because it indicates that my former beliefs were rationally subpar. This is evidence of my own rational failure." (185)

"it does not indicate that I've been anything less than a perfectly rational believer." (185)

E.g. learning I've been consistently too optimistic in my weather predictions.

Corresponds to two ways I'm fallible:

- i) My beliefs are based on limited evidence.
- ii) My abilities to evaluate my evidence are limited.

HOE = evidence about evidential relations = evidence about my own epistemic malfunction.

"Kelly and Feldman characterize [HOE] as evidence about evidential relations; the idea is that when I get evidence of my own epistemic malfunction, this serves as evidence that the evidential relations may not be as I've taken them to be." (186)

*Examples*

**Reasonable Prudence:**

I am a medical resident who just diagnosed a patient; informed that I have been awake for 36 hours. We can suppose that, in fact, my reasoning was immaculate.

Good evidence I've made errors, so reduce confidence.

**Peer Disagreement:**

Calculating a restaurant tip; I get \$43. I find out you got \$45.

Evidence that one of us has made an error; so reduce confidence in \$43.

**Drugs:**

Drug that makes 80% of people very bad at logic puzzles, without being able to realize their impediment. I do a test logic puzzle; conclude  $P$ . Informed that they slipped me the drug 20 minutes ago.

Note: drug need not actually exist; just need *evidence* that it does.

**Anti-Expertise Paradox:**

Device makes it so people believe they are in brain state  $S$  iff they are not in  $S$ . Device is put on my head...

"...well it's not clear what should happen here." (187-8)

**Hypoxia:**

Pilot calculates whether she has enough fuel to get to destination; gets 'yes.' Then ground control says it's very likely she's experiencing hypoxia.

"All of these examples involve my being confronted with evidence that suggests my epistemic failure" (188).

What is HOE, really?

**Proposal:** Christensen has mistaken a (common) *effect* of higher-order evidence with the phenomenon itself. It doesn't essentially involve evidence about rational failure. Rather, it is just any evidence about what some body of evidence indicates.

**Example 1:**

Tomorrow, in casual conversation, you will be told:

(1) 60% of adults have smoked a cigarette.

Contrast two cases:

Case 1: That's it. How likely that  $p$ ? Around 60%

Case 2: The day before, you receive the following info:

(2) [At a statistics conference]: "Research shows that 80% of statistics mentioned in casual conversation are significantly inflated."

Next you receive (1). How likely that  $p$ ? Plausibly: significantly less than 60%.

Note: nothing in here about your rational failings/success – you may never have heard casual statistics before. Nevertheless, (2) is HOE about the evidential force of claims like (1).

**Example 2:**

Compare:

(2) [At a statistics conference]: "Research shows that 80% of statistics mentioned in casual conversation are significantly inflated."

(3) [At a statistics conference]: "Research shows that 60% of statistics mentioned in casual conversation are significantly inflated."

(4) [In casual conversation]: "Research shows that 80% of statistics mentioned in casual conversation are significantly inflated"

What is the evidential probability of  $q$  given...

(2)?  $\approx 0.8$

(3)?  $\approx 0.6$

(4)?  $\approx 0.6$

(3) and (4) lead to the same degree of evidential support, but they do so in very different ways. (3) directly indicates  $q$  to degree 0.5. (4) indicates  $q$  to a higher degree, but then indicates that it indicates  $q$  to a lesser degree; upshot is the same as (3).

Anything that changes the evidential probability *that* the evidential probability given  $X$  is  $r$ .

$p$  = a given (randomly chosen) adult has smoked a cigarette.

Suppose, in fact, this is true and known by the speaker.

(2) is evidence that the evidential force of claims like (1) is significantly less than one would otherwise think.

$q$  = a given (randomly chosen) casually-mentioned statistic is significantly inflated.

(4) provides HOE *about itself*.

The thought: there are *constitutive connections* between what the evidence indicates and what it indicates *about* what it indicates. We'll return to this thought.

**Example 3:**

Distinguish: trivial vs. non-trivial HOE.

You learn:

- (5) 95% of scientists believe that ( $r$ ) climate change is human-caused.

In response to learning (5), being somewhat irrational, I form a credence of 0.8 in  $r$ . Then I am given a fabricated data-bank, which includes the evidence:

- (6) Whenever 95% of scientists agree on some hypothesis  $H$ ,  $H$  is true about 80% of the time.

Question: given my situation, does (6) provide trivial or non-trivial HOE?

Christensen predicts trivial, since it indicates that I responded to my evidence rationally.

I predict non-trivial. I think this is correct: learning (6) changed the credence I ought to have in  $r$  from  $\approx 0.95$  to  $\approx 0.8$ .

Of course, my proposal and Christensen's are related. When one gets HOE in *my* sense about some issue that one has already, rationally responded to, then this will be evidence of one's rational failure.

Christensen and I make different predictions.

Say, for simplicity, that the evidential probability of  $r$  given (5) is 0.95

So we have a case where evidence  $E^*$  about some body of evidence  $E$  provides non-trivial HOE, even though it suggests that I responded *rationally* to  $E$ .

*The effect of HOE**Christensen*

"[O]ne of the the peculiarities of HOE seems to be that it's prone to being rationally toxic: that is, being such that once the agent has it, she is doomed to fall short of some rational ideal." (212)

Supposing I'm immune to the drug, Christensen wants to say that even after I learn about the drug, my evidence still *entails* that the correct answer is what I thought, but "In accounting for the HOE about the drug, I must in some sense... *put aside* or *bracket* my original reasons for my answer. In a sense, I am barred from giving a certain part of my evidence its due." (195)

So we have to violate certain rational ideas – like “conform your beliefs to the evidence”; HOE can require agents to embody epistemic imperfections.

Not to say that we need to recognize *epistemic dilemmas*: there may still be a best option.

After all, entailment is monotonic.

*A different picture*

**Proposal:** There are *constitutive connections* between what the evidence indicates and what it indicates *about* what it indicates. One's

evidence simply *can't* entail  $p$  while also making it very likely that it does not entail  $p$ .

Easier case:  $E$  supports  $p$  to degree 0.7. Then you learn a proposition that strongly indicates that  $E$  supports  $p$  to degree 0.4. You now have a new body of total evidence  $E+$ . Claim:  $E+$  supports  $p$  to a lower degree than  $E$ .

This is *higher-order* defeat because of the means by which it lowers the support of  $p$ .

What if your evidence entails  $p$ ? Entailment is monotonic, but evidence accumulation is not. If I have  $E$ , which entails  $p$ ; then I get strong evidence that  $E$  does *not* entail  $p$ , that is just to say that I now have a new body of evidence  $E^*$  that does not entail  $p$ , and thus is not simply a superset of  $E$ .

Everyone has to allow this loss of evidence through **forgetting**.

Externalists have to buy this anyways: my evidence entails there's a paper here, but if a demon starts interfering, then it no longer will. I won't have forgotten anything, yet I've lost evidence.

Internalists who make it really hard for evidence to entail anything probably already think you *can't* get misleading evidence about what your evidence entails; so my claim is not problematic.