

11. Goodman 1955, The new riddle of induction

Kevin Dorst
kevindorst@pitt.edu

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Hume's problem of induction was how we could infer from observed patterns to general ones.

E.g. a pattern in the marbles drawn from a bag: all observed ones have been green. What justifies us in inferring that *all* of them will be green?

P₁ All observed marbles from this bag are green.

P₂ If all the observed marbles from this bag are green, then all the *unobserved* marbles in the bag are also green.

C All marbles in the bag are green.

"Uniformity of nature", U

Hume: Is there a non-circular justification of P₂? No!

Can't convince the counter-inductivist.

Goodman: how do we justify *deduction*?

P₁' The marble is green.

C' Therefore, it is either green or blue.

To be justified, don't we already need to be justified in believing:

P₂' *If it's green, then it's either green or blue.*

How to give a non-circular justification of *that*?

Can we convince a counter-logic-ist?

Goodman: in general, theories are justified by their consequences.

→ We justify *deduction* by giving a general logical theory, and showing how it explains and unifies our intuitive practices of good reasoning.

→ So we should justify *induction* by doing the same thing.

Task of **confirmation theory**: when do observations confirm hypotheses?

This would capture intuitive cases and help us understand hard cases. So does confirmation theory just require sorting through puzzle-cases?

Goodman: No! We don't even know how to specify *which* patterns are fit for inductive reasoning.

→ The "new riddle" of induction.

Every marble has been green. So they've been instances of "All marbles in the bag are green".

Does our evidence support the hypothesis that all are green?

A marble is **grue** if and only if either

(1) it is green and first observed before 12:40pm on Feb 15, 2022, *or*

(2) it is blue and *not* first observed before 12:40pm on Feb 15, 2022.

Every marble we've seen has also been grue! So they've been instances of "All marbles in the bag are grue."

So it looks like they *also* support *that* hypothesis.

But "All the marbles are green" and "All the marbles are grue" make incompatible predictions about the next marble!

The former predicts it'll be green;
The latter predicts it'll be blue.

What justifies us in using the 'green' pattern for induction, and not the 'grue' pattern?

Proposal 1: 'grue's definition involves reference to an arbitrary time, whereas 'green' does not.

Reply: It depends on your language! Consider:

A marble is **bleen** if and only if either

- (1) it is blue and first observed before 12:40pm on Feb 15, 2022, *or*
- (2) it is green and *not* first observed before 12:40pm on Feb 15, 2022.

A "grue/bleen-speaker" would define green and blue as follows:

A marble is **green** if and only if either

- (1) it is *grue* and first observed before 12:40pm on Feb 15, 2022, *or*
- (2) it is *bleen* and *not* first observed before 12:40pm on Feb 15, 2022.

A marble is **blue** if and only if either

- (1) it is *bleen* and first observed before 12:40pm on Feb 15, 2022, *or*
- (2) it is *grue* and *not* first observed before 12:40pm on Feb 15, 2022.

Proposal 2: green and blue can be defined in terms of *wavelengths* of light reflectance.

Reply: Again, language-relativity. Grue and bleen can be defined in terms of *schwavelengths* of light.

The schwavelength of wave is 550nm iff either (1) its wavelength is 550nm and it's first observed before 12:40, or (2) it's wavelength is 450nm and it's not first observed before 12:40.