

Thought Experiments Rethought- and Reperceived

Psychological evidence supporting his main thesis :
contemplation can lead to new knowledge about
contingent features of the natural world (i.e. The
novelty and justification of beliefs derived from T.E.)

Two crucial questions:

- 1- Are those beliefs formed as a result of inference from known premises?
- 2- To the extent that they are not, are they justified?

Gendler vs. Norton/Brown

Norton's response: 1-yes. 2- No.

Brown's response: 1- No. 2- yes.

Gendler's response: 1- yes. 2- yes.

The kind of new knowledge about the world that is derived from a T.E. Is neither *quasi-observational* nor *argumentative*. It is a (fallible but yet reliable) psychological mechanism that is distinctly non-argumentative.

Crucial Features in the Performance of a Scientific Thought Experiment

- a- reasoning about a particular set of circumstances that are described more specifically than the conclusion
- b- imagination (as opposed to observation) mode of reasoning
- c- its purpose is confirming or disconfirming a theory
- *d- that theory is about the physical world.

Norton vs. Brown

They disagree on their understanding of (a) and (d)
(d) is a metaphysical point about the kind of things
laws of nature are:

Brown thinks they are abstract laws that
necessitate patterns

Norton thinks they are contingent

(a) is an epistemological point about which mental
activities have justificatory force:

Brown: The particularity of the scenario plays a
justificatory role

Norton: The particularity of the scenario is not of
much importance

Gendler's position

He sides with Norton on the *metaphysical* question and with Brown on the *epistemic* question:

Particularity of the scenario in a T.E. Has some justificatory force, and the regularities that the T.E. Reveals are contingent.

The Elephant constraint

Your beliefs are *new* because they are
-neither as immediate as recalling
-nor as simple as calculation or deduction

Your beliefs are justified because the reasoning
process you used was
-neither lucky guesses
-nor wishful thinking
-nor hunch
-but rather an act presenting to yourself a mental
image, and manipulating it

**This involves imagining having a kind of
experience (which is phenomenologically different
from doing deduction or induction)**

The Psychological Data

Three examples of psychological research:

- 1- Roger Sheppard on judgements about topological similarity (we use quasi-perceptual reasoning rather than deductive reasoning)
- 2- Antonio Damasio on our emotional responses: they are encoded in “somatic markers” on which our intuitive judgements are based. Only imaginative rehearsals have access to these somatic markers.
- 3- Daniel Reisenberg on Limitations on mental imagery and Gestalt Shift : if the task of “mentally rotating an image” is replaced by “the task of thinking of the left hand side of the shape as being its top”, results change dramatically

The Conclusion of the Psychological Data

These findings suggest that **the kind of information-processing required for imaginative rehearsal** is different from **the kind of information-processing required for purely hypothetical unengaged reasoning (deductive or inductive reasoning from known premises)**

Discussion Questions

Is it possible to grade the justificatory force of these mechanisms? What would our criteria be for that grading?

Compare the case of scientific T.E. With other kinds of thought experiments: what would Gendler say about Gettier cases?

Compare their justificatory force

Is there a principled way of drawing a distinction between imaginative and hypothetical (unengaged) mode of reasoning? Which properties can be understood using the first mode? Which properties can be understood using the second mode?

Discussion Questions

Even if there is a principled way, what do these epistemic considerations tell us about metaphysical commitments?