DEFEAT RECONSIDERED AND REPAIRED

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Philosophers commonly distinguish between demonstrative arguments, which are designed to preserve truth, and non-demonstrative arguments, which conserve something else. R. A. Fisher (1936: "Uncertain Inference", *Proceedings of the American Academy of Arts and Sciences*, 71, pp. 245-58.), for example, thought that statistical reduction was a type of logical, non-demonstrative inference whose aim is to assign a statistical probability to an individual. What is preserved by Fisher's early proposal for *direct inference* is a presumption of "representativeness" of a statistical class to its individuals. Jon McCarthy and Pat Hayes (1969: "Some Philosophical Problems from the Standpoint of Artificial Intelligence", *Machine Intelligence*, 4, p. 463-502.) thought that non-demonstrative reasoning was necessary in order for a robot to keep track of the things that remain unchanged by its actions. The consequences wrought by opening a door, for instance, do not typically include the shutting of a window. What is preserved by McCarthy and Hayes' non-demonstrative *frame conditions* are commonsense assumptions governing office building kinematics.

John Pollock (1987: "Defeasible Reasoning", *Cognitive Science*, 11, pp. 481-518.) thought that a common feature of these and other examples of non-demonstrative reasoning is the provisional standing of their conclusions, and how the evidential support for those conclusions may be *defeated* by additional information (1987: p. 484):

> DEFEATER: Where *D* and *E* are jointly consistent propositions, *D* is a *defeater* for *E*'s support for *H* if and only if *E* is a reason to believe *H* and *E* & *D* are not a reason to believe *H*.

In a recent paper, Jake Chandler (2013: "Defeat Reconsidered", *Analysis*, 73(1), pp. 49-51) identifies an unwarranted symmetry constraint in Pollock's definition, namely

> SYMMETRY: For propositions *E*, *D*, and *H*, if both *D* and *E* provide a reason to believe *H*, then *D* is a defeater for *E*'s support for *H* if and only if *E* is a defeater for *D*'s support for *H* (Chandler 2013: p. 50).

Chandler argues, convincingly, that Symmetry should not be a necessary condition for evidential defeat: it is straightforwardly possible for *D* to defeat the support that *E* gives to *H* without *E* defeating *D*'s support for *H*. Chandler then proposes an alternative to Pollock's account, one that avoids Symmetry. But Chandler's fix, which he calls Defeater', runs into a difficulty of its own.

> DEFEATER': Where *D* and *E* are jointly consistent propositions, *D* is a *defeater* for *E*'s support for *H* if and only if *D* is a reason to not believe that *E* is a reason to believe *H* (Chandler 2013: p. 50).

The problem with Defeater' is that it fabricates phantom support for a defeater to defeat: *D* may be a reason to not believe that *E* is a reason to believe *H*—which thereby suffices for *D* to defeat *E*'s support for *H*—without *E* being a reason for *H* in the first place. For example, inspecting the first 10 light bulbs from a production line and finding all 10 defective (*E*) does not provide a reason to believe that the next bulb off the line is faultless (*H*). Even so, learning that the last delivery of filaments to the factory are all oxidized (*D*) is a reason to believe that the 10 defective light bulbs do not provide a reason to believe that the next bulb is faultless. By Defeater', *D* is a defeater for *E*'s support for *H* even though *E* does not support *H*.

Defeater’ can be repaired by stipulating, as Pollock does in his original analysis, that *D* is a defeater for *E*’s support for *H* only if *E* gives support for *H*. This yields the following repair to Chandler’s Defeater’, namely

> DEFEATER’’: Where *D* and *E* are jointly consistent propositions, *D* is a *defeater* for *E*’s support for *H* if and only if (i) *E* is a reason to believe *H* and (ii) *D* is a reason to not believe that *E* is a reason to believe *H*.

Defeater’’ enjoys all the advantages of Chandler’s Defeater’, and does so without the spectacle of phantom support.

References

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