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Faith *et al.*'s (2011) "corroboration assessment" leads to verificationism

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As Faith *et al.* (2011) present it, drawing conclusions from possibly conflicting sources of evidence can be facilitated by what those authors call corroboration assessment, an approach that includes attempting to explain evidence away (p. 54):

> "The Strepsiptera problem illustrates the value of applying corroboration assessment to a variety of evidence. Some supposed supporting evidence for a given hypothesis could be explained away; some could not. "

Systematists do sometimes try to rationalize ignoring evidence they find inconvenient, but Faith *et al*. (2011) regard this practice as more than a subterfuge. In their view, Popperian corroboration of a hypothesis requires ensuring that the evidence has no other likely explanation (Faith *et al*, 2011, p. 52; quoted from Faith, 2004, p. 3):

> "Suppose that some apparent positive evidence for an hypothesis has been put forward. To judge how well that evidence supports the hypothesis, we can try to explain that evidence away, that is, account for it by possible explanations other than the hypothesis of interest. If, and only if, we fail we can say that the hypothesis has gained Popperian corroboration from that evidence (Faith, 1992). That failure to explain the evidence away may be quantified by finding that, although alternative explanations can be put forward, the observed evidence is quite improbable by these alternative explanations. "

Now in fact this is a drastic misunderstanding of Popper and (as will be seen presently) leads to a thoroughly unsatisfactory approach to scientific investigation. The nature of Faith *et al.*'s (2011) mistake can easily be seen from one of Popper's examples (Popper, 1983, p. 237; as throughout, all italics in quotations are as in the original):

> "For example, let [evidence] *e* be the first observation of a new planet (Neptune) by J. G. Galle, in a position predicted by Adams and Leverrier, and let [hypothesis] *h* be Newton's theory upon which their prediction was based. Then *e* certainly supports *h*—and very strongly so. Yet in spite of this fact *e* also follows from theories which, like Einstein's, entail non-*h* (in the presence of [background knowledge] *b*). "

In this case the evidence *e* is highly probable under at least one alternative explanation, since (given *b*) *e* follows from Einstein's theory. This is just the situation that—according to Faith (2004)—should rule out corroboration of Newton's theory by *e*, but according to Popper, *e* instead strongly supports Newton's theory. Indeed, Popper (1983, p. 247) considered this a wonderful case of corroboration:

> "Adams and Leverrier's predictions, which led to the discovery of Neptune, were such a wonderful corroboration of Newton's theory because of the exceeding improbability that an as yet unobserved planet would, by sheer accident, be found in that small region of the sky where their calculations had placed it. "

That comment helps to bring out one of the reasons for Faith *et al.*'s (2011) misunderstanding. Faith (2006, p. 555) quoted from the same passage, but added an interpretation of his own:

> "Popper describes also how the improbability of this evidence corresponded to a difficulty in explaining it away: 'the predictions which led to the discovery of Neptune, were such a wonderful corroboration of Newton's

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