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## *A reductio of coherentism*

TOM STONEHAM

I put forward the following argument in the spirit of curiosity. On the face of it, the argument gives a conclusive *reductio ad absurdum* of any coherence theory of justification. But that cannot be right, can it?

(1) There are finite sets of beliefs such that each member of the set is epistemically supported by some other members (and nothing else). (Coherentism)

Comment: A belief  $b(p)$  is epistemically supported by the belief  $b(q)$  IFF  $b(p)$ 's justifiedness or reasonableness (for a subject at a time) consists *in part* in  $b(p)$  standing in some relation of dependence to  $b(q)$ . Exactly what that dependence relation is will be a matter of debate amongst coherentists. While a coherentist will typically prefer to say that a belief is justified in virtue of it being a member of a coherent set of beliefs, it will be epistemically supported by individual members of the set precisely when the condition just stated is met.

(2) The relation of epistemic support is transitive. (Axiom)

Comment: The coherentist will probably want to allow exceptions to transitivity in order to prevent a belief epistemically supporting itself. Thus we might replace (2) with the weaker:

(2\*)  $\forall xyz((x \neq z \ \& \ E_{xy} \ \& \ E_{yz}) \rightarrow E_{xz})$ .

(3) The relation of epistemic support is not asymmetric. (From 1 and 2 or 2\*)

Reasoning: From (1),  $b_1$  is supported by  $b_2$  and  $b_1 \neq b_2$ ,  $b_2$  is supported by  $b_3$  and  $b_2 \neq b_3$ ,  $b_3$  is supported by  $b_4$  etc. Since the set is finite, for some  $i$  and  $j$ ,  $b_i = b_j$ . Without loss of generality suppose there are only three beliefs and  $b_1 = b_4$ . Then  $b_3$  is supported by  $b_1$ . Since  $b_1$  is supported by  $b_2$  and  $b_2$  is supported by  $b_3$ , by transitivity – or (2\*) provided  $b_1 \neq b_3$  –  $b_1$  is supported by  $b_3$ . So the relation is not asymmetric.

(4) For some  $p$  and  $q$  and some thinker at some time, it is possible that the belief that  $p \ \& \ q$  is better supported than the belief that  $p$  or the belief that  $q$  alone. (From 3)

Reasoning: From (3) it is possible that there is a subject with stock of beliefs  $S$  such that  $b(p)$  supports  $b(q)$  in the presence of  $S$  (iff  $b(p)$  has positive support) and  $b(q)$  supports  $b(p)$  in the presence of  $S$  (iff  $b(q)$  has positive support). Since, in the presence of  $S$ ,  $b(p)$  supports  $b(q)$  and vice versa,  $S + b(p)$  provides more support for  $b(q)$  than  $S$  alone and  $S + b(q)$  provides more support for  $b(p)$  than  $S$  alone. Suppose a subject has  $S$  but not  $b(p)$  or  $b(q)$  and that  $S$  does not support  $b(p)$  or  $b(q)$  or  $b(\sim p)$  or  $b(\sim q)$ . Then if the subject adds just  $b(p)$  or just  $b(q)$ , he will be adding a belief with no support, but if he adds both he will be adding a belief (viz.  $b(p \ \& \ q)$ ) with positive support.

(5) The belief that  $p$  epistemically supports the belief that  $q$  only if  $p$  raises the probability of  $q$ . (Axiom)

(6) There is a pair of propositions such that  $\text{pr}(p\&q) > \text{pr}(p)$ . (From 4 and 5)

Reasoning: These probabilities are credences. Suppose our subject has belief set  $S$  and comes to consider  $p$  and  $q$ , then the credence of  $p$  is 0.5 but the credence of  $p\&q$  is  $>0.5$ .

(7)  $\text{pr}(p\&q)$  is always less than or equal to  $\text{pr}(q)$ . (Theorem)

(8) So (1) is false. (RAA on 6 and 7)

Which premise can the coherentist reject? (1) is characteristic of her view. (2) is pretty much analytic. (5) might be a matter for debate, but it is hard to see how there could be counterexamples, and if it is weakened to:

(5\*) The belief that  $p$  epistemically supports the belief that  $q$  only if  $p$  does not lower the probability of  $q$ ,

a great deal more would need to be said to explain why epistemic support is a *truth-conducive* property. How can  $p$  give us any reason to believe  $q$  is true if the truth of  $p$  does not make  $q$  any more likely? Finally, (7) is a theorem of probability theory and, while it may not be much respected in intuitive judgements of probability, no theorist can deny it.

The coherentist might try to reject the inference from (3) to (4). She might question whether a belief set which provided no support at all for  $b(p)$  and  $b(q)$  could be one in the presence of which  $b(p)$  supports  $b(q)$  and vice versa. But the reasoning only assumed that  $S$  provided no support for  $b(p)$  and  $b(q)$  to simplify its expression – the only assumption we really needed was that  $S+b(p)$  provides more support for  $b(q)$  than  $S$  alone and  $S+b(q)$  provides more support for  $b(p)$  than  $S$  alone. And that must be the case for any  $S$  in the presence of which  $b(p)$  supports  $b(q)$  and vice versa.

She might also question the inference from (4) and (5) to (6): prior to believing  $p$  and  $q$ ,  $\text{pr}(p)=0.5$  and  $\text{pr}(q)=0.5$  so  $\text{pr}(p\&q)\leq 0.5$ , but once she comes to have both those beliefs the probability of each rises and thus  $\text{pr}(p\&q)$  becomes  $>0.5$ . Thus the objection is that the inference from (4) confuses epistemic support at a time for something one does not yet believe with the support it will have when one later comes to believe it. So while  $\text{pr}(p\&q)$  at  $t_2 > \text{pr}(p)$  at  $t_1$ , there is no time at which  $\text{pr}(p\&q) > \text{pr}(p)$ .

But while we should accept this general distinction, it only makes a difference when there is some other change in the subject's beliefs by the time she comes to believe the proposition in question. Since the only reason why the  $\text{pr}(p\&q)$  is greater after the subject comes to believe  $p$  and  $q$  can be that she now believes that very proposition, the inference from (4) would only be incorrect if the mere fact that I believe something can make it more reasonable for me to believe it, which is not in general true.

The negation of (1) is:

For any finite set of beliefs all of which have some positive degree of epistemic support, at least one member of that set does not receive its support entirely from the other members of the set.

Which, *pace* infinitism, is a pretty good definition of foundationalism. Q.E.D.

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