Philosophy of Religion **29**: 143–157, 1991.

Swinburne on credal belief*

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Richard Swinburne devotes much of his book *Faith and Reason*[1] to determining the standard of propositional belief required for belief in a religious creed.[2] As the book demonstrates, a key issue in the analysis of religious faith is the degree to which adherents of a creed must believe that creed to be true (in order to count as adherents). After considerable discussion, Swinburne settles on the following standard: "[A]ll that is needed in respect of belief in a creed is belief that it is more probable that that creed is true than that any rival creed is true, a rival creed being one that justifies the pursuit of a different religious way" (p. 162). He claims that this standard is a version of what he calls "weak" credal belief – and weak belief, on his view, is all that can be demanded of believers in a creed.

In this paper I challenge several of Swinburne's claims about credal belief. First, I argue that his concept of "belief relative to alternatives" and the weak credal belief it endorses have highly counterintuitive features. Second, I show that Swinburne confuses weak belief with a distinct (and independent) standard of belief and that the confusion undermines the argument for his preferred standard. Finally, I defend a more satisfactory standard of credal belief (which I call "complete" credal belief) against Swinburne's charge that it demands too much of religious adherents.

1. Belief relative to alternatives

I should say, first, that I substantially agree with Swinburne's probabilistic

*I wish to thank Jon Jarrett, Norman Kretzmann, and Richard Swinburne for helpful comments on an earlier version of this paper.

account of belief. He writes: "If *p* is more probable than not-*p*, then *p* is probable *simpliciter* (and conversely). So my claim is that normally to believe that *p* is to believe that *p* is probable" (p. 4). Swinburne observes that the kind of probability relevant to belief is epistemic probability (hereafter, "EP"), which he defines thus: "The epistemic probability of a proposition is a measure of the extent to which evidence renders it likely to be true" (p. 18).

Given that definition, Swinburne's probabilistic standard for "normal" cases of belief is this: S believes that *p* iff S assigns EP greater than .5 (on a scale of 0 to 1) to *p*. For example, S believes that God exists – S is a theist – just in case S assigns EP greater than .5 to the proposition that God exists. By the same token, the atheist is one who assigns EP less than .5 to the existence-claim.[3] Of course, these definitions entail that the genuine agnostic assigns EP of exactly .5 to the proposition that God exists. Such a metric of belief may seem somewhat artificial, but I don't think it's untenable. Moreover, I suspect (along with Swinburne (p. 5)) that alternative metrics will seem not only artificial but arbitrary. But I needn't press those points here. Suffice it to note that Swinburne adopts exactly this metric for all normal cases of belief.[4]

However, I differ with Swinburne over the analysis of what might be called "abnormal" cases of belief. For those cases, Swinburne proposes a special sense of belief "relative to alternatives":

> Although normally the sole alternative to a belief that *p* is its negation, sometimes there will be other alternatives. This will be the case where *p* is one of a number of alternatives being considered in a certain context. In that case to believe that *p* will be to believe that *p* is more probable than any one of these alternatives (but not necessarily more probable than the disjunction of the alternatives). [p. 5, footnote omitted]

I presume that by "other alternatives" to *p* Swinburne means propositions which are logically contrary (not contradictory) to *p*. Thus, in contexts which include not just the negation of *p* but also various contraries (say, *q*, *r*, *s*), one can believe that *p* without regarding *p* as more probably true than not. Swinburne concludes that this sense of belief is especially well-suited to credal belief, since on his view one believes in a creed only relative to its rival creeds (p. 7).

But Swinburne's account of belief relative to alternatives has the following unwelcome consequence. Suppose that I evaluate a set of propositions as follows:

$$\text{EP}(p) = .3 \qquad \text{EP}(q) = .2 \qquad \text{EP}(r) = .2$$
$$\text{EP}(s) = .1 \qquad \text{EP}(t) = .1$$

Assume that *p* through *t* are logical contraries; they might be competing creeds, for example. From their contrariety it follows that they're mutually exclusive. But they're not jointly exhausitive, since their probabilities don't sum to 1. In other words, they might all be false. According to Swinburne, I *believe* that *p*. But this seems highly counterintuitive. It sounds wrong to say that I automatically believe the most probable proposition in a group of improbable propositions (provided they're all "rivals").[5] Yet Swinburne's account commits him to saying just that.

Given the probabilities above, it would be misleading for me to say that I *believe* that *p*. Instead, I should more honestly say, for example, that I *have a hunch* that *p*, or that if I had to wager I *would wager* that *p* (believing with EP = .7 that I'd lose). It's one thing to have a low-probability hunch that *p* and quite another thing to believe that *p*. Ordinary language contains all sorts of expressions for the former propositional attitude. Swinburne ought, then, to reserve *believe* for cases which warrant it.

This consequence of Swinburne's account affects his entire treatment of credal belief. It undermines his (strange) claim that I can believe creed K despite assigning it EP below .5, i.e. despite regarding K as more probably false than not. Likewise, it undermines his argument in favor of the "weak" standard of credal belief mentioned earlier. On Swinburne's view, one believes article A of creed K iff one considers A more probable than any article contrary to it. From this he constructs the definition of weak credal belief:[6] One believes the entire creed K iff one considers each article A_i of K more probable than any article contrary to A_i. But since Swinburne's standard for belief in a credal article is mistaken, so too is his standard for belief in the entire creed. As my example suggests, both standards are too weak to capture genuine credal belief. In Section 3, I propose a stronger standard which avoids this problem by making EP greater than .5 a *necessary condition* for belief in both "normal" *and* "abnormal" cases. Section 2, meanwhile, examines a confusion in Swinburne's account and the consequences of that confusion for Swinburne's preferred standard.

2. Weak versus provisional belief

It will help here to schematize the four standards of credal belief at issue in Swinburne's analysis. For simplicity, let the creed be the conjunction (p & q & r), where p, q and r are the articles of the creed. Our schema will be perfectly general. Nothing turns on the actual number of conjuncts, provided we can divide the creed into at least two distinct articles (i.e. two distinct propositions). We have, then, the following four standards of credal belief (in each case EP is that assigned by the believer):

Strong (S): One believes the creed iff
$$EP(p) > .5, EP(q) > .5, EP(r) > .5.$$
Weak (W): One believes the creed iff
$$EP(p) > \max[EP(p'), EP(p''), EP(p'''), \ldots],$$
$$EP(q) > \max[EP(q'), EP(q''), EP(q'''), \ldots],$$
$$EP(r) > \max[EP(r'), EP(r'') EP(r'''), \ldots].$$
Provisional (P): One believes the creed iff
$$EP(p \,\&\, q \,\&\, r) > \max[EP(p' \,\&\, q \,\&\, r), EP(p' \,\&\, q' \,\&\, r), EP(p' \,\&\, q' \&r'), EP(p'' \,\&\, q \,\&\, r), \ldots].$$
Complete (C): One believes the creed iff
$$EP(p \,\&\, q \,\&\, r) > .5.$$
(Note: p and its primed counterparts (q and its primed counterparts, etc.) represent rival articles, i.e., logical contraries.)

The labels "strong" and "weak" are Swinburne's (p. 120); the other two labels are mine. Swinburne doesn't give names to the last two standards. Indeed, he doesn't even recognize (P) as distinct from (W) since, I will argue, he mistakenly believes that (P) and (W) are equivalent standards.

At this stage of the argument, I should specify some terminology for relating different standards of belief:

(1) Standard X is *stronger than* standard Y iff both X entails Y and Y does not entail X.
(2) Standard X is *weaker than* standard Y iff Y is stronger than X.
(3) Standards X and Y are *equivalent* iff both X entails Y and Y entails X. (Equivalence is symmetric.)
(4) Standards X and Y are *independent* iff both X does not entail Y and Y does not entail X. (Independence is symmetric.)

The use of *entailment* in these definitions is appropriate since the standards (S), (W), (P), and (C) are expressed in propositional form. Intuitively, standard X entails standard Y if S's believing-that-p on standard X entails S's believing-that-p on standard Y.

Given one further (plausible) assumption, which I discuss below, here, then, are some of the logical relations which obtain among the four standards of credal belief:

(a) (S) entails (W).
(b) (P) does not entail (W).
(c) (W) does not entail (P).
(d) (C) entails (S).
(e) (S) does not entail (C).

I take it that relation (a) is obvious: if one regards each of the articles p, q and r as more probable than its negation, then one regards each of them as more probable than any of its rival articles. Relations (b) and (c), however, require some argument, which I'll provide later in this section. Relations (d) and (e) will be defended in Section 3.

Assuming that relations (b) and (c) hold, they indicate that (P) and (W) are not equivalent standards; in fact, (P) and (W) are independent. In the course of his book, Swinburne comes to adopt (P) as the proper standard of credal belief, but his reason for doing so seems to be the mistaken assumption that (P) and (W) are equivalent. He writes:

> On the second view [i.e. weak belief] a man who believes a creed consisting of p, q, and r believes p to be more probable than p_1, p_2, etc.; q to be more probable than q_1, q_2, etc., and so on. In that case he will believe his total creed to be more probable than alternative heretical or religious systems, e.g. (p, q, and r) to be more probable than (p_2, q_2, and r_2) [thus, provisional belief]. Conversely, if he believes p-q-and-r, to be more probable than alternative religious systems (including both systems which form bases of actual religions and systems which can be constructed by combining parts of the latter), then he will have belief of the second [i.e. weak] kind... So the second view [i.e. weak belief] can be expressed by saying that a man believes a creed if he believes it to be more probable than any alternative rival system. [p. 120, footnote omitted]

Obviously this passage, in which Swinburne conflates (P) and (W), runs afoul of relations (b) and (c). This is no peccadillo; it makes trouble for his entire analysis. Swinburne settles on (P) as the proper standard of credal belief, and he presupposes that standard throughout the rest of his book.

Yet he arrives at (P) by assuming (incorrectly) that it's just equivalent to standard (W). Thus his argument, even if persuasive, to the effect that (W) is not too weak does not suffice to show that the independent standard (P) is also not too weak. Yet Swinburne gives no further argument for (P) as distinct from (W). Moreover, as I suggested earlier, his argument for (W) is unpersuasive anyway.

Let me defend this criticism in more detail. Take relation (b) first. Clearly, (W) need not obtain wherever (P) obtains: not all cases of provisional credal belief are cases of weak credal belief. Indeed, one can conceive of any number of (close) cases in which (P) obtains in the absence of (W): in particular, cases where S provisionally believes his creed even though he regards (at least) one of its articles as slightly less probable than a rival article from some other creed. Such cases suggest a good reason for rejecting (P) as a general standard of credal belief. Many genuine religious disputes, some of them famous, have turned on the disputants' belief in a single article of the creed as against some rival article.[7] Thus (P) won't work as a general test of credal belief, since, as Swinburne himself argues, belief in creed K_1 over creed K_2 depends on believing *each* article of K_1 to be more probable than its contrary article from K_2. But (P) – Swinburne's preferred standard – doesn't guarantee that kind of belief.

I can falsify the entailment from (P) to (W) by means of a simple counterexample. For convenience, suppose that we have just six basic credal articles: p and its contraries p' and p''; q and its contraries q' and q''. These articles can be conjoined to form nine competing creeds:

(1) $(p \,\&\, q)$	(2) $(p' \,\&\, q')$	(3) $(p'' \,\&\, q'')$
(4) $(p' \,\&\, q)$	(5) $(p \,\&\, q')$	(6) $(p'' \,\&\, q)$
(7) $(p \,\&\, q'')$	(8) $(p'' \,\&\, q')$	(9) $(p' \,\&\, q'')$

Suppose that S, based on his evidence, assigns EP as follows:

$\mathrm{EP}(p) = .7$	$\mathrm{EP}(p') = .2$	$\mathrm{EP}(p'') = .1$
$\mathrm{EP}(q) = .45$	$\mathrm{EP}(q') = .5$	$\mathrm{EP}(q'') = .05$

Each article and its contraries (e.g. p, p' and p'') form a mutually exclusive and jointly exhaustive triple of propositions. Thus,

$$\mathrm{EP}(p) + \mathrm{EP}(p') + \mathrm{EP}(p'') = 1, \mathrm{EP}(q) + \mathrm{EP}(q') + \mathrm{EP}(q'') = 1,$$

$EP(p \,\&\, p' \,\&\, p'') = 0$, and $EP(q \,\&\, q' \,\&\, q'') = 0$.

Given the above assignments of EP, S does not achieve weak belief in the creed (p & q), since he does not regard each article of the creed as more probable than any alternative (he regards q as slightly less probable than q'). We have, thus, a case in which (W) fails. Now I must show that (P) still can hold, i.e. that S can achieve provisional belief in (p & q).[8]

To do so, I will make use of a further assumption adumbrated by Swinburne. After observing that the entailment from (W) to (P) "normally holds," he writes:

> There are however odd cases where it does not hold. These are cases where [the conjoined propositions] count against each other (e.g. where not all...can be true together). However, in view of the fact that religious creeds normally fit neatly together to give a coherent world-view, we may in this context ignore such cases. [p. 120, n. 1]

Swinburne's point is crucial. It's reasonable to assume that the articles of any actual religious creed do not "count against each other": if p and q are articles from the same actual creed, then

$EP(p \mid q) \geqslant EP(p)$ and $EP(q \mid p) \geqslant EP(q)$,

where "$EP(p \mid q)$" represents the conditional EP of p on q, or EP(p given q). For that matter, it's plausible to assume that, in many cases, the articles of an actual religious creed *reinforce* one another: establishing the truth of one article (e.g. that an omnipotent God exists) raises the EP of other articles (e.g. that a virgin birth occurred). In many cases, that is, if p and q come from the same actual creed,

$EP(p \mid q) > EP(p)$ and $EP(q \mid p) > EP(q)$.

I will assume, then, the *positive dependence* of articles from the same actual creed: the EP of an article increases when we conditionalize on the truth of companion articles. I will argue further for the plausibility of this assumption in Section 3.

Returning to the counterexample, recall that Swinburne distinguishes between creeds "which form bases of actual religions" (which I have been calling "actual" creeds) and creeds "which can be constructed by combining parts of" actual creeds (I will call these "hybrid" creeds). While positive dependence holds for actual creeds, clearly it need not hold for hybrid creeds. Unlike actual creeds, hybrid creeds need not "fit neatly together to give a coherent world-view." Therefore, I won't assume positive dependence for hybrid creeds (though I'll continue to assume that it holds for actual creeds). Suppose that $(p \,\&\, q)$, $(p' \,\&\, q')$ and $(p'' \,\&\, q'')$ are the actual creeds in our example. On the basis of positive dependence, then, S assigns the following conditional probabilities:

$$\begin{aligned} EP(p \mid q) &= .8 > EP(p) \\ EP(p' \mid q') &= .3 > EP(p') \\ EP(p'' \mid q'') &= .2 > EP(p'') \end{aligned}$$

We obtain, then, the following equations:[9]

$$\begin{aligned}
&(1)\ EP(p \,\&\, q) = EP(p \mid q)EP(q) = (.8)(.45) = .36 \\
&(2)\ EP(p' \,\&\, q') = EP(p' \mid q')EP(q') = (.3)(.5) = .15 \\
&(3)\ EP(p'' \,\&\, q'') = EP(p'' \mid q'')EP(q'') = (.2)(.05) = .01 \\
&(4)\ EP(p' \,\&\, q) = EP(p') - EP(p' \,\&\, q') - EP(p' \,\&\, q'') \\
&\qquad = .2 - .15 - u = .05 - u < .36 \\
&(5)\ EP(p \,\&\, q') = EP(p) - EP(p \,\&\, q) - EP(p \,\&\, q'') \\
&\qquad = .7 - .36 - v = .34 - v < .36 \\
&(6)\ EP(p'' \,\&\, q) = EP(p'') - EP(p'' \,\&\, q'') - EP(p'' \,\&\, q') \\
&\qquad = .1 - .01 - w = .09 - w < .36 \\
&(7)\ EP(p \,\&\, q'') = EP(p) - EP(p \,\&\, q) - EP(p \,\&\, q') \\
&\qquad = .7 - .36 - x = .34 - x < .36 \\
&(8)\ EP(p'' \,\&\, q') = EP(p'') - EP(p'' \,\&\, q'') - EP(p'' \,\&\, q) \\
&\qquad = .1 - .01 - y = .09 - y < .36 \\
&(9)\ EP(p' \,\&\, q'') = EP(p') - EP(p' \,\&\, q') - EP(p' \,\&\, q) \\
&\qquad = .2 - .15 - z = .05 - z < .36
\end{aligned}$$

Notice that positive dependence, which (we supposed above) holds for the three actual creeds, is symmetric:

$$\begin{aligned}
&(10)\ EP(q \mid p) = EP(p \,\&\, q)/EP(p) = .36/.7 = .51 > EP(q) \\
&(11)\ EP(q' \mid p') = EP(p' \,\&\, q')/EP(p') = .15/.2 = .75 > EP(q') \\
&(12)\ EP(q'' \mid p'') = EP(p'' \,\&\, q'')/EP(p'') = .01/.1 = .1 > EP(q'')
\end{aligned}$$

(Results are rounded to two decimal places). Now consider equations (4) through (9), which concern the hybrid creeds. The axioms of probability require that each of the values u through z be non-negative. Thus, as indicated, each of the hybrid creeds must be less probable than $(p \,\&\, q)$. Clearly, we have here a case of provisional belief in the actual creed $(p \,\&$

q). S considers (p & q) more probable than all of its rival creeds, including the two actual rivals and the six hybrid rivals. Yet, ex hypothesi, (W) fails: S regards q as less probable than q'. Therefore, (P) does not entail (W). They are not equivalent standards.

However, I have yet to show that (P) and (W) are independent standards. This requires showing that relation (c) also holds, i.e., that (W) does not entail (P). Consider the (actual) creed (p & q & r). By definition,

$$\begin{aligned} \mathrm{EP}(p \,\&\, q \,\&\, r) &= \mathrm{EP}(p)\mathrm{EP}(q \mid (p \,\&\, r))\mathrm{EP}(r \mid p) \\ &= \mathrm{EP}(q)\mathrm{EP}(r \mid (p \,\&\, q))\mathrm{EP}(p \mid q) \\ &= \mathrm{EP}(r)\mathrm{EP}(p \mid (q \,\&\, r))\mathrm{EP}(q \mid r) \\ &= \mathrm{EP}(p)\mathrm{EP}(r \mid (p \,\&\, q))\mathrm{EP}(q \mid p) \\ &= \mathrm{EP}(q)\mathrm{EP}((p \,\&\, r) \mid q) \\ &\text{(etc.).} \end{aligned}$$

(The same definition can be used to give the EP of creeds with more than three articles; the conditional probabilities get more involved as the number of conjuncts increases.) According to standard (W), S achieves weak belief in the creed iff S considers each of the articles p, q and r more probable than any rival article. However, we can see from the definition of EP(p & q & r) that S will also have provisional belief in the creed *only if* the relevant conditional probabilities behave properly. Let us call the conditional probabilities which obtain among the articles of a creed the "internal" conditional probabilities of the creed. Thus, $\mathrm{EP}(p \mid q)$, $\mathrm{EP}(q \mid r)$ and $\mathrm{EP}(p \mid (q \,\&\, r))$ are three of the (twelve) internal conditional probabilities of (p & q & r). More precisely, then: (W) entails (P) *only if* none of the internal conditional probabilites of the weakly believed creed is sufficiently *lower* than any of the internal conditional probabilities of rival creeds. But I see no good reason to *rule out* cases in which the former *are* sufficiently lower than the latter, i.e. cases in which (W) obtains in the absence of (P). On the contrary, we must allow for cases in which, for example,

$\mathrm{EP}(p) > \mathrm{EP}(p')$, $\mathrm{EP}(p) > \mathrm{EP}(p'')$, $\mathrm{EP}(q) > \mathrm{EP}(q')$, $\mathrm{EP}(q) > \mathrm{EP}(q'')$, and yet $\mathrm{EP}(p \mid q)$ is substantially less than, say, $\mathrm{EP}(p' \mid q')$. Surely one can think of credal articles which are individually quite improbable but which reinforce each other so as to yield very high conditional EP (see Section 3). In particular, credal articles which are individually improbable relative to their rivals still can yield conditional probabilities which are very high relative to those of their rivals. And this can happen without any general assumptions about positive dependence for creeds. Thus, we conclude that

(W) does not entail (P). Conjoining this result with relation (b), proved earlier, we can conclude that (P) and (W) are indeed independent standards.

In arguing for the independence of (P) and (W), we have relied on plausible assumptions, including the assumption of positive dependence for actual creeds (which is surely compatible with Swinburne's remarks even if not entailed by them). Moreover, our particular arguments yield perfectly general conclusions. For instance, nothing depends on the actual number of conjuncts in our counterexample, provided that any creed contains at least two distinct articles. Now, Swinburne asserts that the equivalence of (W) and (P) "holds normally" (p. 120, n. 1). More precisely, he asserts that, normally, when (W) obtains (P) obtains, and (as he says) conversely. On his view, then, (W) and (P) are (normally) materially equivalent. But I don't know what it means to say that a material equivalence to which there are infinitely many counterinstances holds normally. Validity does not admit of degrees. More to the point, I see nothing abnormal or farfetched about the arguments we have given. The upshot of those arguments is that (P) and (W) are independent standards. Therefore, Swinburne's argument to the effect that (W) is the proper standard of credal belief (in particular, not too weak a standard) does not suffice to show that the independent standard (P) is itself not too weak. Indeed, Swinburne's adoption of standard (P) requires its own defense, which Swinburne never provides. I will conclude by defending a standard, stronger than both (P) and (W), which he too quickly dismisses.

3. Positive dependence and complete belief

In the course of comparing strong and weak credal belief, Swinburne rejects the option of complete belief (standard (C)) after briefly discussing it:

> Theoretically, there is a third possibility that the creed as a whole is being contrasted with its negation. On this view, to believe the creed is to believe that the conjunction of propositions which form it is more probable than the negation of that conjunction. Yet although this is theoretically possible, I find it difficult to accept that religious men have supposed that belief in a creed is as strong a thing as that. [p. 120]

I will defend standard (C) on these grounds: unlike Swinburne's standard, (C) is strong enough to capture genuine credal belief; and yet it does so without demanding too much of religious adherents. As I suggested in section 1, the only sound (probabilistic) standard of belief is one according to which S believes that *p* only if S assigns EP > .5 to *p*. Thus, on the only sound standard of credal belief, S believes the creed (*p* & *q* & *r*) only if S assigns EP > .5 to (*p* & *q* & *r*). Creeds are just conjunctive propositions. It follows that one cannot believe the creed (*p* & *q* & *r*) "as a whole" (Swinburne's phrase) unless one assigns EP > .5 to that conjunction.

According to Swinburne, however, one can believe one's "total creed" (p. 120) while believing the conjunction of its articles to be false:

> One who believes the Nicene Creed...need not believe that the Creed as a whole is more probable than its negation.... He may still believe that somewhere in the Creed he has made a mistake. [p. 8]

These remarks call to mind an analogue in the philosophy of science. According to the "paradox of provisional acceptance" of scientific laws, scientists

> can believe that the extensional counterpart of the law is *false* and yet believe that it is reasonable to apply it, as if true, to individual cases, since each such application is overwhelmingly likely to be successful.[10]

Notice the crucial feature: scientists believe the law to be strictly false, even though they can confidently apply it to individual cases. Swinburne's standard (P) of credal belief suggests the "provisional acceptance" of creeds, which is why I dubbed it "provisional" credal belief. According to (P), one can accept creed K (i.e. one can "believe" K) even though one regards K as (more probably than not) false. This can occur where K is improbable (EP(K) < .5) but more probable than any rival creed (see the example in Section 1). In addition, it may happen that one does not believe that any given article of K is false ((S)) or less probable than rival articles ((W)); but, as the independence of (P) and (W) shows, Swinburne does not demand even that of believers. Nevertheless, provisional acceptance is not belief. Strictly speaking, *mere* provisional acceptance of K is incompatible with belief that K is true.[11] Thus, it won't do to say that one *believes* K when in fact one merely provisionally accepts it. Unless by "total creed" Swinburne means something other than the conjunction of all of the items in the creed (what else could he mean?), his standard is too weak to capture genuine credal belief.

Perhaps the analogy between standard (P) and mere provisional acceptance is unfair to Swinburne. Instead, it might be more accurate to compare S's provisional belief in K to the scientist's adoption of a "working hypothesis."[12] Unlike mere provisional acceptance, a scientist's adoption of working hypothesis H is compatible with his believing that H is (probably) true. Yet the adoption of H does not *entail* the belief that H is true and is perfectly compatible with the belief that H is false. No doubt many scientists are now at work on hypotheses they believe to be (more probably than not) false yet worth testing all the same. Thus, the new analogy has essentially the same effect on standard (P) as the old one. Adopting creed K as a working hypothesis is not equivalent to believing K, as Swinburne explicitly acknowledges in an earlier work.[13] Therefore, even on the analogy to the working-hypothesis model, standard (P) is still too weak to serve as a criterion of genuine credal *belief*.

Earlier we saw that the standard Swinburne defends, (W), does not guarantee that the creed as a whole will be considered more probable than rival creeds, i.e. standard (P). Nevertheless, why do I insist on genuine credal belief rather than *allow* for standard (P), the weaker propositional attitude Swinburne proposes?[14] I can reply only that it seems to me odd to consider someone an adherent of a creed without requiring that she regard the creed as, at least, *not probably false*. Indeed, on the view that Swinburne and I share, regarding *p* as *probably* false is a perfectly natural (and perhaps typical) way of regarding *p* as *false*. Thus, on standard (P), the adherent need not differ from the unbeliever on the crucial issue of whether each believes the creed to be false. Both can believe it's false, and yet one will count as an adherent and the other not. It is implausible to suppose that one's attitude toward the falsity of a creed need make no difference to whether one counts as an adherent or as an unbeliever. Moreover, it is implausible to suppose that the *Credo* ("I believe") which prefaces so many creeds is meant to signal an attitude compatible with belief that the relevant creed is just false. Creeds are supposed to be professions of belief, and I have given reasons for thinking that Swinburne's weaker propositional attitude, standard (P), cannot capture the sort of belief that adherence to a creed ought to require.

Let us resume, then, the discussion of standard (C). There are several considerations which recommend complete belief as an alternative to Swinburne's unsatisfactory standard. First, as relation (d) above asserts,

(C) entails (S). This is clear from the definition of EP(p & q & r) given earlier. (C) holds iff EP(p & q &r) exceeds .5. Since each of the internal conditional probabilities of (p & q & r) is at most 1, if EP(p & q & r) is to exceed .5 then the EP of each of the constituent articles must also exceed .5. Thus, one has complete belief in a creed only if one considers each constituent article more probable than its negation. This is a most welcome consequence, especially in light of our arguments in Section 2 and the foregoing remarks about provisional acceptance. Notice that, according to relation (e) above, (S) does not entail (C): by definition an instance of strong credal belief will qualify as complete credal belief *only if* the internal conditional probabilities of the creed are high enough. Thus, (C) is a stronger standard than even (S). Nonetheless, there is a realistic sense in which (C) does not ask too much of genuine believers. Leave aside intuitions which require a standard as strong as (C), e.g. the intuition that no one can believe a creed without considering it more probably true than not. Given positive dependence among the articles of some actual creed, it's not implausible to suppose that rational adherents could achieve complete belief in that creed. Take the (actual) creed (p & q & r). As we saw earlier,

$$\begin{aligned}\mathrm{EP}(p \,\&\, q \,\&\, r) &= \mathrm{EP}(p)\mathrm{EP}(q \mid (p \,\&\, r))\mathrm{EP}(r \mid p)\\ &= \mathrm{EP}(q)\mathrm{EP}(r \mid (p \,\&\, q))\mathrm{EP}(p \mid q)\\ &= \mathrm{EP}(r)\mathrm{EP}(p \mid (q \,\&\, r))\mathrm{EP}(q \mid r)\\ &\text{(etc.).}\end{aligned}$$

Thus, S has complete belief in (p & q & r) provided (i) that S assigns EP $> .5$ to each of the conjuncts (strong belief) and (ii) that positive dependence makes each of the twelve internal conditional probabilities high enough.

Granted, the closer the EP of each article is to .5 the closer the conditional probabilities must be to 1. But the latter is not so implausible. Indeed, in the case of actual creeds the EP of some articles, conditional on the truth of other articles, would seem to approach 1 easily. Take the Nicene Creed, for example. The EP of the Resurrection, conditional on the Incarnation, is surely well above .5. The EP of the Resurrection, conditional on the Incarnation *and* the Crucifixion, is even higher. The EP of the Resurrection, conditional on the Incarnation, the Crucifixion, *and* the Ascension, would seem to be virtually 1. Armed with the truth of the latter three doctrines, S would seem justified in believing the Resurrection to be virtually certain. Indeed, the positive dependence of articles in an actual creed can be quite strong. Recall that, if EP(p), EP(q) $\neq 0$,

$$EP(p \mid q) = EP(p \,\&\, q)/EP(q),$$
$$EP(q \mid p) = EP(p \,\&\, q)/EP(p).$$

Thus, if credal articles p and q reinforce each other so that EP(p & q) is not much less than either EP(p) or EP(q), then EP($p \mid q$) and EP($q \mid p$) will both approach 1. If p and q are as positively dependent as can be (i.e. if they entail each other), then of course EP($p \mid q$) and EP($q \mid p$) will both equal 1. While the positive dependence in an actual creed will rarely work as well as *that*, it will often (it seems to me) work well enough to support complete belief. Thus, a great many cases of strong credal belief (with the adequate degree of positive dependence) will qualify as cases of complete credal belief. Complete credal belief is not nearly as implausible or as onerous as Swinburne suggests, and it possesses virtues which his preferred standards sorely lack.

Notes

1. (Oxford: Clarendon Press, 1981). All parenthetical page references are to this work.
2. By "propositional belief" I mean, simply, belief that p, where p is a proposition. Following Swinburne, I will use "belief" to refer to propositional belief throughout.
3. I include among the atheists those who view the claim that God exists as "meaningless" because "unfalsifiable." This seems fair given that proponents of this view, including A. J. Ayer and Anthony Flew, typically classify themselves *as* atheists. Moreover, it seems reasonable to suppose that such persons would assign EP $< .5$ to the claim that God exists. At any rate, they would not assign EP $\geqslant .5$ to the claim, which is, I should think, a necessary condition for membership in the class of "theists and agnostics."
4. Swinburne does not explicitly adopt the metric I describe, but it follows from his remarks about all "normal" cases of belief. Believing that p is more probably true than not entails believing that not-p is more probably false than not:

   $$EP(p) > .5 \text{ entails } EP(\text{not-}p) < .5.$$

   Coherence of belief requires that the probabilities of contradictory propositions sum to 1.
5. In *An Introduction to Confirmation Theory* (Methuen, 1973), pp. 185–186, Swinburne includes a qualification in his account of "belief relative to alternatives." According to the fuller account, S believes the most probable proposition p in a group of alternatives *only if* S regards p as more probable

than the negation of the disjunction of all alternatives, i.e. more probable than the proposition that all alternatives (including p) are false. In *Faith and Reason* he does not include this qualification, but presumably it is an implicit part of his account. In any case, the qualification doesn't affect the example under discussion, since in that example I *do* regard p as more probable than the proposition that all alternatives are false.

6. The definition which follows is a somewhat more precise characterization than Swinburne gives of what he calls (at page 120) "weak" belief. As I show in Section 2, Swinburne *confuses* weak belief (as defined here) with an independent standard which he ultimately adopts.
7. One famous example is the longstanding dispute between the Eastern Orthodox and Roman Catholic churches over the addition of the *Filioque* clause to the Nicene Creed.
8. By my use of *achieve* in the context of belief, I do not mean to suggest that one typically chooses one's beliefs. Thus, when I say, for example, that S *achieves* weak belief in K, I mean that S's belief in K achieves the *status* of weak belief.
9. The equations which follow are all derivable from basic axioms of the probability calculus. The conditional probability of p on q, or $\mathrm{EP}(p \mid q)$, is given by $\mathrm{EP}(p \,\&\, q)/\mathrm{EP}(q)$, provided $\mathrm{EP}(q) \neq 0$. Moreover, the probability of any conjunction can be expressed as the product of conditional probabilities and one unconditioned probability –

$$\mathrm{EP}(p \,\&\, q) = \mathrm{EP}(p)\mathrm{EP}(q \mid p) = \mathrm{EP}(q)\mathrm{EP}(p \mid q) -$$

from which one can derive more complicated probabilities:

$$\begin{aligned}\mathrm{EP}(p \,\&\, q \,\&\, r &= \mathrm{EP}(p)\mathrm{EP}(q \mid (p \,\&\, r))\mathrm{EP}(r \mid p) \\ &= \mathrm{EP}(q)\mathrm{EP}(r \mid (p \,\&\, q))\mathrm{EP}(p \mid q) \\ &= \mathrm{EP}(r)\mathrm{EP}(p \mid (q \,\&\, r))\mathrm{EP}(q \mid r), \text{ etc.}\end{aligned}$$

Finally, if q, q', and q'' are mutually exclusive and jointly exhaustive alternatives, then of course

$$\mathrm{EP}(p) = \mathrm{EP}(p \,\&\, q) + \mathrm{EP}(p \,\&\, q') + \mathrm{EP}(p \,\&\, q'').$$

from which we obtain

$$\mathrm{EP}(p \,\&\, q) = \mathrm{EP}(p) - \mathrm{EP}(p \,\&\, q') - \mathrm{EP}(p \,\&\, q'').$$

10. Brian Skyrms, *Causal Necessity* (Yale University Press, 1980), p. 41 (emphasis in original). The term "paradox of provisional acceptance" is also Skyrms's.
11. Id., p. 37.
12. Norman Kretzmann suggested this alternative in conversation.
13. See *An Introduction to Confirmation Theory* (note 5), ch. 13.
14. This objection was suggested by an anonymous referee for this journal.