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According to the Open Futurist there are no true undetermined contingent propositions about the future. I shall argue on probabilistic grounds that there are some statements about infinite futures that Open Futurism cannot handle. The Open Futurist's best bet is to reject an infinite future, but a Christian philosopher cannot take that bet, and hence should reject Open Futurism.

1. Probability and an Open Future

According to the Open Futurist, there are no true future contingent propositions of the form: "It will be the case that *p*," where its being the case that *p* is not logically determined by the present state of the world. Either all such statements are false or they all lack truth value. I shall argue on the grounds of probability theory that there are certain statements about infinite futures that Open Futurism cannot handle. The Open Futurist's best bet would be to reject the possibility of an infinite future, but I argue that the *Christian* Open Futurist cannot take that bet, as humanity's hope lies in an everlasting heavenly joy. Thus the Christian philosopher should reject Open Futurism.

Before considering the main argument, let's think about a simpler probabilistic argument against Open Futurism. Suppose that I am determined by the present conditions and laws of nature to flip an indeterministic fair coin in exactly five minutes. According to Open Future views, it is neither true that the coin will land heads nor that it will fail to land heads (either both statements are false or neither statement has a truth value). Yet by definition of fairness, the probability that the coin will land heads is 1/2. So the Open Futurist has to believe *both* that it is not true that the coin will land heads *and* that the probability that it will land heads is 1/2. Yet surely if one believes that it is not true that the coin will land heads, one assigns a probability *less* than 1/2 to the proposition. We can make the problem sharper by supposing the coin to be unfair and to have a probability 9/10 of landing heads. Then the Open Futurist has to believe both that it is not true that the coin will land heads and that it has a probability 9/10 of doing so.[1]

These claims are uncomfortable, but perhaps an Open Futurist can live with them. The Open Futurist can, for instance, say that there is a tenseless

[1]This is a variant on the argument of Pruss, "Probability and the Open Future View."

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proposition, u, that the coin lands heads at t_5, where t_5 is five minutes from now. The sentence "The coin will land heads in five minutes" can be said to have u as its "tenseless content" (no claim is made that the tenseless content exhausts the meaning of the sentence). Then the probability that the coin will land heads in five minutes is r because u has a chance of degree r to *become* true.[2] In other words, claims about the probabilities of future contingents are claims about the chances-to-become-true of tenseless propositions that are at present neither true nor false.[3]

2. Probability and an Infinite Open Future

But there is a more serious problem for the Open Futurist. Imagine a possible world with a finite past and an infinite future where the laws of nature and initial conditions determine that (a) the past is finite, (b) the future is infinite and (c) every day an indeterministic and fair coin is tossed. Let q be the proposition that the coin lands heads infinitely many times. The Law of Large Numbers[4] implies that with probability 1, the limiting frequency of heads in the coin's tosses is 1/2. Since there will be infinitely many tosses, if the limiting frequency of heads is 1/2, there must be infinitely many heads. Hence, the probability of q is one.

Now, some may cavil that the probability of q is 1 minus an infinitesimal rather than 1, since there is an infinitesimal chance that the coin will, say, always land tails.[5] Either way, it is clear that the probability of q is *nearly 1*, a term I will stipulatively use to mean either 1 or 1 minus an infinitesimal.

But the Open Futurist has a problem here. Her theory commits her not only to the claim that q isn't true, but also to the claim that *q never* becomes true. For there is always a causal possibility that there will be only finitely many heads. And yet q has a probability of nearly 1. How can one believe that a proposition with probability nearly 1 is neither true nor becomes true?

We can make the problem sharper. Let q^* be the proposition that an indeterministic and fair coin is tossed on every day of a time sequence that goes on forever and lands heads on infinitely many of these days. Given as background information that some coin is determined to be thus tossed, the probability of q^* will be nearly 1. But on an Open Future view, it is *impossible* that the proposition q^* ever be true. For, necessarily, on every day of every time sequence, q^* is not true, since if q^* were true, there would

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[2]Cf. Rhoda, "Probability, Truth, and The Openness of the Future."

[3]And one really does need to work with *tenseless* propositions here. For what truth value the tensed proposition that the coin will land heads in five minutes *will* have is irrelevant to us. The truth value that this tensed proposition will have, for instance, in five minutes has to do with a potential toss in *ten* minutes, rather than the toss we care about, the one in *five* minutes. I take the use of "subsequently" by Rhoda ("Probability, Truth, and The Openness of the Future," 199) to be such a tenseless claim, in light of his claims ("Probability, Truth, and The Openness of the Future," 201) that once the events described in it have happened, it is true.

[4]Chung, *Course in Probability Theory*, §5.4.

[5]But see Williamson, "How Probable is an Infinite Sequence of Heads?"

be a fact about future contingents, namely that the coin will land heads infinitely often (whether the past tosses were heads or tails is irrelevant, as there were only finitely many past tosses).

One may worry that the scenario of an infinite number of coin tosses commits one to an *actual* infinite, contrary to the arguments of finitists like Craig.[6] Talk of how many times the coin will land heads over an infinite makes it sound like there actually might be an infinite number of future heads tosses. However, the scenario can be formulated without any such worries. The claim that the future is infinite can be put like this: "Time is not circular, tomorrow there will be a day, and after every day there will be another day." And, assuming this claim about an infinite future, the claim that the coin will land heads infinitely many times can be put like this: "There will be at least one heads landing, and some time after every heads landing there will be another heads landing."

Thus, we have a conflict: the Law of Large Numbers tells us that q^* is nearly certain, while Open Futurism tells us that q^* cannot ever be true. We shouldn't abandon the Law of Large Numbers. Probably the most philosophically vulnerable of our assumptions is that the future could be infinite. After all, there are many paradoxes of infinity.[7] So the Open Futurist's best bet is to reject to the possibility of an infinite future.

But a Christian philosopher's hope is for an eternal life in union with God. There are two ways of conceptualizing this eternal life. Either it is everlasting, in the sense that after every day (or some other unit during which the kinds of physical movements involved in flipping a coin can be made) there is another day and time is non-circular, or it is timeless. We may worry about the coherence of timelessness coming *after* a life, but, apart from that, the timeless option is highly implausible in light of the doctrine, so central to the New Testament and Christian tradition, of the resurrection of the body.[8] Without time there can be no motion or change. But without motion, manipulative organs like arms and legs are pointless, and without change there is no exercise of sensory organs aimed at the reception of temporally sequenced data such as eyes (light is a wave, and waves are temporally sequenced) and ears.

While according to the Gospel narratives the resurrected Jesus is difficult to recognize as the same individual as prior to the resurrection, and our resurrected bodies may have many additional capabilities that we now have no idea of, the New Testament presents the resurrected Jesus as having a body with the kind of shape (e.g., John 20:27) and at least many of the same capabilities that we have—he can talk, walk, stand, break bread and eat fish (e.g., Luke 24:13–43). More generally, it seems there could not be any timeless functioning of a living body where "body" has the organic

[6]E.g., Craig, *Kalam Cosmological Argument*.

[7]E.g., Benardete, *Infinity*.

[8]For an excellent discussion of the centrality of the resurrection of the body to Christian views of the afterlife, see Cullman, *Immortality of the Soul or Resurrection of the Dead?*

sense of the Greek word *sôma* (as opposed to the sense of "body" used in first-year physics[9]).

Perhaps a human body could exist in a timeless frozen state, but it would be a non-functional body, and such a state would not be a state of full human flourishing, nor would the doctrine that there is a resurrection of the body be of central importance to Christian hope then. But the resurrection of the body is crucial, so eternal life is everlasting—and hence infinite—rather than timeless.

So a Christian philosopher should not deny an infinite future. Hence a Christian philosopher should not believe in an Open Future.[10]

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[9]Perhaps a "body" in the physics sense could have a function of changelessly pressing on another body, as in Kant's famous example of the lead ball changelessly pressing on a cushion (Kant, *Critique of Pure Reason*, A203/B248–249). It is not the fulfillment of human organic life to have just such functions.

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