

11.1 Time Travel (p. 269)

More Doom

HERE'S ANOTHER ARGUMENT THAT the end of the world is nigh.

Imagine that you woke up one morning in a bed in a room you didn't recognize, with no memory at all of how you got there, and no idea of where you were. Of course, you could find out where you were once you got out of bed, but stay there for a moment while we ask you a multiple choice question. Given your total lack of information about where you are, which answer would you suppose is more likely true:

You are in

- A. Chicago, Illinois (population 2,783,726)
- B. Crab Orchard, Kentucky (population 825)

Well, it seems pretty clear that the more likely answer is A, just because there are many more people in Chicago than in Crab Orchard, so any person at any time is more likely to be in Chicago than in Crab Orchard.

Okay, so what?

So this. I've seen various estimates of what proportion of humans ever alive is alive now; some of these range as high as $1/3$. A seemingly authoritative estimate I have seen, however, puts the proportion at around 5.5 per cent, so let's use this number.

Now consider two hypotheses about the future:

- H1. Doom soon. Some catastrophe will wipe out the human race pretty soon.
- H2. Doom much later. The human race will continue for a longer time.

Now, if Hypothesis H1 is true, then the probability that a person randomly picked from humanity past, present, and future is alive now is about 5.5 per cent. But if H2 is true, then even if the world population doesn't increase much in the future, the probability of a random human being alive now is much smaller than 5.5 per cent.

Of course, we don't know which of H1 or H2 is true. But note that it's more likely that you exist at a time when a larger proportion of humans exist—just as, by analogy, it's more likely that you're present in Chicago than in Crab Orchard, because a higher proportion of all the people are there. But if H2 is true, your existence now is less likely than if H1 is true. If the human race continued to exist for, say, three hundred thousand more years, then only a very

tiny fraction of all humans, past, present, and future, would be alive now; and your existence here now would be highly unlikely.

So it's far more likely that you exist at a time when a higher proportion of humans exist; and that would be true if the human race came to an end sooner rather than later. This makes it likely that humanity will come to an end sooner rather than later.

An astronomer announced during a lecture that the sun will probably expand into a red giant star, engulfing and vaporizing the earth, in four or five billion years.

"How many years?" asked a woman in the back.

"Four or five billion."

"Whew!" said the woman. "I thought you said *million*."

FOR FURTHER READING: This argument for the probability of Doom Soon was proposed by the philosopher John Leslie; see "Is the End of the World Nigh?," *Philosophical Quarterly* 40.158 (1990): 65–72, or his book *The End of the World: The Science and Ethics of Human Extinction* (New York: Routledge, 1998). His argument is not widely accepted. For a critical review that carefully and at length tries to show where Leslie has gone wrong in this reasoning, see Mark Greenberg's "Apocalypse Not Just Now" in the *London Review of Books* 21, no. 13 (July 1, 1999). This can be found online: <<http://www.lrb.co.uk/v21/n13/gree2113.htm>>.