

LEWIS ON TIME TRAVEL

Ted Sider, Metaphysics

1. A DISCREPANCY BETWEEN TIME AND TIME

- If I jump in my time machine and an hour later wind up at the time of the dinosaurs, it seems that my arrival occurs an hour later than my departure (because the trip took an hour) but also that the arrival occurs millions of years before my arrival. How can this be?

- One solution: *time has two dimensions*. But:

On closer inspection, however, this account seems not to give us time travel as we know it from the stories. When the traveler revisits the days of his childhood, will his playmates be there to meet him? No; he has not reached the part of the plane of time where they are. He is no longer separated from them along one of the two dimensions of time, but he is still separated from them along the other. (p. 135)

- *Personal time* vs. *external time*.

... there is one way to assign coordinates to the time traveler's stages, and one way only (apart from the arbitrary choice of a zero point), so that the regularities that hold with respect to this assignment match those that commonly hold with respect to external time. With respect to the correct assignment properties change continuously as you go along, for the most part, and in familiar ways. First come infantile stages. Last come senile ones. Memories accumulate. Food digests. Hair grows. Wristwatch hands move. The assignment of coordinates that yields this match is the time traveler's personal time. (pp. 136-137)

Likewise a bystander might truly say, three years after the last departure of another famous time traveler, that "he may even now — if I may use the phrase — be wandering on some plesiosaurus-haunted oolitic coral reef, or beside the lonely saline seas of the Triassic Age". (p. 137; the quotation is from H.G. Wells)

2. PERSONAL IDENTITY

3. THE GRANDFATHER PARADOX

- (i) If time travel is possible, then a time traveler with "what it takes" could kill his grandfather
- (ii) Even if time travel were possible, no time traveler could kill his grandfather
- (iii) Therefore, time travel isn't possible

Tim can kill grandfather(because he's got what it takes):

Tim can kill Grandfather. He has what it takes. Conditions are perfect in every way: the best rifle money could buy, Grandfather an easy target only twenty yards away, not a breeze, door securely locked against intruders. Tim a good shot to begin with and now at the peak of training, and so on. What's to stop him? The forces of logic will not stay his hand! No powerful chaperone stands by to defend the past from interference. (p. 141)

Tim can't kill grandfather (because you can't change the past): Tim is a time traveler, descended from Grandfather. If Tim kills grandfather, then where would he have come from?

At one time, Grandfather lived in 1935

At another time, Grandfather did not live in 1935

At one time, Ted has his arm raised at noon, 4/26/05

At another time, Ted did not have his arm raised at noon, 4/26/05

To say that something can happen means that its happening is compossible with certain facts. *Which* facts? That is determined, but sometimes not determined well enough, by context. An ape can't speak a human language — say, Finnish — but I can. Facts about the anatomy and operation of the ape's larynx and nervous system are not compossible with his speaking Finnish. The corresponding facts about my larynx and nervous system are compossible with my speaking Finnish. But don't take me along to Helsinki as your interpreter: I can't speak Finnish. My speaking Finnish is compossible with the facts considered so far, but not with further facts about my lack of training. What I can do, relative to one set of facts, I cannot do, relative to another, more inclusive, set. (p. 143)

Set 1 of relevant facts: Tim is a good shot, has the desire to kill Grandfather, has a loaded gun, etc.

Set 2 of relevant facts: Tim is descended from Grandfather, who was never shot

An argument based on counterfactuals:

- (i) If Tim had shot Grandfather, Grandfather would have been a time traveler descended from Grandfather, and Grandfather would have died before having children
- (ii) In no sense of 'can' is there something Tim can do, such that if Tim had done it, contradictions would have been true
- (iii) Therefore, in no sense of 'can' can Tim kill Grandfather