

Becoming, relativity and locality

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Abstract

It is a central aspect of our ordinary concept of time that history unfolds and events come into being. It is only natural to take this seriously. However, it is notoriously difficult to explain further what this `becoming' consists in, or even to show that the notion is consistent at all.

In this article I first argue that the idea of a global temporal ordering, involving a succession of cosmic nows, is not indispensable for our concept of time. Our experience does not support the existence of global simultaneity and arguments from modern physics further support the conclusion that time should not be seen as a succession of cosmic nows. Accordingly, I propose that if we want to make sense of becoming we should attempt to interpret it as something purely local. Second, I address the question of what this local becoming consists in. I maintain that processes of becoming are nothing but the successive happening of events, and that this happening of events consists entirely in the occurring of these events at their own spacetime locations. This leads to a consistent view of becoming, which is applicable even to rather pathological spacetimes.

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