ELECTRONIC NEWSLETTER ON
REASONING ABOUT ACTIONS AND CHANGE

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Today

In today's newsletter, Sergio Brandano (Pisa) proposes to return to the basic question for the discussion on ontologies of time: why are alternative time ontologies needed?

If you wish to go back and see how the discussion got started and how it has proceeded, please use our web page, click for "discussion sessions", and proceed to the discussion about ontologies for time.

Debates

Ontologies for time

From: Sergio Brandano

Salve.

The following are some fragments from the current discussion:

From Pat Hayes - ENRAC 14.3.1998

> *instantaneous intervals completely. It is also quite consistent to have arbitrary amounts of density, discreteness, etc.; for example, one can say that time is continuous except in a certain class of 'momentary' intervals whose ends are distinct but have no interior points.*

From Jixin Ma - ENRAC 15.4.1998

> *time element is a decomposable interval. In fact, generally speaking, the basic time structure may be neither dense nor discrete anywhere, or may be continuous over some parts and discrete over other parts.*

Pat and Jixin, what do you mean when you write "continuous"?

Here in Pisa, we write "continuity" and we read "axiom of completeness", which is what everyone commonly means when speaking about (the founding notion of) continuity. I really find it difficult to believe that you like to make an exception in this sense, also because the hat here is "formal (temporal) reasoning". It also seems to me that any temporal structure must necessarily fail to be persuasive if on one hand it includes the notion of continuity and on the other it refuses it; how can time be continuous ... with some exception?

Either it is continuous, or it is not! That is, either the Basic Time Structure assumes the axiom of completeness, or it does not!!

In fact, in this discussion I have not yet seen any explanation why an alternative notion of continuous structure is needed at all? I am not asking you to argue about your own notion, I just ask you to give a convincing argument on the need of a notion which is an alternative to the classical one, such as: "the problem P of temporal reasoning about actions and change can not be solved adopting the axiom of completeness", or "the axiom of completeness is too strong an assumption for our purposes; axiom A is better suited, because...".

Sergio