ELECTRONIC NEWSLETTER ON
REASONING ABOUT ACTIONS AND CHANGE

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Today

Today's Newsletter contains a contribution by Pat Hayes to our hybrid (sometimes continuous, sometimes discrete) debate about the ontology of time. Also, reminders about several forthcoming conferences. The HTML version of this Newsletter (available from the ENRAC web page) contains links to the full conference information, as usual.

In particular, the registration brochure for IJCAI-99 has now been printed and is being distributed. As much as I enjoy editing this electronic newsletter, I do also hope to see you all in Stockholm this summer! It's a great location for a conference; the local arrangements committee there is doing their part in order that the last IJCAI of this millenium will also be the best one; and of course the technical program will be just superb.

One more submitted article is now being sent to the referees: David Poole finished the revision of his article based on the open discussion, and the revised version has been psoted as usual.

Debates

Ontology of time

From: Pat Hayes

Before getting too involved with the details of these examples and arguments concerning timeintervals and points (which will take some time because I think there are some mutual misunderstandings still between the protagonists) let me ask Erik to first come clean, as it were, and tell us what his formal theory of time is. Until we can compare axioms, we are all just arguing in a vacuum.

I know Erik would prefer to first get agreement on intended models and only then move to an axiomatisation, but my point (Im not sure Jixin agrees here) is that this might well be impossible. Many apparently intuitive classes of models - all finite domains, for one notable example - just dont have any axiomatisation. Sorry about that, but since its a fact, its best to learn to live with it. So I'd like to first see what our axioms are, and then ask what models they might have.

Moreover, one needs to realise that an apparently simple model-theoretic specification may carry an enormous axiomatic burden. It is easy to say: I will assume that time is the real line. But to specify the real line axiomatically requires w-order logic, or quite a bit of set theory (enough to be able to characterise continuity.) A first-order approximation to all this high-powered mathematics will just *have* nonstandard models, and no amount of declaring that such models are unintended, or attempts to exorcise them by invoking the Gods of methodology, will make them go away. Note, I'm not arguing that one should *choose* to base ones temporal thinking on 'nonstandard' domains, punctuated continua, etc. etc.. But these structures may well be models of your temporal axioms, whether or not you had them in mind when you composed the axioms.

Pat Hayes

Forthcoming Conferences

IJCAI-99: International Joint Conference on Artificial Intelligence.
Stockholm, 31.7-6.8, 1999. Papers due: NIL NIL.
INFO: http://www.ijcai.org/ijcai-99/

ECP-99: European Conference on Planning.
Durham, United Kingdom, 8.9 - 10.9, 1999. Papers due: 5.5 1999.
CFP: http://www.informatik.uni-ulm.de/ki/ecp-99.html
MSG: http://www.ida.liu.se/ext/brs/confi/cfp/ECP-99.txt

EPIA-99: Portuguese Conference on Artificial Intelligence.
¡E'vora, Portugal, 21.9 - 24.9, 1999. Papers due: 12.4 1999.
CFP: http://www.eventos.uevora.pt/epia/
MSG: http://www.ida.liu.se/ext/brs/confi/cfp/EPIA-99.txt

ACRW-99: Australian Commonsense Reasoning Workshop.
Sydney, Australia, 5.12, 1999. Papers due: 20.9 1999.
CFP: http://infosystems.newcastle.edu.au/webworld/acw99/
MSG: http://www.ida.liu.se/ext/brs/confi/cfp/ACRW-99.txt

AJCAI-99: Australian Joint Conference on Artificial Intelligence.
Sydney, Australia, 6.12 - 10.12, 1999. Papers due: 2.7 1999.
CFP: www.cse.unsw.edu.au/ ai99/
MSG: http://www.ida.liu.se/ext/brs/confi/cfp/AJCAI-99.txt

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`http://www.ida.liu.se/ext/etai/actions/njl/`