ELECTRONIC NEWSLETTER ON
REASONING ABOUT ACTIONS AND CHANGE

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Today

With this issue we confirm the acceptance of two submitted reference articles: the one by Michael Thielscher and the one by Michael Gelfond and Vladimir Lifschitz.

For Thielscher's article we had an animated discussion between the two referees some time ago. No additional contribution has arrived for that debate, and an analysis of the arguments and the article led to the conclusion that the article should be accepted without reservations, although with an option for the author to revise the article in order to take some of the referee suggestions into account.

For the article by Gelfond and Lifschitz the two anonymous referees have made some remarks, but no suggestions for changes. The article is accepted without reservations.

ETAI Publications

Discussion about received articles

Action Languages

by Michael Gelfond and Vladimir Lifschitz

Comment from: Anonymous Referee 1

I have checked the article against the refereeing criteria for reference articles:

1. *Does the article represent a tradition or "approach" where there is already a sufficient volume of work in the field?*

Yes. The article describes a family of six action languages: the action description languages A, B, and C and the action query languages P, Q, and R, related by various subsumption relationships. The common semantics for these is defined using transition systems. This structure of languages looks a bit forbidding at first, but it is systematic and easy to grasp.

Some other action languages that have been introduced previously in time (such as AR0 and AR) are not covered in this article. An explanation of how they relate to the languages described here would be helpful.

2. *Does the article concisely specify the assumptions, motivations, and notations used in that approach? Does it correctly capture the assumptions, etc. that have been used and are being used?*

Yes.

3. *Would reading the present article enable one to skip the introductory definitions section of many previously published articles that used the approach?*

Yes. (Note however that some journal articles also contain a general introduction to the 'frame problem' in reasoning about actions, and the present article does not provide that background).

4. *Is the article also concise in the sense that it does not contain a lot of material that is unnecessary for the above criteria?*

Yes.

5. *Is the article pedagogical and sufficiently easy to read, but at the same time precise and correct?*

Yes.

Comment from: **Anonymous Referee 2**

The article is both concise and easy to read, and satisfies the requirements that have been set for reference articles. I recommend that it shall be accepted for publication.

I do have a question to the authors however. When they introduced action languages in 1993 (in the article in the Journal of Logic Programming), they proposed to "describe" a particular methodology for representing action as a translation from the action language to a "target language", in particular logic programming language. The formal results in many of the following papers have often concerned properties of a translation of an action language into circumscribied situation calculus (for example, the KR 1994 paper and the AI Journal 1997 paper), although of course the semantics of the action language has always been defined using transition systems.

The present article does not however contain any reference to such translations. Does this indicate that translations are no longer considered an essential part of the approach, or is it just the result of factoring out the formal definitions of the language in terms of syntax and semantics, omitting other aspects?

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