

Peer Review Comments

Article: The Ontogenesis of Action Syntax

Article type: Perspective/Opinion

Editor: Martin Fischer

Article submitted: 11 December 2018

Editor decision: Accept submission

Revision submitted: 31 March 2019

Article accepted: 10 April 2019

Article published: 7 May 2019

Responses for Version 1

Reviewer B:

1) General comments and summary of recommendation

Describe your overall impressions and your recommendation, including changes or revisions. Please note that you should pay attention to scientific, methodological, and ethical soundness only, not novelty, topicality, or scope. A checklist of things to you may want to consider is below:

- Are the methodologies used appropriate?
- Are any methodological weaknesses addressed?
- Is all statistical analysis sound?
- Does the conclusion (if present) reflect the argument, is it supported by data/facts?
- Is the article logically structured, succinct, and does the argument flow coherently?
- Are the references adequate and appropriate? *

This is a review paper addressing the relationship between language and action from developmental and neurophysiological perspectives with an interesting take on action syntax.

The paper is well written and argumentation is smooth. I have a few remarks/suggestions for improvement:

- Abstract: the last paragraph seems a bit disconnected from the rest, feeling more like a conclusion than an abstract. Please consider rewriting.
- Following existing literature/own work, the authors report N400 ERPs effect in the linguistic and action domains. Are these ERP similarities supported by the estimation of similar cortical generators (when available)?
- N400-like effects have been broadly investigated in the linguistic domain and then applied to action. It is plausible that the translation between domains might work also in the reverse direction: e.g. effects typically found in the action domain transferred to language. What's the authors take on this? Which effect might be a good candidate in this respect?

2) Figures/tables/data availability:

Please comment on the author's use of tables, charts, figures, if relevant. Please acknowledge that adequate underlying data is available to ensure reproducibility (see open data policies per discipline of Collabra here). *

Figure quality: good.

Data availability: not applicable.

3) Ethical approval:

If humans or animals have been used as research subjects, and/or tissue or field sampling, are the necessary statements of ethical approval by a relevant authority present? Where humans have participated in research, informed consent should also be declared.

If not, please detail where you think a further ethics approval/statement/follow-up is required. *

Not applicable.

4) Language:

Is the text well written and jargon free? Please comment on the quality of English and any need for improvement beyond the scope of this process. *

The paper is well written and easy to read.

Reviewer C:

1) General comments and summary of recommendation

Describe your overall impressions and your recommendation, including changes or revisions. Please note that you should pay attention to scientific, methodological, and ethical soundness only, not novelty, topicality, or scope. A checklist of things to you may want to consider is below:

- Are the methodologies used appropriate?
- Are any methodological weaknesses addressed?
- Is all statistical analysis sound?
- Does the conclusion (if present) reflect the argument, is it supported by data/facts?
- Is the article logically structured, succinct, and does the argument flow coherently?
- Are the references adequate and appropriate? *

Overall, I think the paper makes an interesting case for an increased focus on action syntax versus action semantics. In this context, I really appreciated box 1 and wonder, whether this should not be integrated in the main paper. The terminological confusion is a major issue for researchers working in (or adjacent

to) the field and it is very important that you address this explicitly and provide definitions (would it be possible to visualize them, too?).

(A personal note regarding terminology: Some of what is called action semantics would for me be more fittingly called action pragmatics, due to the context sensitivity and focus on goals - but I yield to field standards).

However, at some points I could not follow your reasoning. In most cases I would suggest just adding a sentence that summarizes what you aim to show with a list of studies in a specific paragraph. The sections I am referring to are:

p. 9, particularly starting at "Moreover, newborns are sensitive to a universal phonological constraint concerning the internal structure of syllable," - Is this still related to prosodic phrases? It seems like you shift topics to acquiring phonotactics and then to sequence processing (in most cases of pre-segmented speech), but the connections was not clear to me.

I went into this paragraph thinking the key problem was segmentation at the word level, but the remainder doesn't address that issue at all, at least not the way I read it, and the last sentence also contradicts this expectations, but I also did not think the cited studies show this.

Particularly my reading of Mandel, Nelson, & Jusczyk (1996) is different, as in my opinion the authors test how prosody affects structure grouping in memory, but this can solved sequentially.

I am also not sure what the key message of the paragraph on top of p. 10 is, which you refer to in the next one.

I am also not convinced that brain mechanisms that are interrelated must be separated during development. Yes, that is a possibility, but it could also be that mechanisms emerge at the same time and are by way of their acquisition linked from the start. One might even hypothesize the opposite: Maybe separation is a consequence of experience (thinking of the specialization of responses in lower cortices over development, that is not completely absurd, either). In short, I would need more convincing that development by necessity offers a window into whether mechanisms are separate.

Note that I am sure you can make such an argument, it is part of the explanation that adults covertly label action sequences, but the subsequent statements are so broad that I cannot subscribe to them.

I also could not reach the same conclusion as stated in the paragraph at the bottom of p. 11. Why "depend"?

Minor points:

- The use of abbreviations seems inconsistent, EEG is spelled out, but ERP is not introduced before used in its short form.

- This sentence on p. 9 was odd to me: "The perception of sophisticated mechanisms of language in infants seems to start very early on."

2) Figures/tables/data availability:

Please comment on the author's use of tables, charts, figures, if relevant. Please acknowledge that adequate underlying data is available to ensure reproducibility (see open data policies per discipline of Collabra here). *

Everything seems appropriate in that respect.

3) Ethical approval:

If humans or animals have been used as research subjects, and/or tissue or field sampling, are the necessary statements of ethical approval by a relevant authority present? Where humans have participated in research, informed consent should also be declared.

If not, please detail where you think a further ethics approval/statement/follow-up is required. *

No ethical approval is necessary

4) Language:

Is the text well written and jargon free? Please comment on the quality of English and any need for improvement beyond the scope of this process. *

The paper is overall well-written and key concepts are explicitly defined.

Editor Decision for Version 1

Editor: Martin Fischer

Affiliation: University of Potsdam, Germany

Editor decision: Revisions required

Decision date: 11 March 2019

Dear Dr Laura Maffongelli,

After review, we have reached a decision regarding your submission to *Collabra: Psychology*, "The ontogenesis of action syntax". Our decision is to request relatively minor revisions of the manuscript prior to acceptance for publication.

The full review information should be included at the bottom of this email. There may also be a copy of the manuscript file with reviewer comments available once you have accessed the submission account. A summary of the requested edits from the editorial team can be found below. Please consider these points and revise the file accordingly:

Editorial Revision Requests -- Minor revisions:

The manuscript has been evaluated by two international experts and their assessments are both positive. Reviewer 1 generally likes the paper and merely raises a few questions that should be considered in a minor revision to broaden the scope and to better contextualize this work. Reviewer 2 is more sceptical and raises the need for some terminological and argumentative clarifications. However, these can also easily be added in a further version of this manuscript.

I therefore recommend resubmission after minor revisions which should not need more than a month to complete. If the cover letter convincingly explains and defends the choices made during revision, it may be possible to accept this ms without further external review.

To access your submission account, follow the below instructions:

- 1) login to the journal webpage with username and password
- 2) click on the submission title
- 3) click 'Review' menu option

4) download Reviewed file and make revisions based on review feedback

5) upload the edited file

6) Click the 'notify editor' icon and email the confirmation of re-submission and any relevant comments to the journal.

Please ensure that your revised files adhere to our author guidelines, and that the files are fully copy-edited/proofed prior to upload. Please also ensure that all copyright permissions have been obtained. This is the last opportunity for major editing; therefore please fully check your file prior to re-submission.

If you have any questions or difficulties during this process, please do contact us.

Please could you have the revisions submitted by early April 2019. If you cannot make this deadline, please let us know as early as possible.

Kind regards,

Martin Fischer

University of Potsdam, Germany

martinf@uni-potsdam.de

Author's Response to Review Comments for Version 1

Author: Laura Maffongelli

Affiliation: Goethe University Frankfurt, Germany

Revision submitted: 31 March 2019

Dear Prof. Fischer,

I hereby submit the revised manuscript of the perspective article "The Ontogenesis of Action Syntax" authored by Laura Maffongelli, Alessandro D'Ausilio, Luciano Fadiga, and Moritz M. Daum.

We have revised our manuscript in accordance with the reviewers' suggestions and we feel that our manuscript has greatly benefited from their comments. A point-to-point response letter to the reviewers is also attached at the bottom of this letter.

All authors have agreed to the revised content and form of the manuscript.

Thank you for receiving our revised manuscript. We look forward to hearing from you regarding our submission and to respond to any further questions and comments you may have.

Sincerely,

Laura Maffongelli

Attached document:

<https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/215-2988-1-SP.docx>

Editor Decision for Version 2

Editor: Martin Fischer

Affiliation: University of Potsdam, Germany

Editor decision: Accept submission

Decision date: 10 April 2019

Dear Dr Laura Maffongelli,

After review, we have reached a decision regarding your submission to *Collabra: Psychology*, "The ontogenesis of action syntax", and are happy to accept your submission for publication, pending the completion of copyediting and formatting processes.

As there are no further reviewer revisions to make, you do not have to complete any tasks at this point. The accepted submission will now undergo final copyediting. You will be contacted once this is complete to answer any queries that may have arisen during copyediting and to allow a final chance to edit the files prior to typesetting. If you wish to view your submission during this time, you can log in via the journal website.

The review information should be included in this email.

Kind regards,

Martin Fischer

University of Potsdam, Germany

martinf@uni-potsdam.de