ArgO reviewers comments and replies

**1) Needs a better reason to reject LKIF.**

What I’d add: “We found two main issues with the LKIF Core Ontology. The first problem is that, while the definition of ‘argument’ does not miss the mark when it is commonly meant by this term, it is highly problematic how ‘reason’ is defined, namely as a ‘teleological counterpart of cause’. While the authors write that ‘teleological’ mean ‘goal-oriented’, we are left in the dark about the meaning of ‘counterpart’ and, in particular, the definition of ‘cause’ as ‘an epistemic role played by something which is the outcome of a (chain) of processes’ is problematic highly contentious for two reasons. First, it is a quite narrow definition that does not make it interoperable with other ontologies. Second, it blurs the line between epistemology and ontology by characterizing causes not as events in the world, but as the epistemic roles the events play. This clearly goes against a realist requirement for an ontology.

The second issue with that LKIF approach to arguments is that it is more in line with [etc.]” (pp. 6-7)

**2) Needs a better reason to reject AIF.**

What I’d add on page 8: “[…] since it does not distinguish the representation of information from the representation of the world that the information is about within the class structure of its ontology. The problem with this is that concept-oriented ontologies are more prone to issues such as use-mention mistakes than realist-oriented ontologies. [add footnote: See Arp, Smith, and Spear (2015), pp. 9-10]”

**3) Needs a better reason to reject AMO.**

Two things: We could find another reason to reject it, but I think the one we listed is enough. Second, the reviewer herself/himself admits AMO doesn’t have much traction.

**4) No formal proof showing that the axiomatization is necessary or sufficient to satisfy the properties.**

Mmh, it’s better if I leave this to you John…!

**5) Methodological and adequacy constraints are shown to be necessary, but not sufficient.**

I’d agree that having these requirements fulfilled is necessary step to build a good ontology, but not sufficient one: much is left to the capacity of the ontologist to build a good ontology. I wonder what you think about this.

**6) Needs a table with all the ontologies, showing which criteria meet and which one they don’t.**

Not sure about all the criteria met or not met by the ontologies, so I filled out only some parts, but here’s the tables I drew (I initially drew a single one, but it was too long, so I thought to break it down into two different tables, one for methodological constraints, and the other one for adequacy constraints).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Methodological . … . .. . Constraints . Ontology** | Aristotelian definitions | Compatibility with upper-level ontology | Logical consistency with formal language | Distinction between informational entities and their bearers |
| LKIF |  |  |  |  |
| Walton scheme |  |  |  |  |
| AIF |  |  |  |  |
| AMO |  |  |  |  |
| SIO |  |  |  |  |
| ArgO |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Adequacy**  **Constraints**  **. . . . .**  **Ontology.** | Canonical characterization of arguments | Distinction between sentence and contents, distinction between contents and their functions | Assessment of arguments | Compatibility with multiple logics | Compatibility with different approaches to truth, possibility, probability, and the formal properties of arguments |
| LKIF |  |  |  |  |  |
| Walton scheme |  |  |  |  |  |
| AIF |  |  |  |  |  |
| AMO |  |  |  |  |  |
| SIO |  |  |  |  |  |
| ArgO |  |  |  |  |  |

**7)** **Confusing paper structure** (“*Section III has subsections that explains the different distinction of concepts, with the final subsection presenting the axiomatization, and then a subsection (d) in the middle that sums up previous subsections*”)

I thought that having a subsection summing up previous subsections might help the reader, but we could get rid of it.

**8) Style requirements**

In the paper, I made some corrections some years and names that were wrong, inconsistencies in citations, etc.

**9) Lack of acknowledgment: -** “Secondly, many of the observations of a more argumentation theoretical nature are not novel, while proper referencing to and discussion of the existing literature is lacking. For example, on pp 3-4, the distinctions surrounding sentences and propositions and contents […]”.

In section IIIa footnote 31, we actually talk about this distinction and why we prefer not to use “proposition”. We could move the footnote back to page 3 or 4.

- “[…] on p14, the discussion of ‘affirming’ and ‘accepting’ […]”

We have a footnote citing secondary literature under the discussion of ‘affirming’ and ‘accepting’ so I don’t think we should change anything here.

-“[…] and on p21, the definition of a ‘language act’ as ‘an intentional act involving language’, are very reminiscent of speech act theory (for example the work by Searle and Vanderveken (1985)) and the preceding debates between, e.g., correspondence theories and functional theories of meaning (even going so far as using the well-known example “Schnee ist weiß” without due acknowledgment).”

I find ridiculous that we should acknowledge the example “Schnee ist weiß” given that it’s so well-know and widespread in the literature. It’s like talking about syllogisms without acknowledging Aristotle: not a problem. However, we could write on page 3“For example, using the most classical of the examples, the English sentence […]” and then add a footnote: “See Tarski 1933 and 1944”.

As for ‘language act’ defined as ‘an intentional act involving language’, we explicitly mentioned speech acts before: “Nevertheless, an ontology of arguments should remain open to arguments involving content conveyed with other speech acts” (page 4). Maybe we could add a footnote on page 4 referencing John Austin and John Searle.

- “Also the discussions of characteristics of arguments and conflict under, respectively, d/e) on p19 and a) on p27, are not particularly novel, these merely reiterate in a slightly different guise, generally accepted understandings within argumentation theory (see, e.g., pragma-dialectics, inference anchoring theory, Pollock’s account of defeaters). Overall, this surfaces a general and severe concern about the embedding of the current manuscript in the existing literature on argumentation theory, and a lack of acknowledgement of existing work.”

I’m not familiar with this literature: do you know more about it?

**10) Doubts about the applicability of the ontology, since none of the arguments used as examples are like examples we find “in the wild”.**

I agree that the examples we gave are “toy examples”, but the point of having these kinds of examples is that they make clearer and simpler the presentation of ArgO. Moreover, we do have an example of an argument “in the wild” at the very beginning of the paper (the US Congress resolution) and it’s clear how we’re interested in providing an ontology also for arguments like this one.

**11) Specific remarks from third reviewer.**

- “all text: please make use of layout or style, and numbering, to set examples apart from the rest of the text, and to make it easier to refer to each, also limiting the need to literally repeat text again on subsequent pages.”

I don’t think it’s necessary to number the examples, as there are only two repetitions, and it helps to have the arguments fully stated with premises and conclusion.

- “p3, third paragraph: arguments are parts of the world, independent of ideas or perspectives, but is argument not inherently communicative and interactional, embedded in a communicative context, and therefore intentional?”

I think the reviewer is right in pointing out this ambiguity. The ambiguity comes up when one grounds realism into mind-independence. One could draw the distinction between causal mind-dependence and constitutive mind-dependence, but this is not without problem either. Rather than digging into the realism debate, I’d leave out the expression “independent of ideas or perspectives on them” from page 3.

- “p4, top: at this point it is no longer clear to me whether an argument is considered a constellation of propositions, or a constellation of speech acts.”

In order to clarify this point, I’d change it from “In many cases, arguments are taken to be composed of the contents of declarative sentences […]” to “In many cases, arguments are taken to express the contents of declarative sentences […]”

- “p5, bottom: has desideratum Adequacy-3 been introduced in the text before it shows up here in the list?”

The reviewer is right, this adequacy constraint has not been introduced. But before adding this part in the text I want to ask: can we show more concretely that we can extend ArgO’s classes in order to evaluate arguments? I guess that if we put this as a constraint, we have to say more about it. Moreover, later in the paper we write on how whereas some ontologies deal more with assessment of the arguments, we focused more on mereological composition (p. 25).

- “p6: the first three paragraphs of Section II are not entirely clear to me; the explanation could be improved and made more clear.”

Hopefully, it is clearer with what I add replying to **1)**.

- “p7, example: last line, closing bracket in wrong place”

Corrected.

- “p7, last full paragraph: based on n21, I don’t see the unclarity described; are argument schemes not generally conceived of as abstractions of argumentative discourse, as porto-arguments, so to say, much like an uninstantiated modus ponens is not itself reasoning but rather a representation of a valid form of reasoning?”

We could change it to “This is a matter for further theoretical debate, and we find Walton et al. (2008) is unclear on this point, since they characterize schemes as both arguments and representations of arguments”. Not sure about this though.

- “p8, middle of the page: the passage about Swift’s ‘Modest Proposal’ is not clear to me.”

Not sure what they find unclear, but we could add:

“As for irony, take the case of Jonathan Swift’s *Modest Proposal*, where he writes that poor Irish should sell their children as food, but he clearly argues against British policy in Ireland.”

- “p8, n22: I suggest the authors look at the following reference w.r.t. AIF instead of the one they reference now: Carlos Chesñevar, Jarred McGinnis, Sanjay Modgil, Iyad Rahwan, Chris Reed, Guillermo Simari, Matthew South, Gerard Vreeswijk, and Steven Willmott. 2006. Towards an argument interchange format. Knowl. Eng. Rev. 21, 4 (December 2006), 293-316. DOI=http://dx.doi.org/10.1017/S0269888906001044”

Instead of eliminating the reference we have, we could instead add this one too. I attached the paper in the e-mail.

- “p12, top: text says “The class Arguments is thus a subclass of Collection of Sentence Contents“ , where Figure 1 says “collection of statements””

Yep, Figure 1 must be changed.

- “p12, bottom example: what happens to the discourse marker “hence” in the ontological representation?”

What?

- “p14, middle: why are these assumptions on ‘suppositions’ necessary? please include a line of explanation.”

I think the need to distinguish between suppositions and premises was clearly stated…

- “p15, last paragraph of subsection b: “However, many…” Please substantiate such vague claims, there are several throughout the manuscript.”

We can either put some references in the footnote or write “This last example suggests arguments may exhibit multiple conclusions, but we prefer to treat a given argument as having only one conclusion: we turn next to explicating this feature of ArgO.”

- “p25: “Whereas other treatments of arguments have focused on desiderata for assessment”, I’m not entirely sure what’s meant here, please explain more clearly, and perhaps make less of a blanket statement, as I’m sure there are some, e.g. rhetorical or purely descriptive, takes on argumentation that don’t focus on assessment, in whatever way the statement was meant.”

We could write “Whereas other treatments of arguments have focused on evaluating arguments by assessing their validity or soundness, ArgO is distinguished by […]”

- “p25, start of g: this seems repetitive.“

I agree, and I took out “ArgO is a small ontology designed to represent the domain of arguments”

- “p27, first paragraph of a: how would a ‘supporting’ intra-relation be different from a ‘complex’ inter-relation?”

We wrote “We have so far spoken about inter-relationships among arguments that involve the composition of complex arguments; however, we now turn to intra-relations among arguments, where independent arguments have a variety of possible relationships to one another”, but I think we should swap the places for “inter-relationships” and “intra-relations”, since the prefix “inter” is used for “between” and “intra” is used for “within” (and I’d change “intra-relations” to ”intra-relationships” to make it more consistent). What I’d write is then:

“We have so far spoken about intra-relationships within arguments that involve the composition of complex arguments; however, we now turn to inter-relationships among arguments, where independent arguments have a variety of possible relationships to one another”

- p28: fig 2 and 3, should be 12 and 13

Changed.

- “p29: “Large ontologies require large resources, expertise, and time to be well-developed, and because these are not readily available” I think it’s a bit of a stretch to claim that expertise is not available, also time seems to be available, and actually depending on what sort of resources are needed and how large exactly those should be, the resources might also be there. All in all, I think this statement is going beyond the point that the authors want to make.”

This could be changed to “The problem with large ontologies is that they often take shortcuts, making representation decisions not on the basis of ontological analysis, but rather to get some particular project-based query strategy to work.”

- “p30: the acknowledgement seems to imply that the current manuscript is an updated or extended version of a conference paper/presentation. If that is indeed the case, this should be made explicit at the outset of the current manuscript.”

I changed the acknowledgement accordingly.