

# *Relative to What? – Interpretation with higher-place predicates*



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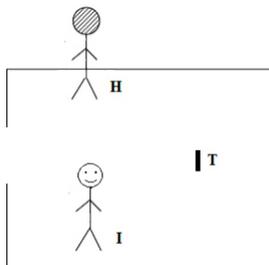
## ***Abstract***

Ordinary language contains groups of related predicates with different arities. Interpreting utterances that appear to contain an  $n$ -place predicate by using an  $n+m$ -place predicate to dissolve merely apparent disagreements and other misunderstandings is an established practice in everyday discourse. This paper aims to present hermeneutical maxims to guide and evaluate these interpretations through arity raising. In interpreting utterances by using a higher-place predicate, we should use only expressions that their authors themselves reasonably could have used and which would have been suitable to achieve their supposed purposes. The goal is to achieve a charitable, accurate reading that also maximizes the text's transparency to improve our understanding of it.

**Keywords:** *predicates, arity, relativism, hermeneutics*

## ***1 Arity raising as a means of interpretation***

Understanding other authors often requires interpretation on part of the recipients as the utterances themselves suffer from various forms of underdetermination [17, p. 155]. I want to examine one such type of interpretation more closely:



Imagine that Ida (= I) and Henry (= H) are preparing to move. They are packing their books into boxes. Each one faces a shelf in front of them while they work. To pack the boxes, they share a roll of tape (= T). In this situation, the following exchange takes place:

H: “Where is the tape?”

I: “It’s to the left.”

[Henry turns to his left and is unable to find the tape.]

H: “Ah, you meant it’s to the left of you from your point of view.”

[Henry turns around and finds the tape.]

In this situation Henry is confronted with the utterance of ‘It’s to the left.’ and initially misunderstands it. He incorrectly interprets Ida’s utterance and is unable to locate the tape. He then revises his interpretation by paraphrasing Ida’s utterance, making use of the higher-place (= higher-arity) predicate ‘.. is left of .. from the point of view of ..’. This is not the predicate that Ida herself used.

This simple example illustrates how higher-place predicates are used during everyday discourse as part of a paraphrase. This technique can also be used to resolve the appearance of disagreement between utterances. Often times when people make utterances, they make use of lower-place predicates, even if higher-place predicates are available, which can result in the appearance of disagreement. For example, the utterance of ‘curry is (not) tasty’ uses a 1-place predicate and is very prone to creating at least the appearance of a disagreement with others. This appearance can be dissolved through paraphrasing the respective statements, using higher-place predicates (e.g. ‘curry is (not) tasty for me.’).<sup>1</sup> Of course, the mere appearance of disagreement could have been omitted by using the higher-place expression outright.

This paper aims to discuss the use of higher-place predicates as part of exegetical interpretations<sup>2</sup> independent of semantic limitations e.g. to predicates of personal taste. Scenarios akin to the example above can be constructed using predicates from a variety of areas, not just spatio-temporal relations. This broad approach means that certain forms of relativism naturally fall within the area of inquiry. Of course the landscape of discourses on relativisms (of morals, justice, truth etc.) is vast and each of the discourses harbours itself a variety of positions that differ on what the relevant questions even are.<sup>3</sup> Given this overwhelming situation, only a blanket statement can be made here: The methodological guidelines for the interpretation through arity raising as I propose

them take inspiration from certain discourses on relativism and might be gainfully employed in such debates. Specifically, linguistic approaches to relativisms of various kinds might profit.<sup>4</sup> Following such an approach, one might ask questions like “Is the predicate ‘.. is just’ elliptical?” instead of questions like “Is the justice-property, which predicates like ‘..is just’ purport to describe, relative to something?”. In addition, a hermeneutic approach to different types of (merely apparent) disagreements can serve as an alternative to others, such as proposed by relativists and contextualists, which often require fundamental revisions of the underlying theories of truth and meaning (5).

The example above (and many others) suggest that higher-place predicates can be used as part of interpreting utterances to resolve a lack of understanding. In light of this notion, I want to propose answers to the questions of *how* and *when* we should perform interpretations of this kind.

This is not always as self-evident as the left-right-scenario may suggest. Using higher-place predicates such as ‘.. is a fact for the person ..’ as part of paraphrasing utterances can be a highly controversial move. Paraphrasing statements that supposedly aim to describe something as a fact by means of a person-relative predicate seems to run counter to the notion of a fact. Similar concerns can be voiced with regards to using relative justice, truth, or knowledge predicates as part of a paraphrase and the debates on these relativisms reflect that. Interpretations, as understood here, should aim to be as defensible as possible and at the same time resolve underlying problems with understanding the text, even if any hopes of finding *the one correct reading* may be futile.<sup>5</sup>

The overall approach taken towards analysing the use of higher-place predicates here can be compared to a pragmatic-normative approach to logic: There is an established practice, which has proven itself to be useful and reliable in most cases. In regards to logic, this is the practice of performing inference acts, in regards to the use of higher-place predicates it is the practice of paraphrasing utterances in the way showcased above. The established practice, while useful and fruitful, is prone to errors and other disturbances. To counter this, one can propose rules that serve to govern and evaluate what is already being done (e.g. inferring, paraphrasing).<sup>6</sup>

The example provided earlier should suffice to establish that this is indeed a part of everyday discourse, but it does also extend to scientific and political discourse.<sup>7</sup> To support this practice, I aim to outline a hermeneutic method, which is backed by more explicit rules. Thus the

overall goal is to provide useful hermeneutic tools for producing interpretations in the context of rational debates of any kind. This includes scientific, legal, or political discussions.

To answer the questions of how and when we should perform paraphrases of this kind, I will first take a step back and examine the role of related predicates of different arity in ordinary language (2). This serves as a backdrop for the hermeneutical maxims to guide interpretation through arity raising (3). Then I'll specify when we should consider using the suggested methodology (4) and turn towards some related questions, such as debating the merits of different-place predicates and the relation of arity raising to the ongoing debate between contextualists and relativists (5).

## ***2 Related predicates of different arity in ordinary language.***

To prepare for the formulation of hermeneutical maxims applicable to the use of higher-place predicates, a closer look at the selection of predicates in ordinary language is warranted. Consider the following exchange:

A: "I'm going to give Peter a book for his birthday. How about you?"

B: "I'll probably give him money."

C: "For his last birthday, I gave him a game. This year, I'll give him a geode."

A: "A geode is a strange gift. Why would you chose that?"

C: "I'll give a geode for his recently started mineral collection."

Apparently there are subtly different ways to talk about the practice of gift giving. If someone attempted to reconstruct an exchange such as this, one possible way to do it would be to use different-place predicates. A's initial utterance could be accurately reconstructed as using a 4-place-predicate '.. give .. a .. for ..' with places for giver, giftee, the gift and the occasion. B's utterance suggests the use of a similar 3-place predicate but with no place for the occasion. C is again using a 4-place predicate, but uses the fourth place to talk about past events. C's second utterance seems to use yet another expression, this one having just three places '.. give a .. for ..' where the last place is reserved for the intended purpose of the chosen gift, not the occasion for giving a gift in the first place.

This example showcases *related predicates*: these are ordinary language expressions that could be formalized as different-arity predicates in a formal language but which seem to share at least some common meaning. An alternative approach to this phenomenon would be to view them as different forms of one and the same predicate. For example, one might be tempted to reconstruct the exchange above by simply using a 5-place predicate everywhere (giver, gift, giftee, occasion, intended purpose). This would have drawbacks. First, it would not mirror the way the persons involved actually talk as closely. Second, in a lot of places such a reconstruction would come up blank. For example, B provides no intended purpose of his cash gift. As such, the place for the purpose could at best be filled with a quantified expression (e.g. “for some purpose”). Third, it would suggest that gift-giving necessarily requires there to be an intended purpose of the gift, which is not always the case.

While the notion of related predicates hopefully has some initial plausibility, defining it in exact terms has proven to be a challenge. Initially, it seems clear enough: predicates are a type of expression from grammars based on standard predicate logic. In terms of linguistic grammar, they encompass a verb and optional prepositions and/or nouns, which can indicate addition places (e.g. ‘.. is to the left of ..’). Prepositions are not required, though. Compare ‘Ida loves Henry.’ and ‘Ida loves Henry today.’, where no additional preposition is required to include a time parameter in the form of ‘today’. Another problem with the notion of related predicates consist in the fact that in typical predicate logic a predicate is commonly defined as an  $n$ -place operator with fixed arity. Yet this linguistic phenomenon seems to suggest that a predicate can change arity or that it can be modified somehow. An alternative approach to the topic would encompass the creation of alternative grammars that allow for predicates of varying arity, so that ‘.. is left’ and ‘.. is to the left of ..’ could be addressed as being two instances of the same predicate (albeit of different arity) instead of as being two distinct but related predicates. Graves [5] made an effort to develop such a grammar in order to allow reduction of arity (e.g. inferring ‘Brutus stabbed Caesar’ from ‘Brutus stabbed Caesar with a knife in the forum’) without the need for specific regulations (e.g. setting as an axiom that ‘For all things  $x, y, z$  : if  $x$  stabbed  $y$  with  $z$ , then  $x$  stabbed  $z$ ’) of the relevant predicate. I decided against the option for using an alternative grammar since conventional predicate logic is so well entrenched. Abandoning this well-established theoretical foundation just for the sake of a proper definition of ‘related predicate’ seemed unwise, as long as one can make due with the less

precise characterization outlined above.

It is presupposed here that authors perform speech acts in order to achieve one or more purposes. Just as other actions may serve to bring about some state in the world (e. g. The opening of a door by means of the action of pressing its handle), speech can serve as a means to attempt to achieve the author's goals. To perform speech acts authors make use of linguistic expressions. These expressions can be thought of as *tools* for performing speech acts and one type of these are predicates.

The business of performing speech acts that serve their purposes comes down (at least in part) to picking the right expressions. This general sentiment applies to various aspects of the process: when asking someone for a favour, authors need to pick the right form of address, the right illocutionary expressions, the right predicates and so forth. Teleological considerations affect various parts of communication, but I'll focus on related predicates of different arity here.

Of course, the notion that performing a speech act involves the *choice* of any expressions whatsoever suggests that there is conscious decision making involved. This is merely a useful fantasy employed here and not meant to suggest that authors always ponder questions of language choice as part of their ordinary discourse. In practice, most authors talk instinctively, without going through the (at times) extensive considerations suggested in the following. The goal here is to map out ways by which an informed choice of predicates *could* take place, if authors were to put their minds to it, not to describe what mental processes are actually involved. Such considerations become relevant when we attempt to troubleshoot our use of language, for example when clearing up or explaining a misunderstanding.

Under this premise, one can outline some of the factors that influence the choice between related predicates of different arity. Authors generally aim to use expressions that do not convey more information than is needed to achieve their purposes in a given environment.<sup>8</sup> This can be illustrated with the example from earlier: B uses the predicate ‘.. give .. a ..’ and omits reference to the occasion. That is a sensible choice given the environment of that conversation: it is clear that the topic is now Peter's birthday. He could have uttered ‘I'll probably give him money **for his birthday.**’ and achieved his purpose of informing the others about his intentions, but would also have conveyed a piece of redundant information. In other environments, where this particular point is less clear, B might have reasonably opted for another predicate.

Another factor is that some information which can be conveyed

through use of higher-place predicates can simply be superfluous in a given situation. In difference to information being redundant, this encompasses cases where the recipient may not know this information yet, but where they are unlikely to be able to make any practical use of it. Looking back at the gift-giving-example, B could have uttered something like ‘I will probably give him money for his birthday in a **red envelope in person in the morning of that day to relieve his poverty.**’. An utterance like that can be understood as involving a 8-place gift-giving-predicate: giver, giftee, gift, occasion, presentation of gift, mode of delivery, precise point in time, and motivation behind the choice of gift. As has been pointed out by Kenny, pretty much any predicate used to describe an action has related expressions with additional places for spatio-temporal information [9, p. 113.]. It requires little imagination to come up with predicates of a very high arity. However, in everyday discourse we rarely make use of these as the information they convey is only useful for recipients of our utterances in very specific environments. The information which envelope contains money might be relevant when plotting a heist to steal Peter’s presents, but will have little bearing on many other conversations.

### *3 Arity raising as a hermeneutic method*

In this section I’ll turn back to the use of related predicates as part of an interpretation, as outlined before (1). A few things about this kind of paraphrase stand out. First, it is highly dependent on the given environment that an utterance is made in. Paraphrasing an utterance that contains the predicate ‘.. is to the left’ by means of ‘.. is to the left of .. from the point of view of ..’ may not always yield clarification. Imagine a case where the misunderstanding has its root in an object moving. In such cases, including the relative perspective in the interpretation may not provide a helpful result, as the object may have moved away already. On the other hand, paraphrasing ‘.. is to the left’ by means of ‘.. is to the left at the point in time ..’ may clear up matters. Different environments and their connected misunderstands require different paraphrases of the same predicate in order to achieve understanding. This suggests that this type of interpretation is highly context-dependant and can not be modelled as the straightforward assignment of one and only one sequence of expressions (including a higher-place predicate) to a given n-place predicate. This makes this type of paraphrase different from others, such as the elimination of an expression through its definition or the

replacement of an expression with a synonym.

There have been attempts to explain the linguistic phenomenon of predicates with different arity in such a linear manner. Bach, for example, suggests that utterances containing certain  $n$ -place predicates need to be “completed” in order to express full propositions. The examples he presents seem to imply that utterances like ‘Steel is strong enough’ always need to be completed by means of ‘.. is strong enough for the purpose ..’. The problem with this approach is that the justification that Bach presents for claiming that utterances containing ‘.. is strong enough’ do not express propositions can also be used to claim that utterances containing ‘.. is strong enough for the purpose ..’ do not express propositions either. We might point to the fact that certain materials get softer with higher temperatures, for example, to claim that only utterances with ‘.. is strong enough for the purpose .. at the temperature ..’ express full propositions [1, p. 125-136].

Another argument in favour of the notion that we can not assign a single fixed  $n+m$ -place predicate to a given  $n$ -place predicate for the purposes of interpretation in all contexts can be made on the basis that it is *the recipient* of the utterance that has to fill in the blanks. The author may not even be aware of the information relevant for a given paraphrase. Imagine a situation like that of Henry and Ida but wherein Ida is a small child, who has mastered the use of ‘.. is to the left’ already but is still unfamiliar with the intricacies of spatio-temporal-relativity. Cases like that suggest that we can not appropriately frame these examples as involving straight-forward elliptic speech that can be resolved along the lines of ‘You said ‘It’s to the left’, but what you really meant was...’. If the author in question has no access to higher-place predicates, then we can not claim that the meaning of their utterances relies on these.<sup>9</sup>

A similar point can be made with regards to the information that the recipient uses to fill in the additional places in the course of a paraphrase. Consider the following utterances:

‘Universal Suffrage is progress.’

‘The German family is important.’

‘Let’s make America great again.’

Utterances like these appear frequently in conversations regarding politics or society. All of these can become the subject of a total or partial lack of understanding and paraphrases employ higher-place predicates can come to the rescue. People lacking understanding might ask questions like: ‘**Towards which goal** was universal suffrage progress?’, ‘The

German family is important **for what?**, ‘Let’s make America great again **for whom?**’<sup>10</sup>. Other questions aiming at different higher-place predicates are of course possible. When presented with questions such as these, it is entirely possible that even an honest and well-meaning author will (maybe only temporarily) come up empty. Not everyone who makes utterances involving predicates like ‘.. is progress’ immediately has an answer when asked for the overall goal to which said progress is being measured. In fact, questions like ‘Is there progress in human history?’ have been dealt with by philosophers without the question of the overall goal being made explicit.<sup>11</sup> This state of affairs suggests that we are not merely dealing with some sort of abbreviation that the author can easily resolve for us. Paraphrases leading from utterances like ‘Universal suffrage is progress.’ to ‘Universal Suffrage is progress towards the ideal of universal equality.’ appear to be more complex than those leading from ‘The FBI is part of the executive.’ to ‘The Federal Bureau of Investigation is part of the executive.’. That being said, it still seems fruitful to regard interpretation through arity raising as an interpretation by assignment, where expressions of the interpreted text are assigned another sequence of expressions to yield a reading [17]. In the remainder of this section, I’ll outline some principles for how such paraphrases should be performed.

As a first step, it is worthwhile to spell out the overall goal of the enterprise. I take it that paraphrases of this style are used as a tool for better understanding utterances. As such, they often serve at least two goals: to present an accurate, charitable, and transparent reading of the author’s utterance and to clear up potential problems with understanding it on the side of the recipient. What makes a paraphrase that employs arity raising accurate, charitable and transparent? Put briefly, such an interpretation has to contain expressions that the authors reasonably could have used themselves and with which they could have achieved their purposes in the original environment of their utterance. In addition, the reading should strive to present the utterance as relevant to the original context and not distort the alethic state of the proposition expressed. The various steps and decisions involved in the process of interpretation also need to be documented in a clear manner. Hermeneutical maxims can act as guidelines to facilitate the creation of this kind of interpretation.

Perhaps the most widely known maxim of interpretation is the principle of charity. In its general form it states that our interpretations should aim to be as charitable as possible, meaning that when there are

competing readings or options, we should pick the one that presents the author and his utterances in the most favourable light.<sup>12</sup>

The second maxim to be included here is the principle of accuracy. Generally speaking it demands for our interpretations to be as accurate as possible with regard to the authors, their text, and the environment in which it was produced. This broad demand can touch upon various aspects of the hermeneutic process, such as including as much of the relevant text as possible to prevent cherry picking.<sup>13</sup>

Lastly, interpretations should be transparent. The principle of transparency demands that we outline the decisions (and their possible alternatives) we make during the interpretation process, so as to not deceive a potential audience with regards to alternative readings. An ideal interpretation is one where each step is presented so transparently that it can be judged on its own merit. In addition, an interpretation should strive to increase transparency, relative to the interpretation's overall goal, over the initial text. In other words, an interpretation should clarify the matters under debate and not be more difficult to comprehend than the initial text.

The hermeneutical maxims as presented by Reinmuth are tailored towards his overall goal of guiding the logical reconstruction of argumentative texts. As a consequence, some of the maxims and sub-maxims target aspects that are exclusive to or found predominately in relation to argumentative texts. In the following, I'll outline how these maxims may be specified and adjusted to guide an interpretation through arity raising. For this goal, I'll outline two important components of this interpretative process.

The first component is the selection of a predicate. When we are presented with an utterance that uses an n-place predicate, for example 'Universal suffrage is progress.', we have to determine which predicates we may use as part of a charitable and accurate interpretation. For this purpose, general reflection on the notion of progress can offer up some starting points. When people talk about progress being made, it implies that there is a special kind of change from some previous state of affairs. This suggests the use of expressions like '.. is progress from ..'. In addition, progress is often connected to (at least implicit) notions of certain goals, like achieving a state where men and women enjoy universal equality. This suggests the use of expressions like '.. is progress towards ..' or the combined '.. is progress towards .. from ..'.

In the case of the example utterance above, our inquiry may be motivated by problems when trying to understand utterances: if something

is said to be progress, with regard to which overall aim do we judge that? If we were to come up with a paraphrase using an expression like ‘.. is progress towards ..’, we could make substantial headway towards resolving our problems. But how can we justify such a reading of the initial utterance?

First, we have to make sure that the authors of the utterance had access to the predicate we wish to use. In the broadest sense, this means that they basically could have used this expression themselves. There are cases where this is very easy to establish, for example when the authors use this predicate themselves in a related context. In other cases, we have to rely on data about the linguistic community the authors were a part of. Negative evidence regarding the availability of a predicate for the authors can consist in them explicitly rejecting the use of certain expressions. For example, in the context of debates about moral relativism, authors frequently make utterances to the effect that they would not use expressions such as ‘.. is morally justified according to the code ..’. This can be seen as a clear indication that this expression is not available to the authors, due to their convictions.

This whole line of reasoning goes back to the idea that in ordinary language, we usually have a vast selection of related predicates at our disposal. Which expression we use is often determined by economic considerations, which may be to the recipient’s detriment. In the case of utterances like ‘Universal suffrage is progress.’ the authors might take it to be self-evident what sort of goal they have in mind when judging progress. They then might presuppose (perhaps incorrectly) that it is also self-evident for the recipient of their utterance. Even if that is the case, their utterance might still create a misunderstanding when presented to someone other than the originally intended recipients, for example a researcher reading a transcript of their conversation many decades later. It is also entirely possible that the authors had no clear notion of what the presupposed goal is. They might just have never really thought about it and just talk about universal suffrage as progress because they are part of a socio-political environment where that is just >something people say<.

Second, we have to make sure that the predicate we wish to use is one which would have suited the purposes of the author.<sup>14</sup> To make a call like that, we have to speculate about what purposes the authors were trying to achieve with their utterances. In the example of the progress-utterance, it seems reasonable to suggest that the authors want to classify things (events, ideas, laws) into at least two groups: things

that are progress and things that are not. A lot of times, people employ expressions like that in an attempt to create an at least partial order. This purpose could also be achieved by use of ‘.. is progress towards..’. Using this expression one can still sort things into groups, albeit more than two. For example, universal suffrage might represent progress towards the equality of genders, but it obviously represents no progress towards the establishment of a global patriarchy. Unless the authors are somehow committed to the two-value progress/not-progress way of talking, the fact that higher-place progress-predicates allow for more diverse classifications should not be considered a downside. After all, they could always specify which goals they think should be pursued with our policies / laws / judgements.

During both steps the hermeneutical maxims of charity and accuracy come into play. For our assessment of the higher-place predicate’s availability to be accurate, we need to take into account the broader context of the utterance in question, which includes potentially other texts of the same authors.<sup>15</sup> This serves to limit issues like cherry picking. For our judgements on the availability to be charitable, we need to take into account the authors’ personal use of language, as well as that of the surrounding community. For example, it may be charitable and accurate to assert that an author could have used a given expression, based on the fact that other people at the time made frequent use of it and it appears to have been common enough to be available to the author as well. So while any given present-day author might not have used an expression like ‘.. is progress towards ..’ in any of their writing, it still seems plausible – barring evidence to the contrary – to presuppose that the expression was available to the author.

With regards to judging if a certain higher-place predicate would have been suitable for the author’s purposes, accuracy can demand a thorough search of the utterance’s extended context for clues as to what purposes the author wanted to achieve. Sometimes we are presented with explicit statements to that effect. Here a hermeneutical presumption comes into play: if the authors express their intention to achieve certain goals with their utterances, it can be presumed that they are being sincere, as long as no counter-evidence is presented. Of course we can never really know what the authors intended in their heart of hearts with a given utterance, but there are some rules of thumb we can apply: In general it is fair to assume that people are being honest and overt.<sup>16</sup> People might pursue all sorts of sinister purposes that are not reflected by any of their utterances, but for the purpose of interpretation, this possibility should

be ignored, unless evidence to back up such a claim is presented.

The second component of an interpretation through arity raising is the content selection for the new places of the predicate. Evidently, if we replace an  $n$ -place predicate in an utterance with a higher-place predicate, we create open places that need to be filled with something in order to yield syntactically correct utterances as the result of our paraphrases. In general, there are several ways to fill these places, depending on what type of expressions are available in the language we are dealing with.

We can use quantified variables. For example, the utterance of ‘Universal suffrage is progress.’ could be paraphrased as ‘There is an  $x$  such that: Universal suffrage is progress towards  $x$ .’, or ‘For all  $x$ : Universal suffrage is progress towards  $x$ .’, ‘For many  $x$ : Universal suffrage is progress towards  $x$ .’, ‘For some  $x$ : Universal suffrage is progress towards  $x$ .’. Singular terms are another way to fill additional places in the process of interpretation. For example, we might read ‘Universal suffrage is progress’ as ‘Universal suffrage is progress towards the state of universal equality.’, ‘Universal suffrage is progress towards the best possible world.’ etc. In general both simple names as well as definite descriptions or similar constructs can be used in this role.<sup>17</sup>

These are merely outlines of possible content that can fill additional places. The more interesting question is: How do we decide which content should fill these additional places when we interpret a given utterance? Again the principles of charity and accuracy can act as guidelines.

Our content selection needs to be accurate as to what expressions the authors had available in their language. The idea is that we want our interpretation to produce an utterance that the authors themselves could have uttered, if they had elected to use a higher-place predicate. It follows then that we should not use expressions that the authors could not have used themselves (e.g. names of concepts that did not exist when they were alive).

Under the principle of charity, the content we select for the additional places needs to present the authors’ initial utterance as relevant and correct as possible. For example, if the utterance of ‘Universal suffrage is progress.’ appears in a political discussion, in a context unrelated to any debates about nature preservation, we should not interpret it as ‘Universal suffrage is progress towards preserving panda bears.’. This interpretation would present the initial utterance as being completely irrelevant in the context in which it was made if nobody was talking about species preservation beforehand.<sup>18</sup> In this case, the initial utterance was such that we could not be sure if the proposition expressed is true or

false. A charitable interpretation in this case will produce a reading that at least could plausibly be true (e.g. ‘US is progress towards the state of universal equality.’) or could have plausibly been true in the original context it was uttered in (e.g. ‘It is hot *in Greifswald on 4.7.2018*’), instead of a reading that is overtly false or nonsensical (e. g. ‘Universal suffrage is progress towards the state without universal suffrage.’).

The principles that I have outlined here are not rigid enough to single out the one and only correct interpretation of a given utterance. Given the diverse landscape of higher-place predicates that is available in ordinary languages, the search for such a thing seems misguided. An utterance in a given environment can usually be assigned several readings that are accurate and charitable. A lot of times, the initial problem with understanding an utterance will serve as a tiebreaker: we ought to strive for interpretations that are accurate, charitable, and resolve as many of our problems as possible.

Some have argued that certain places of predicates should inherently be filled with content of a given type [4, p. 3]. For example that the predicate ‘.. eats’ is part of a special type of predicate, which requires the implicit place for the food that is being consumed to be filled with a particular expression (e. g. ‘.. eats something.’). As has been hinted at earlier, this approach ignores the fact that different utterances and different environments warrant different interpretations:

[A and B conspired to poison the king. A is observing through a hole in the wall how the king is moving down the buffet, working his way towards the poisoned oysters.]

B: “Did he eat the oysters yet?”

A: “Not yet. Just wait... Any minute now... Aha! He’s eating now!”

Given the context presented above, it seems plausible to interpret the utterance of “He’s eating now!” as “He’s eating the oysters now.”. A paraphrase using a particular expression is of course still possible (‘He’s eating something.’) but given the context of the exchange above, this seems like a less charitable interpretation, as it would make the utterance appear less relevant to B’s question. B asked specifically about the oysters, not whether the king was eating in general. To illustrate the application of the suggested principles of interpretation in action, I will now turn to a few real-world-examples. They also serve to illustrate different situations and interpreter may encounter.

#### 4 Accuracy and charity in practice

Judging if a higher-place predicate is available to an author and how the additional places should be filled is easiest if the author himself makes clear remarks to that effect. Authors often make explicit statements as to when they omit certain higher-place predicates for the sake of brevity:<sup>19</sup>

“The following considerations always presuppose a reference to a language: all remarks I will make are to be completed by the phrase “in such-and-such a language.””<sup>20</sup>

Where such announcements are present, they justify certain interpretations. This can be framed in terms of the suggested principles: such statements make it clear that the authors had access to certain higher-place predicates in their language and would have considered them to be appropriate tools for their purposes. The same can be said for the content on the additional places. In addition, any charitable and accurate interpretation of their following utterances needs to take this announcement into account and supply at least an additional place for the language.

In most cases, authors won't make any explicit statements on how or why they use a certain predicate and not one of its higher-place relatives. However, even uncommented use of language can provide useful information for the interpreter:

“The category of Quantity relates to the quantity of information to be provided, and under it fall the following maxims:

1. Make your contribution as informative as is required (for the current purposes of the exchange).
2. Do not make your contribution more informative than is required.” [6, p. 45]

In the first maxim Grice supplies an additional place through the bracketed part, yet omits it in the second maxim. Grice means to say something other than he has written down here and the second maxim needs to be read as ‘Do not make your contribution more informative than is required *for the current purposes of the exchange.*’ In this situation this ought to be obvious to most readers due to the parallelism evoked by the similar phrasing of the numbered maxims. However, this interpretation can also be sanctioned in terms of the hermeneutical maxims outlined above.<sup>21</sup>

The first maxim and its use of a higher-place predicate containing a place for a purpose makes it clear that such expressions are available to Grice and that he deems them suitable for his purposes. The same can be said for the content used to fill the additional place. When formulating the second maxim, Grice elects to use a lower-place predicate, most likely to avoid a redundant repetition of what was said before. As has been discussed, this seems to be a frequent motivation for the use of lower-place predicates. Given the wider context of his work, the principle of charity provides further backing for the outlined interpretation: if we were to not read it as relative to conversational purposes, it would stand out among Grice's work as the sole maxim that is supposedly independent of such teleological constraints. This would warrant further explanation – which the text does not provide – so this reading would present it as flawed. Since the proposed interpretation through arity raising comes with no such baggage – the second maxim fits in well with the others if read as relative to conversational purposes – it is the more charitable and thus preferable reading.

Perhaps the most difficult situation for an interpreter concerned with higher-place predicates is the one where neither explicit comments on related expressions nor their use are present in the text. Consider the following example:

“The antirealist asserts: some recent accounts are better (truer, more detailed, more accurate) than earlier interpretations. Progress in art history consist in the creation of such better accounts. The relativist replies: the fact that styles of interpretation do thus change does not show that art history progresses.” [3, p. 154]

Frequently when people talk about progress in various areas (e.g. science, morals, art, weight loss, house construction), they omit any reference to a goal by which progress is being judged. In many of these cases, the goal is fairly obvious from the environment of the utterances and background knowledge about the world, so it does not need to be mentioned. Still, the notion of progress in ordinary language seems such that it appears at least reasonable to ask by approximation to what goal one judges any given change to be progress. Luckily, a lot of times the way people talk about progress, even if they do not use higher-place predicates such as ‘.. is progress towards ..’, can provide some evidence as to what state of affairs they have in mind as the goal. In the quote above, the author portrays the antirealist position as asserting that

progress in the interpretation of art is to be judged by an approximation to the state of the maximum of true assertions and the maximum amount of details and accuracy. In light of textual evidence like that, one can argue for an interpretation through arity raising of related utterances in this depiction of various positions on art history. An interpretation like this is supported by the hermeneutical maxims outlined before. Under the principle of accuracy, we are supposed to assume that the author uses expressions in the way it is common in their linguistic community, as long as there is no evidence to the contrary.<sup>22</sup> This general aspect of interpretative accuracy can be narrowed down to settle the question of the availability of higher-place predicates in the author's language: since ordinary English has progress-expressions with a place for the goal and there is no evidence to the contrary (e.g. the author vigorously rejecting the notion of judging progress relative to a goal) it is fair to assume that they had these linguistic tools available to them as well.

We can also settle the question of the author's purposes by examining what he is using the lower-place progress-expressions for. The goal is apparently to debate whether or not certain trends in art history constitute a progress or not. There is no reason to assume this goal could not be achieved at least as good by use of higher-place predicates, so again it seems accurate to use an expression like ‘.. is progress towards ..’ as part of our interpretation.

With the question of accuracy settled, it remains to be answered if the proposed reading is a charitable one. In this instance the author's initial utterance is easy enough to understand by us to see that they probably attempt to make a true statement. We should strive towards interpretations that do not distort the utterance into expressing a falsehood, as far as the principle of accuracy permits. The proposed reading appears to express a true statement as well. In addition, a charitable interpretation should present the interpreted utterance as at least as plausible in its original context as the initial statement was.

The text asks the question, if there is progress in art history, yet never questions towards which goal (if any) progress should be judged. Instead, exactly one such goal is implicitly assumed to be relevant – the use of higher-place predicates is consequently omitted – and there is no consideration of whether this phrasing of the question is particularly fruitful. Through interpretation of arity raising we can make explicit what we believe to be self-evident and thus open up new avenues of questioning, such as ‘Why should this be the goal towards which we judge progress in art history?’, ‘How should we talk about progress in

art history?'. These new lines of inquiry may lead us to more productive or at least new debates on long-standing issues.

Situating interpretation through arity raising in the context of Philosophy is a difficult task, because the relevant state of the art can be both extremely large or extremely small, depending on what one considers to be the limiting factors. To make the task of situating interpretation through arity raising in the wider landscape of philosophical research easier, it can be characterized by three main properties: a) It is supposed to be a general methodology for using higher-place predicates of *any kind* in interpretation and is not limited to certain semantic areas e.g. predicates of personal taste. b) It is taken to be an *activity* that people can engage in and which can be done (im-)properly, as opposed to e.g. a part of a theory of meaning. c) I strive to provide a *useful tool* for the purposes of everyday and scientific discourse, not a purely descriptive theory of how certain utterances relate to each other.

Generally speaking, the more of these three properties one disregards, the wider the relevant philosophical context becomes. There has been a lot of written on the relation between taste, justice, and truth predicates of different arity, but in contrast to property a) these debates are limited by semantic lines (See, for instance [2]). Similarly, Bach and others (see [10, 11, 13]) discuss examples of related predicates with different places, but do so in the context of debating different theories of truth of meaning, not to develop guidelines for the activity (b) of performing such interpretations. Thus, if one approaches the subject broadly, the relevant context of research quickly encompasses all of the various relativism-themed debates of the last centuries, rendering the subject unwieldy. Of course that is not to say that nothing vital can be gained from debates like that one between contextualists and relativists. I have touched on some parts of them here and more has been detailed elsewhere already [19, p. 150].

If the three properties outlined above are to be taken as limiting factors for the relevant state of the art, one contribution deserves special mention. Ota Weinberger wrote a seldom-reviewed paper in 1965, shortly before escaping to the west [23]. In it, he offers methodological guidelines to actively resolve disagreements by using higher-place predicates and discusses a variety of examples from different semantic areas. He offers these guidelines as part of a subtle attack on the Hegelian dialectics that dominated much of Eastern European Philosophy at that time. Weinberger leads one to question that if contradictions are, as some Hegelians claimed, are a fundamental part of nature, how come

they can sometimes be dissolved by using higher-place predicates?

As this brief outline hopefully makes clear, Weinberger's work shares the three central properties of my approach and has provided much inspiration. He never followed his paper up, to the best of my knowledge, and is today remembered mainly for his contributions to the Philosophy of Law.

### **5** *When to use interpretation through arity raising?*

Any presentation of a supposedly useful method needs to include not only an account of what it can achieve but also of when it should be used. During the previous sections it has already been mentioned that interpretation through arity raising is primarily a tool for resolving problems when trying to understand an utterance. This point will be expanded here.

As a regular part of conversation, we are presented with utterances by other authors. The process of *understanding utterances as speech acts* involves understanding the kind of the speech act that's being performed (asking a question, asserting a proposition etc.) and understanding the content. Both parts of the process are vulnerable to problems. For example, by mistaking an order for a request, one fails in correctly identifying the type of speech act that is being performed. This can be called a *performative misunderstanding*, where 'performative' indicates that the trouble relates to the question as to what kind of speech act is being performed. If the content of that order is misunderstood, due to ambiguous wording, for example, this can be called a *propositional misunderstanding* [16, p. 126].

Both areas, performative and propositional understanding, can also give rise to a total lack of understanding. The person afflicted by misunderstanding arrives at some interpretation of the utterance and falsely considers it to be correct. Being convinced to have the right interpretation, one such afflicted is not even aware that they have a problem. In contrast, the person afflicted by a lack of understanding does not even get that far: they are stuck in some stage of the process and are aware of this problem. It seems plausible then that any method aimed at resolving problems with understanding a text can only ever target the person afflicted by a lack of understanding, not the person trapped in a misunderstanding: one needs to be aware of the problem, to even consider the self-application of problem-solving methods.

Interpretation through arity raising is a method for dealing with a

special kind of lacking propositional understanding, the lack of a *predicative understanding*. As the name suggests, it denotes trouble when dealing with a supposed predicate contained in an utterance. Other types of problems in the propositional area can arise regarding the reference of names or complex descriptions. This is the general area of inquiry where the interpretation through arity raising becomes a relevant tool. For further illustration, I will present a few specific examples from this broad field.

Whenever an informal argument is reconstructed as a formal language argument, perhaps as part of a philosophical investigation, interpretation through arity raising can serve as a valuable tool in paving the way. It has been pointed out that understanding the speech acts involved in an argument is a key part of the hermeneutic process [17, p. 152], [16, p. 116]. At this point it is worth mentioning that the approach outlined here differs from question on the logical form of sentences. A given utterance can be interpreted by using different higher-place predicates and these readings will be judged differently according to the maxims outlined here, if they occur in different environments. It follows then that interpretation through arity raising is not a tool designed to reveal the one and only logical form of an utterance.

A more specialized area of application is the dissolution of merely apparent disagreement. Generally, people at least try to (but often fail to) express themselves as briefly as possible to get the job done and often do not say enough for their utterances to be unambiguous in terms to what speech act could be performed with them. For example, outside of strictly regulated environments people will often omit indicators like ‘I assert ..’ in favour of emphatically uttering the proposition in a declarative tone of voice when they want to assert something. This creates a gap between the utterances we encounter in ordinary discourse and pairs of speech acts that might constitute a genuine disagreement (e.g. the assertion and denial of a proposition). However, one can bridge this gap by analysing and interpreting utterances. During such activities we may encounter utterances that appear to be disagreements at first glance. Consider the following example:

P1: “This curry is tasty.”

P2: “This curry is not tasty.”

Are P1 and P2 in disagreement? I expect most people would say so. A common view in philosophy is that a disagreement consists between parties asserting contradicting propositions. However, it is important

to note that we are presented with two utterances here, not with two propositions. Determining which (if any) propositions are expressed in an utterance requires some interpretation and is not necessarily straightforward. If we want to talk about disagreement on the level of utterances, we have to deal with the phenomenon of merely apparent disagreement. It consists in utterances that appear to constitute a disagreement, but where further interpretative work yields the result that the parties involved are not really expressing contradictory contents. Consider the utterances in contexts that make a different interpretations plausible:

P1: “This curry is tasty. I love the prawns.”

P2: “This curry is not tasty. The beef is really chewy. I should have gone with seafood too.”

P1: “This curry is tasty. I love how spicy it is.”

P2: “It’s too spicy for me. This curry is not tasty.”

The first context makes it apparent that P1 and P2 are really talking about different dishes, so ‘this curry’ does not refer to the same object. It follows then that their utterances – despite their appearances – do not constitute a genuine disagreement.

The second example illustrates a context where interpretation through arity raising can be used to dissolve the appearance of disagreement. The way P1 and P2 talk about their curry-tasting-experiences provides some hints that they have different standards of taste. These may warrant paraphrases such as ‘This curry is (not) tasty for me.’. It is important to note that I am not suggesting here that all such utterances should or even may be appropriately paraphrased in this way at all times. I am merely suggesting that there are instances where people make utterances that are best understood as relativized in this manner. This phenomenon is of course not limited to any specific area of predicates, even if examples from the realm of taste are prevalent. One can always imagine contexts, for example in the industrial production of food, where there are clearly defined taste-predicates that determine if a given sample is acceptable for sale or not. There are professional tasters whose job consists in applying these objective standards, e.g. to determine if a given batch of product tastes like Coca Cola ought to taste.<sup>23</sup> In these contexts, using predicates relative to personal standards of taste seems less plausible than in casual dinner conversation.

All of these examples aim to show that interpretation through arity raising can dissolve some merely apparent disagreements. This is a

special case of understanding utterances as speech acts. Here one might interject that authors in cases such as the examples above certainly may take themselves to be disagreeing, so trying to dissuade them of that notion might not be appropriate.<sup>24</sup> This objection can be countered by referring to the fact that people in ordinary discourse take themselves to do all sorts of things – even when that is often not truly the case. For example, they often take themselves to be presenting valid and sound arguments for certain propositions, yet philosophers are often keen to show this appearance to be deceptive. Why should the fact that people take themselves to be disagreeing matter in answering the question if they are in a real or merely apparent disagreement? There certainly are cases where people want to disagree, for example in the case of a political debate, and will actively try to promote the appearance of a disagreement. There are also cases where people disagree about important parameters relative to which to make certain judgements. For example, disagreements about taste might show themselves to be hinging on different standards of taste, but might also include a serious debate over which standards should apply. One might argue, for instance, that someone else's standard of taste should not be used to judge the taste of a dish, if they are a frequent smoker, or know little about the special cuisine in question, etc.

The curry-example in particular also highlights one reason why philosophers should concern themselves with arity raising as a form of interpretation: whenever people engage in arguments, there lurks the danger of one or more place of a vital predicate in their utterances being omitted. To have fruitful and productive discussions, it is of key importance to try and understand each others positions as best as possible. Probing for interpretations that reveal hitherto implicit places of predicates can be a useful tool to prevent misunderstandings. The examples examined here may appear simplistic, since they were chosen for the relative ease with which they can be analysed. This is part of a divide-and-conquer-strategy: many utterances such as 'Diana is smart.' may be difficult to interpret in regards to higher-place predicates, particularly as part of a heated debate. Excavating hermeneutic maxims for simpler cases should be seen as groundwork for approach more philosophically or socially loaded utterances. The idea being here that general principles supported for cases such as the left-right-scenario may at least be partially transferable to more complex cases. If such a transfer should prove impossible, this failure of the principles could offer new insights in itself.

Paraphrasing and understanding utterances is of course a vital part of scientific discourse as well. Philosophers and others engaged in rational debates, have an invested interest in having access to normative standards that guide how actions like inferring, arguing, and paraphrasing ought to be done. A framework of hermeneutic maxims as outlined here can thus have a supporting function for everyone engaged in such debates.

In addition, the debate about different types of disagreement and various types of pseudo-disagreement has been prominent in recent years. In this debate, two main lines of reasoning have emerged: contextualism and relativism. Given the scope of this paper, I can sketch them only briefly.<sup>25</sup> The relativist argues that the truth of propositions expressed with sentences like “This curry is tasty” ought to be relativized to certain additional parameters. The number and nature of these parameters varies with the individual brand of relativism proposed. Kölbel [10] outlines such a semantic for predicates of taste, using a standard of taste as an extra parameter. Other parameters, such as points in time, are also frequently used.

The contextualist argues, often similar to Bach [1], that the meaning of expressions such as the predicate ‘.. is tasty’ is dependant on the context of the utterance. Frequently, this is phrased in terms of implicit parameters that need to be supplied in order to make the expressions meaningful. Whereas the relativist wishes to revise the truth-predicate, a meta-language expression, the contextualist tries to deal with phenomena like faultless disagreement through shifting object-language expressions like taste predicates.

This rough outline of two diverse and prominent lines of reasoning should suffice to highlight two points: One, both approaches have huge implications: the relativist has to argue that (at least for some) properties truth is relative, while the contextualist has to explain how the meaning of an expression can depend on its context. In short, one invites the question for a revised semantic framework, the other for a revised theory of truth.

The approach I outlined here presents a middle way that appears feasible to explain at least some of the phenomena under discussion, but which does not incur sweeping revisionist implications. Like the contextualist, I maintain that some utterances will have to be interpreted in such a way that additional parameters are supplied. However, I take this to be a hermeneutical act that is part of correctly understanding the propositions expressed with utterances, not a semantic mechanism that

invites calls for a revised theory of meaning that explains how the some proposition can have context-dependant meanings. All that hermeneutics presupposes is that people's utterances are not always understandable as propositions right away. Like the relativist, I maintain that some truth judgements may be relative, simply because truth judgements are just another form of utterance that might require interpretation to excavate their proposition. Which particular theory of truth – if any – one presupposes is not yet relevant at the level of trying to understand utterances as propositions.

## 6 Open questions

This paper presented an outline for the methodological interpretation of utterances by means of higher-place predicates. To achieve this, the role of these expressions in ordinary language was analysed as being governed by principles of economy and purposefulness. However, this linguistic phenomenon can give rise to other questions that can not be answered here but still warrant a brief exploration.

While this paper discussed the use of higher-place predicates as tools for interpretation, one can also ask when authors should make use of predicates of a certain arity as part of speech acts. When, for example, should we use the three-place-predicate ‘.. gives .. for ..’ as opposed to the two-place-predicate ‘.. gives .. ‘ when we want to inform others about our gift giving? What are the criteria by which we judge a lower-place predicate to be sufficient to achieve our purposes? The fact that conversation *usually* goes well and is not constantly plagued by misunderstandings seems to suggest that people are remarkably good at picking predicates of an appropriate arity for the given situation. I've outlined in a previous work why this type of expression-selection is a vital part of performing speech acts in order to achieve given purposes and also respect the economic constraints of discourse [19, A and B].

One could even ask more fundamental questions such as when we should use predicates of a certain arity as part of *a language or a theory*. This question relates to various debates on relativism (of truth, moral, motion, knowledge etc.), which can be framed as debates about why we should (not) use predicates of a certain arity when talking about certain matters. Various forms of moral relativism, for example, can be framed as advocating the use of certain higher-place predicates (e. g. ‘.. is morally justified according to the code ..’) as opposed to using lower-place predicates (e. g. ‘.. is morally justified’) when we perform certain

value judgements. One way to approach questions like this is to view the selection of predicates as part of language construction as a specialized question about how language in general should be structured. This constructivist approach lends itself to criteria like fruitfulness of expressions (What purposes can I achieve, given this definition of an n-place predicate?), the ease with which they can be used (How long-winded will my judgements about progress be, given this 14-place predicate?), or their flexibility (Can I use this language and its expressions in any given context without creating inconsistent statements?) [19, A and D].

## Notes

- 1 Explaining away disagreement is often seen as problematic, when it comes to discussing contextualist semantics. See [10, p. 390], [11, p. 18] for examples. However, this particular debate should not distract from the fact that in practice, being able to dissolve a disagreement can be a good thing. It can save the effort of arguing a case and lead to a speedy resolution of what might otherwise become (or already has been) a lengthy debate.
- 2 "Exegetical interpretation should not lead to results that are arbitrary or in the same need of interpretation as the interpreted text itself. On the contrary, the aim is to provide readings that the author in question could be asked to accept to the best of our knowledge and which are less in need of interpretation in the relevant respects." [17, p. 152].
- 3 Wellman provides a list of different objects that are regarded as the object of relativism-debates by various authors. These include values, judgements and moral norms. The diversity of this list illustrates part of the fragmentation in this area of discourse. [22, p. 107].
- 4 Harman [7] outlines such a form of Relativism. He emphasizes that certain lower-place predicates such as 'ought' can be treated as elliptical and should thus be paraphrased. He rejected this view later. See [8].
- 5 "Among exegetical interpretations, one may (at least and roughly) distinguish between interpretations that aim at a true understanding of a text as uttered by an author, i.e. an understanding that corresponds to a (or even the) meaning this author intended, and interpretations that aim at a defensible understanding, i.e. an understanding that can be defended as being fair and plausible to the best of our knowledge." [17, p. 153].
- 6 For a more detailed overview of this approach to logic see [18].
- 7 The following list of expressions can be used to construct similar examples, which may be familiar from personal experience: '.. is important / to .. / for ..', '.. is necessary / to .. / for..', '.. is correct / according to the standard ..', '.. is expensive / compared to .. / for the person ..', '.. is a restaurant / at the point in time ..', '.. is chancellor / of .. / at the point in time ..'
- 8 This should be taken in the spirit of Grice's [6] maxim of quantity.
- 9 In contrast: „It is a rainy Saturday morning in Palo Alto. I have plans for tennis. But my younger son looks out the window and says, 'It is raining'. I go back to

- sleep. What my son said was true, because it was raining in Palo Alto. There were all sorts of places where it wasn't raining: It doesn't just rain or not, it rains in some places while not raining in others. In order to assign a truth-value to my son's statement, as I just did, I needed a place. But no component of his statement stood for a place. The verb 'raining' supplied the relation rains(*t*, *p*) – a dyadic relation between times and places as we have just noted. The tensed auxiliary 'is' supplies a time [...].“ [12, p. 138].
- 10 See for example: [https://www.huffingtonpost.com/entry/make-america-great-again-for-whom\\_us\\_58d2d026e4b062043ad4af69](https://www.huffingtonpost.com/entry/make-america-great-again-for-whom_us_58d2d026e4b062043ad4af69) (checked on 9.7.2018)
- 11 For an example, see [20].
- 12 “[...] the ascriptions and statements that are connected with an interpretation should be as fair as possible – in particular, there should be no already known interpretantia or interpretantia which one could “easily” construct which are as accurate but under which the author fares better.” [17, p. 169].
- 13 “Pay heed to the interpretandum, its author and the author's language and interpret accordingly.” [17, p. 163].
- 14 This can be seen as a modified version Reinmuth's path accuracy. “If possible, interpret texts in such a way that their authors reach their (presumed) aims on paths they have (presumably) chosen.” [17, p. 166]. The modification is that interpretation through arity raising deals with paths that the author might have reasonably taken, but in practice did not.
- 15 Reinmuth calls this accuracy with respect to the verbal context. [17, p. 166].
- 16 This is a presumption of normality that can be considered part of the hermeneutic framework employed here. For details on presumptions like these, see [17, p. 171].
- 17 “The case of enemy raises interesting issues concerning the relative primacy of the two-place relation enemy of and the one-place property that results when the second argument is filled in – e.g. The one-place property that Richard Nixon had in mind in compiling his “Enemies List”, which might be expressed as “enemy of Richard Nixon”.” [13, p. 263].
- 18 Reinmuth provides similar characterizations for malevolently reconstructing arguments: “Someone who reconstructs an argumentative text malevolently puts forward a reconstruens according to which the reconstruendum has an absurd or problematic thesis or contains incorrect inferences or undischarged assumptions or involves absurd or problematic reasons, while he knows of an (at least equally) accurate reconstruens which does not generate such ascriptions or could with reasonable effort produce such a reconstruens.” [17, p. 169].
- 19 One area where this practice plays an important role is in the standardization of certain predicates in the applied sciences. When engineers, for example, want to talk about a certain property of a material (e.g. hardness), they will frequently use lower-place predicates, despite the property in question being relative to various factors (e.g. temperature). This does not create inconsistencies since the predicates are tied to standardized procedures which usually set parameters like temperature to a constant value (e.g. 21 °C). The trouble-free use of lower-place predicates becomes possible by explicitly keeping certain factors constant.
- 20 [21, p. 44]. Another example can be found in Quine's “Word and Object”. He talks about the concept of stimulus meaning, using a variety of different-place expressions, only to explicitly state what he considers to be the full arity: “Fully

- ticketed, therefore, a stimulus meaning is the stimulus meaning modulo  $n$  seconds of sentence  $S$  for speaker  $a$  at time  $t$ .” [15, p. 33].
- 21 Including the context of the interpreted utterance, as these last examples did, can be considered a form of accuracy with respect to the verbal context. See [17, p. 166].
- 22 This can be seen as a consequence of Reinmuth’s linguistic accuracy and normality presumptions: “Identify the language of the utterance and then the author’s language properly and align the interpretation to the author’s language. Only consider usages that are in accordance with the conventions of the author’s language.” [17, p. 164]. and “Normality presumptions concern the situation of agents and those agents themselves, their (linguistic) behavior and acts, the propositions they hold to be true and their beliefs about each other.” [17, p. 173].
- 23 That is not to suggest that these standards do not have fuzzy boundaries. Anyone who has done substantial travel will tell you that even products that pride themselves on their uniformity like Coca Cola and Big Macs can taste slightly differently in different parts of the globe. But the fact that the taste standards for these products have fuzzy boundaries does not mean that they are entirely subjective.
- 24 MacFarlane phrases such an objection to a similar example after a proposed contextualist treatment: “Intuitively, though, it does seem that we are disagreeing. We certainly take ourselves to be disagreeing. I may say, “Wrong!” or “That’s false” – neither of which would be appropriate if you had said explicitly that apples taste good to you.” [12, p. 18].
- 25 For more detailed overviews on the debate between contextualists and relativists see [2] and [11]. Cappelen and Hawthorne in particular devote much attention to the general landscape of this ongoing debate. For more detail on the relation of arity raising to this discourse see [19, p. 150].

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