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PROPERTIES AIN'T NO PUZZLE**

Abstract

Frege's Commitment Puzzle concerns inferences from sentences such as "Jupiter has four moons" to sentences such as "The number of moons of Jupiter is four". Although seemingly about completely different things, such pairs of sentences appear to be truth-conditionally equivalent. In this paper, I make a case against versions of the Puzzle that appeal to properties and propositions. First, I argue that propositions in Frege's biconditionals serve a specific, non-referring conversational role. Second, I claim that the existence of properties derived from Frege's equivalences relies on a controversial philosophical premise. Third, I contend that it takes more than conversational interchangeability for two sentences to be equivalent and that genuine equivalence has not been established for non-numerical versions of Frege's biconditionals. I conclude by suggesting that, being restricted to numbers, the Commitment Puzzle may be classified as a local oddity.

Keywords: Frege's Commitment Puzzle, focus constructions, congruence tests

0. INTRODUCTION

0.1. THE PUZZLE

The so-called Commitment Puzzle (Frege 1884) concerns inferences from sentences such as:

(F1) Jupiter has four moons.[1]

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[1] In fact, Jupiter has as many as sixty-nine moons, but only four were known in Frege's times.

to sentences such as:

(F2) The number of moons of Jupiter is four.

Sentence (F2) is a natural paraphrase of (F1) and yet, while (F1) is about moons, (F2) is about numbers. How is it possible that such pairs of sentences, called Frege's biconditionals, seem equivalent, although (F2) appears to refer to something that (F1) makes no reference to? Finally, can trivial inferences such as these be used as an argument for the existence of numbers or other abstract entities? In this particular case, the puzzle is genuine. But the Commitment Puzzle has other versions as well. It is believed that the same kind of problems arise from sentences that apply to properties and propositions. Consider for example:

(1) Tommy is a soldier.

(2) Tommy has the property of being a soldier.

(3) That Tommy is a soldier is true.

Sentence (2), which introduces a property, and sentence (3), which can be taken to quantify over a proposition, are usually treated as acceptable equivalents of (1), although neither of the two entities concerned is linguistically present in (1). Transitions from (1) to (2) and (3) seem to run parallel to the transition from (F1) to (F2), so it is natural to regard them as giving rise to the properties and propositions (P&P) versions of the Commitment Puzzle, respectively.

0.2. REACTIONS TO THE P&P VERSIONS OF THE COMMITMENT PUZZLE

Most approaches to the Commitment Puzzle try to account for the P&P versions of it as well.[2] They all find it necessary to explain P&P biconditionals.

Hofweber notes, but does not endorse, a way to block the P&P versions of the Puzzle by appealing to the Substitution Problem (SP). Given that a *that*-clause expresses a relation to a proposition, expressions of the form "that *p*" and "the proposition that *p*" should be interchangeable *salva veritate*. The problem is that they are usually not. For instance, "Fred fears that Fido is a dog" should have the same truth conditions as "Fred fears the proposition

[2] See, e.g., (Alston 1958) for a summary of the traditional paraphrastic approach, (Hofweber 2007, esp. p. 39-42) for a linguistic approach, and (Felka 2014) for the latter's discussion, limitations, and refinement, as well as (Balcerak Jackson 2013) for his pragmatic approach.

that Fido is a dog", but it is controversial, for reasons not relevant to the Commitment Puzzle, whether it does (Hofweber 2007: 13-14).

Thus, the SP imposes a limit on the range of the Commitment Puzzle only if one takes the SP to undermine the notion of a proposition. Nothing about this objection is specific to the Commitment Puzzle. Being susceptible to a whole range of counterarguments in the debate over propositions, the objection is unconvincing to anyone who believes in propositions. However, there are independent reasons for disqualifying the P&P versions of the Commitment Puzzle that have to do with the Puzzle itself rather than with the wider issue of propositions.

0.3. ROADMAP FOR THE PAPER

In this paper, I will support Hofweber's initial intuitions that the P&P versions of the Commitment Puzzle are not as recalcitrant as its number-word versions, and that, indeed, they do not need to be accounted for at all. To this end, I will present evidence that is independent of general arguments concerning the existence of propositions. I am not going to provide a solution to the SP, nor am I going to make any claims about the nature of propositions. The only strong claim of this paper is that, appearances to the contrary notwithstanding, P&P biconditionals do not give rise to Frege's Commitment Puzzle.

The structure of the paper is as follows. In section 1, I give a brief summary of both philosophical and everyday-language clues suggesting that, in most cases, proposition talk can be easily eliminated. In section 2, I present my main argument, asserting that the P&P versions of Frege's biconditionals[3] are not as well-founded in the lexical evidence as is the standard pair of (F1) and (F2). I then show that one can accept transformations of (1) to either (2) or (3) only if one has made extra assumptions. I conclude that the P&P versions of the Commitment Puzzle should not be taken into account. In section 3, I reflect on the implications of these conclusions for the Commitment Puzzle and for language-driven ontology in general.

[3] This is Hofweber's term for equivalences in the Commitment Puzzle, as in (Hofweber 2007).

1. ARGUMENTS FROM NON-NECESSITY

1.1. PROPOSITIONS ARE PHILOSOPHICALLY ELIMINABLE

Unlike numbers and number-words, propositions are easy to eliminate. In fact, some authors consider a proposition to be correctly designated only if it can be paraphrased out of the "is true" context (Kneale 1971: 336). Others, such as Davidson (1968) and Moltmann (2003), question the linguistic plausibility of attributing abstract, defined propositions to *that*-clauses and attitude reports. Moltmann (2003) has even succeeded in recreating a rich spectrum of propositional attitudes in the Russellian framework of multiple-relations analysis, without appealing to propositions as independent entities.[4] The nature of propositions has always been a controversial topic and the debate is far from over. But we would do well to remember that the available linguistic evidence is consistent with either position.

1.2. PROPOSITIONS IN EVERYDAY NATURAL LANGUAGE

Propositions are usually brought up in a philosophical setting, in paraphrases expressly designed to reveal them. Plausibly, there are only two types of common situations in which non-philosophers encounter proposition talk. They involve attitude reports and truth confirmations.

As Moltmann (2003) has shown, attitude reports are easily analyzed without reference to propositions. This does not make propositions redundant or disprove their existence, but it does suggest that people do not talk about them in everyday situations. Not present directly at the level of an utterance, propositions have to be inferred on the basis of rather controversial philosophical premises. One does not explicitly appeal to propositions when communicating one's propositional attitudes. It takes additional metaphysical effort to obtain them.

By contrast, truth confirmations introduce proposition talk directly into the utterance. At least *prima facie*, a competent language user has to speak

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[4] Moltmann (2003: 89-93) uses special quantifiers, such as *something*, *everything*, *nothing*, and *a couple of*, that seem to range over proposition-like objects, which is problematic if one attempts to provide a theory of proposition-free attitude reports. She does, however, give good reasons to regard them as mere nominalizations individuated from propositional constituents and the way they are combined. Even if Moltmann is wrong on this point, this would not affect our discussion, for the P&P versions of the Commitment Puzzle do not feature any special quantifiers.

about certain *that*-clauses as if they were truth-bearers. Consider an example from Hofweber (2007: 25):

(4) a. I have heard that Fido is a dog. Is he?
b. Is Fido really a dog?

(5) a. FIDO IS A DOG.
b. That Fido is a dog is true.
c. It is true that Fido is a dog.

In the above question-answer sets, (5a), (5b) and (5c) are all acceptable answers to (4a) and (4b). In (5b) and (5c), where truth is ascribed to part of a sentence, it may initially seem plausible to treat that part as referring to a proposition. But if one considers the role these answers play in the discourse, one can see that this is not necessarily the case. As Hofweber notes, answers (5b) and (5c), suspected of smuggling in propositions, have the same conversational purpose of providing *sentential focus* as (5a): each serves to put into focus all the information expressed in the sentence. Just as a difference in tone or the use of capital letters, the expressions "it is true that *x*" and "*x* is true", where *x* is a sentence, merely emphasize the content of a sentence without modifying it.[5] And since it is the presentation, and not the content, that changes, there is no more reason to posit the occurrence of a proposition in (5b) and (5c) than in (5a).

One can easily extend Hofweber's examples to sentences featuring other truth-confirming expressions. Consider the following:

(5) d. That Fido is a dog is a fact.
e. It is a fact that Fido is a dog
f. Of course, Fido is a dog.
g. Fido sure is a dog.

All the truth-confirming expressions that occur in these examples, and many more besides, serve the same emphatic role in conversation. Some do not generate *prima facie* commitments to suspect entities, whereas others, like (5d) and (5e), do. Unlike most contemporary philosophers writing in the field, I see no compelling reason, based on real linguistic data, for taking the facts and propositions from (5b), (5c), (5d), and (5e) more seriously than the capital letters, "of courses" and "sures" from (5a), (5f), and (5g).

[5] Hofweber (2007: 25-26) highlights the difference between (5b) and (5c), as they put slightly different focus on the content and thereby generate different contrast classes. These subtelties are not relevant to my line of argument, however.

Whether or not these observations dispel our philosophical doubts about the P&P versions of the Commitment Puzzle or the nature of propositions is a separate question. What counts is that Hofweber's remarks seem to offer an appealing account of how expressions such as "that *x* is true" and "it is true that x" function in natural language, an account that does not involve reference or anything else that doesn't already occur in sentence *x*. Furthermore, if we reject truth confirmations and attitude reports as natural-language examples of proposition talk then there is not much left to consider as such.

1.3. SOME CONCLUSIONS FOR THIS SECTION

Propositional attitudes seem to be the most likely candidates for a natural-language scenario supporting the hypothesis that *that*-clauses in "is true" contexts refer to propositions. But Moltmann's (2003) analysis shows that it takes more than a simple conversational scenario to establish this conclusion and, moreover, that the conclusion can be questioned as a purely ontological stance.

Another likely candidate to support the propositional theory of *that*-clauses are truth-confirmations. The biconditionals in the propositional versions of the Commitment Puzzle that seem to refer to propositions contain specific constructions, such as "that *x* is true". When put in their proper conversational context, these constructions (and, apparently, truth confirmations in general) turn out to perform a purely emphatic function. They contribute no additional content whatsoever, which is to say they are non-referring expressions. What they do is introduce different contrast classes to the emphasized sentences. So the argument here is as follows:

(A1)

P1: The propositional versions of the Commitment Puzzle are puzzles about natural-language phenomena that suggest the existence of propositions.

P2: In the propositional versions of the Commitment Puzzle, the second biconditional *y* is generated by: i) taking the first biconditional *x* and ii) plugging it to formula *F*: *y* = "That *x* is true".

P3: In natural conversational contexts, *F* has a purely emphatic function, it does not modify the content of *x*.

C: The second biconditional *y* does not refer to a proposition.

All in all, propositions are neither very appealing theoretically nor do we find intuitive support for them in natural-language scenarios, at least not in situations involving constructions such as those found in the Commitment Puzzle. Therefore, it seems that, in the general case, we can communicate successfully without using proposition talk or quantifying explicitly over propositions. (Note, however, that this is not so with numbers in the canonical version of the Puzzle.)[6] The arbitrary character of proposition talk suggests that natural language does not commit us to the existence of propositions, although we can perhaps accept their existence on some metaphysical grounds. In most cases,[7] we can think of the metaphysical realm as not containing propositions, which seems to be in line with what is assumed in natural language.

2. ARGUMENTS FROM MISSING PREMISES

2.1. WHAT ABOUT PROPERTIES?

In the previous section, I proposed no direct argument against accepting the existence of properties on the basis of Frege's first biconditional, because I do not believe that it gives rise to such a commitment; at any rate, properties do not seem as straightforwardly present in Frege's biconditionals as propositions. According to the traditional paraphrastic approach, the *foundation* of the expression "the property of being a soldier", i.e. the verb phrase "is a soldier", is already present in (1) (Hofweber 2007: 24). It is subsequently made into a property through nominalization and embedded in the expression "the property of". On Hofweber's updated paraphrastic approach, what is going on in the properties version of the Commitment Puzzle is this:

(H1)

P1: There is a verb phrase in (1).

P2: A nominalized verb phrase refers to a property.

P3: There is a nominalized verb phrase in (2).

C: Part of (2) refers to a property.

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[6] Even Schiffer (1996), who has not hesitated to eliminate properties and propositions, notes that it is a different story with numbers.

[7] It is easy and natural in most cases, but not in all. Even deflationism has difficulties accounting for generalizations (see Bar-On, Simmons 2008).

Traditional or not, (H1.P2) is a demanding philosophical position in need of justification. There is nothing natural in the language used in the Puzzle to support it. As Orilia and Swoyer put it in their entry in the *Stanford Encyclopedia of Philosophy*:

> Philosophers who argue that properties exist *almost always do so because they think properties are needed to solve certain philosophical problems*, and their views about the nature of properties are strongly influenced by the problems they think properties are needed to solve (Orilia, Swoyer 2016, my emphasis).

The Commitment Puzzle is supposed to be a question about how ordinary language gives rise to unexpected ontological claims in a few simple steps. However, the properties version of Frege's biconditionals does not do that. Rather, it starts with a controversial ontological premise and it dresses up with the trappings of the original Commitment Puzzle.

2.2. HOW NUMBERS DIFFER FROM PROPERTIES AND PROPOSITIONS

In the number version of Frege's biconditionals, besides the nominalization introducing the expression "the number of" to (F2), there is another hint that something unusual might be going on: namely, the number-word — in our case, the word "four". Actually, the question of the bizarre variety of syntactic and semantic functions of "four" is regarded as yet another conundrum known as Frege's Other Puzzle (see Hofweber 2005, Hofweber 2007: 8-9, Felka 2014: 262, 276-277). Some philosophers, such as Hofweber or Balcerak Jackson, have managed to explain its referential character away (Hofweber 2007: 23, Balcerak Jackson 2013), but others, such as Felka, believe that the occurrence of "four" in (F1) implies a commitment to numbers (Felka 2014: 278-279). For the purpose of this paper, however, it is enough to keep in mind that there is a number-word already present in the first biconditional (F1), as opposed to the P&P versions of the Puzzle, which do not mention any of the entities to which they allegedly commit us. Now, whether "four" refers to a number or not, there is a clear reason to see the transition from (F1) to (F2) as naturally plausible: in a way, regardless of the true logical form of both sentences, by the time the paraphrase is uttered, we have already said something numberish.

From a non-philosopher's point of view, this may not be the case with (1), (2), and (3). Sentence (2) is an ambivalent yet acceptable paraphrase of (1), when one is faced with it, but it is by no means naturally congruous. By contrast, (3) is a content-conservative version of (1) employed in specific conversational contexts, which means that it does not give us language-driven reasons to see it as committing us to the existence of a proposition. Therefore, only the number version of Frege's biconditionals can be plausibly regarded as genuinely interchangeable in authentic conversational scenarios. And since the Commitment Puzzle is supposed to be a puzzle about how the use of natural language can yield unexpected metaphysical results, a competent user's intuition about the recurrence of the number motif and the plausibility of equivalence should make a difference. To see the point more clearly, let us consider a naive argument in favor of the paraphrase of (F1) into (F2). A proponent of the Commitment Puzzle may reason in the following way:

(A2)

P1: There is a number word in (F1).

P2: "The number of" occurs only in (F2), but (P1).

P3: There are numbers in both (F1) and (F2). (from: P1, P2)

P4: (F1) and (F2) are conversationally interchangeable.

C: (F1) is truth-conditionally equivalent to (F2).

This is hardly controversial. A competent English speaker accepts the conclusion and all the premises without much consideration. And yet philosophers who are realists about numbers, and many others who follow in their footsteps, tend to accept the conclusion based on (A2.P4) alone.[8] As we saw in section 1.2, identifying statements as genuinely interchangeable can be problematic. Conversational interchangeability must be considered in multiple contexts and expressions should be checked for different conversational roles. Expressions that are interchangeable in one type of conversational event may not be interchangeable in another. To conclude, one cannot simply take one of two interchangeable statements, propose a possible paraphrase for it out of context, and use the paraphrase in any context in which it would be suitable to use the original statement. Further linguistic evidence is needed, for example in the form of congruency tests in question-answer pairs. And results vary significantly among authors (see Hofweber 2007, Brogaard 2007, Felka 2014). Therefore, to seriously consider two *prima facie* different statements as equivalent we need another hint about their contents' identity, preferably on the very first lexical or syntactic level, so that a competent speaker would immediately be able to recognize it. Obviously, in the number version of Frege's biconditionals the clues are (A2.P1)-(A2.P3). The

[8] See e.g. a comment on the traditional paraphrastic approach to Frege's biconditionals in (Alston 1958).

fact that all the building blocks of the contents of (F1) and (F2), including the ellipsis for "number" in (F1), are identical suggests that the two sentences might be equivalent and thereby gives rise to the Commitment Puzzle. We find no such suggestions in the P&P versions of Frege's biconditionals.

Another way realists about numbers might understand their altered, stripped-down (A2) is by questioning (A2.P4) and replacing it with some other condition for equivalence. But this move takes away the Puzzle's strongest asset: its deep foundation in the natural language. It is an ordinary speaker's feeling about the equivalence of (F1) and (F2) that gives Frege's biconditionals their puzzling impact on metaphysical reflection. And an intuitive test for the equivalence of two sentences in English is to check whether they can be swapped in most contexts of communication. Frege's Commitment Puzzle is a puzzle about natural language in use and its possible ontological consequences. Without support from common intuitions, there is no puzzle in the biconditionals at all.

2.3. CONCLUSIONS FOR THIS SECTION

The traditional paraphrastic approach takes for granted that a nominalized verb phrase refers to a property, as in (H1.P2). However, this claim is not based on considerations connected with natural language. In fact, conversational scenarios similar to those in section 1.2 suggest that nominalized verb phrases are focus expressions or pragmatic tools of some other kind. A claim as strong as the one made by the advocates of the traditional paraphrastic approach needs a more solid philosophical footing than that. Thus, properties do not naturally appear in Frege's biconditionals and should not be taken to give rise to the Commitment Puzzle.

The original number version of Frege's biconditionals is uniquely challenging. A hunch about conversational interchangeability is not enough to find sentences such as (F1) and (F2) equivalent, and linguistic evidence can be misleading due to infinitely numerous congruency cases and the sheer number of the conversational roles of expressions that need to be considered. Surely, it is not how a non-philosopher comes to suspect that sentences such as (F1) and (F2) might be equivalent; that would take too much effort. Therefore, she needs evidence of a different kind, like conservation of content in both sentences through the paraphrase. In the number version of the biconditionals, the suggestion of content conservation is present at the lexical level. Both (F1) and (F2) share all the lexical elements that make up their contents, but, in (F1), "the number" is implicitly present in "four", whereas, in (F2), it is brought explicitly to the front of the sentence. No similar hints for content conservation or other suggestions in favor of equivalence appear in (1), (2), (3), or in (3′) below.

(3′) The proposition that Tommy is a soldier is true.

In the second biconditional in the P&P versions of the Puzzle, new elements appear unexpectedly for a competent speaker. "Property" and "proposition" in (2) and (3′), respectively, are philosophical stipulations put forward on theoretical grounds that require independent justification. They do not arise on the basis of simple and intuitive paraphrases, as in the number version of the Commitment Puzzle.

To sum up, following Schiffer or Hofweber, I contend that Frege's P&P biconditionals are best regarded as purely linguistic devices, a way to stress some part of a sentence more than another. Numbers cannot be explained away so easily. There is, it seems, *something* there in innocent numerical statements — some kind of a linguistic or metaphysical phenomenon that is already present in the original sentence and is retained in the metaphysically loaded paraphrase. Even if it is not "the number of" in (F2) that is problematic, the word "four" in (F1) remains so nonetheless (Felka 2014). The commitment here is unexpected, yet, when it appears, we are sure that it is a genuine problem calling for a solution.

Also, there is no additional linguistic evidence in the biconditionals to support the belief that either (2) or (3) is equivalent to (1). Deducing the existence of properties and propositions from these versions of Frege's biconditionals can plausibly be classified as a logical fallacy, as these alleged entities are merely illusionary reflections of the pragmatic devices employed in a conversation.

3. CONCLUSIONS AND SIGNIFICANCE

The versions of the Puzzle that appeal to properties and propositions do not seem to pose as serious a problem as the number version. The way they are generated from innocent statements raises suspicion as to whether they should be treated as genuine commitment problems at all. Their proposed equivalences make use of controversial tacit ontological premises and some of them function only in very specific conversational scenarios. We have good reason to believe that Frege-style inferences that allegedly invoke properties and propositions can be explained with much simpler tools than those required to account for the numerical biconditionals of the original Puzzle. Therefore, given the linguistic evidence, a strong case can be made for regarding them as irrelevant to the Puzzle (Schiffer 1996, Hofweber 2007, Brogaard 2007, Felka 2014). Thus, the original version of the Puzzle, which employs number-words and their nominalized counterparts, can be considered as the only genuine puzzle.

At this point, one might ask: Why should this matter? Even if one were to accept all of the above, the canonical version of the Puzzle remains intact. The original problem of Frege's biconditionals has not been solved here, its scope has just been limited.

The fact that the spectrum of paraphrases for which the Puzzle can arise may be significantly narrowed down suggests the Puzzle's purely linguistic origin. If the same oddity kept on appearing in trivial contexts throughout different types of expressions, giving rise to a variety of abstract entities, one might be encouraged to embrace it as an actual metaphysical mystery. Restricting the domain of the Puzzle to numbers turns this purportedly widespread mystery into a local oddity. Not only are number-words much less common in natural language than nominalized verb phrases and *that*-clauses, but also conclusions drawn from their appearance in the Puzzle are independent of purely ontological premises. There is always a feeling of artificiality about numbers that has recently given momentum to new fictionalist positions of Kalderon (2005) and especially Yablo (2005). Frege's Commitment Puzzle restricted to numbers appears to be yet another interpretative anomaly of natural language. Its infrequent occurrence suggests that it is amenable to a purely linguistic solution, possibly of the kind advocated by the new paraphrastic approaches of Thomas Hofweber and Katharina Felka.[9]

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[9] See (Jastrzębski 2016) for an overview of linguistic solutions to the Commitment Puzzle.

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