Complications for the neat and tidy picture

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A simple story has it that that-clauses, some wh-clauses, proposition descriptions, and proposition names all designate propositions. So the following expressions all designate the same thing:

> that mathematics reduces to logic
>
> what Russell asserted (said in an appropriate context)
>
> that (said in an appropriate context)
>
> the proposition that mathematics reduces to logic
>
> logicism

If these all designate the same proposition, it seems plausible that we should expect (i) that we should be able to substitute all of the above for each other in any context while preserving grammaticality, and (ii) that we should be able to substitute all of the above for each other in any extensional context while preserving truth-value.

1 SOME PUZZLES ABOUT REFERENCE TO PROPOSITIONS

If we think only about belief ascriptions, this is arguably just what we find. But once we venture outside of 'believes,' puzzles abound.

Puzzle 1. Some attitude verbs grammatically embed both that-clauses and proposition descriptions, but substitution of one for the other changes truth conditions:

> Jeff fears that the Reds will lose.
>
> Jeff fears the proposition that the Reds will lose.

This is what Moltmann (2003) calls 'the objectivization effect.'

Others: expects, imagines, remembers, heard, considers (?).

Puzzle 2. Some attitude verbs embed that-clauses, but substitution of the corresponding proposition description yields an ungrammatical string:

Jeff hopes that Notre Dame will win.

Jeff hopes the proposition that Notre Dame will win.

These also can't embed names or wh-clauses:

Frege hoped logicism.

? Jeff hopes what Daniel believes.

Others: wishes, insists, cares, agrees, complains, said (?).

Puzzle 3. Some attitude verbs embed proposition descriptions, but substitution of the corresponding that-clause yields an ungrammatical string. Nebel (2019) gives the example

Sally and Fred debated the proposition that Fido barks.

Sally and Fred debated that Fido barks.

Again it looks like proposition names pattern with proposition descriptions.

Others: entertains, analyzes, embraces.

Puzzle 4. Some attitude verbs embed both that-clauses and wh-clauses, but substitution of one for the other can change truth conditions. Imagine we are in a situation in which it is salient that Russell asserted that mathematics reduces to logic. The following still differ in truth conditions:

Mary knows that arithmetic reduces to logic.

Mary knows what Russell asserted.

Puzzle 5. Pryor (2007) points out that even in contexts where the first of the following sentences seem true, the second sounds bad:

There's something they both hope.

There's some proposition they both hope.

But why should these sound at all different if, as on the picture we've been sketching, propositions are the objects of hope?

* * *

These puzzles makes 'believes' look like an anomaly! Though other verbs seem to be like 'believes' in permitting substitution of that-clauses and the corresponding proposition descriptions. King (2002) gives the examples of 'believe', 'doubt', 'deny', 'prove', 'accept', 'assert', 'state', and 'assume'.

Each of these puzzles corresponds to a class of attitude verbs: the ones that exhibit the behavior described by the puzzle. Each puzzle can be thought of as asking for an explanation of why those verbs exhibit that behavior.

2   Substitution and grammaticality

Puzzles 2 and 3 both involve cases in which substitution of (allegedly) co-designating expressions affects grammaticality. A first point to make is that there are plenty of other cases of this:

> I am happy.
> Jeff am happy.

> Jeff is happy.
> Jeff happiness.
> Jeff the property of being happy.
> Jeff the semantic value of 'is happy.'

So in order to solve these puzzles what's needed is an explanation of which rule of English grammar explains the ungrammaticality of the relevant sentences.

Nebel (2019) suggests the following explanation. The main idea is that the sentence 'Jeff hopes that Notre Dame will win' says that Jeff stands in the relation expressed by 'hopes for' to the proposition that Notre Dame will win; the 'for' is suppressed due to the rule of English grammar that prepositions can't precede the complementizer 'that.' (A complementizer is a word that introduces a complement clause, which is a kind of subordinate clause.) One argument:

> Jeff hopes that Notre Dame will win.
> That Notre Dame will win is hoped for by Jeff.

But then the relevant substitution instance is

> Jeff hopes for the proposition that that Notre Dame will win.

which is grammatical — but differs in truth conditions from the that-clause version.

3

3   POSITING AMBIGUITY

Suppose that we are antecedently convinced that that-clauses and proposition descriptions designate the same things. Then the only solution to Puzzle 1 would seem to be to posit ambiguity (or polysemy) for all of the verbs that give rise to this behavior. King (2002) suggests that the ambiguity is triggered by the syntactic type of the expression complementing the attitude verb.

Standard test for ambiguity: conjunction tests. The 'zeugmatic' nature of the following sentence looks like evidence for ambiguity in 'wore':

> ? She wore a scarf and a look of considerable embarrassment.

Or, from *Flight of the Conchords*:

> There's children on the streets using guns and knives
> They're taking drugs and each other's lives

How does the ambiguity theory fare based on this test? Some relevant conjunctions do sound pretty bad:

> ? Jeff expects Daniel and that it will rain tomorrow.

others sound better:

> Jeff fears spiders and that the Reds will lose.

Nebel (2019) argues against the ambiguity theory in part on the grounds that the category of type 1 verbs is much larger than King thinks; his solution to Puzzle 2 in effect puts all of the type 2 verbs into type 1 as well. If this is right then sentences like the following look bad for the polysemy theory:

> Jeff hopes for a Notre Dame victory and that every Big 10 team loses.

4   PROPOSITION DESCRIPTIONS AND PROPOSITIONAL CONCEPTS

Nebel's solution to Puzzle 1 involves denying that that-clauses and proposition descriptions designate the same thing. In his view, that-clauses designate propositions whereas proposition descriptions designate propositional concepts: functions from situations to propositions.

The best way to understand Nebel's view is to start with a puzzle which is not about reference to propositions:

The number of insect species on earth is 5.5 million.

The number of insect species on earth is astonishing.

5.5 million is astonishing.

If the first sentence is true, we would expect this to imply that the second and third have the same truth-value. But it does not seem to imply this.

An explanation: 'the number of species on earth' is a concealed question. A concealed question is a description (or other determiner phrase) that, in the context in question, has the meaning of an interrogative phrase. Here it looks like the second sentence above could be paraphrased as

It is astonishing <u>how many insect species there are on earth</u>.

What is the meaning of an interrogative phrase? On one view, it is a function from situations to the answer to the question in that situation. So what is designated by 'the number of insect species on earth' in the above sentence is not a number, but instead the function from situations to the number of insect species on earth in that situation.

Second step: the description 'the number of species on Earth' always designates such a function, even when it does not conceal a question. This is defended in part via the solution it provides to a puzzle due to Barbara Partee:

The number of insect species on earth is increasing.

The number of insect species on earth is 5.5 million.

5.5 million is increasing.

The solution also relies on the distinction between equative (identity) and specificational senses of the copula.

Proposition descriptions are treated like 'the number of insect species on earth' — they designate functions from situations to propositions (propositional concepts). Nebel thinks that they give rise to puzzles like the one from Partee:

The rumor is that Jim consumes peyote.

The rumor is vicious.

So, that Jim consumes peyote is vicious.

As with Partee's example, we explain the invalidity via (i) 'the rumor' designating a propositional concept rather than a proposition and (ii) the 'is' in the first sentence being specificational rather than equative.

Because proposition names seem to pattern with proposition descriptions, the view is also that names like 'logicism' designate propositional concepts.

On this view the sentences

> Jeff fears that the Reds will lose.
> Jeff fears the proposition that the Reds will lose.

both say that Jeff stands in the (very same) fearing relation to something, but differ in that the first has me standing in that relation to a proposition while a second has me standing in that relation to the constant function from situations to that proposition.

This does make room for a difference in truth-value between them without postulating ambiguity. But does it help us to understand what the second sentence says?

A further piece of evidence for the view is supposed to be that

> ? Logicism is that mathematics reduces to logic.

sounds bad, whereas

> Logicism is the proposition that mathematics reduces to logic.

sounds fine. But: if we appeal to the specificational sense of the copula in understanding 'The rumor is that Jim consumes peyote' why doesn't that make available an ok reading of the former?

References

Jeffrey C. King, 2002. Designating Propositions. *Philosophical Review* 111(3):341–371.

Freiderike Moltmann, 2003. Propositional Attitudes Without Propositions. *Synthese* 135:77–118.

Jacob M. Nebel, 2019. Hopes, Fears, and Other Grammatical Scarecrows. *Philosophical Review* 128(1):63–105. doi:10.1215/00318108-7213014.

James Pryor, 2007. Reasons and That-Clauses. *Philosophical Issues* 17(1):217–244. doi:10.1111/j.1533-6077.2007.00131.x.