# Coordination Problems

SCOTT SOAMES
*University of Southern California*

Although 'Rxx' and 'Rxy' are both applications of a two-place predicate to a pair of terms, 'Rxx' resembles a one-place predicate in that all one needs to evaluate it is an assignment to 'x'. A similar point applies to the sequences 'Fx', 'Gx' and 'Fx', 'Gy' – even though neither is a one-place predicate. Kit Fine's semantic relationism aims to extract a common idea uniting these comparisons, and to use it to provide a Millian solution to Frege's Puzzle.

(1a) and (1b), are said to be *cognitively different* in that uses of them "can convey different information to someone who understands both sentences." (34)

    1a.  Cicero is Cicero
      b.  Cicero is Tully

For him, the meaning of a name is its referent; so 'Cicero' and 'Tully' are synonymous. Faced with the choice of rejecting compositionality or taking (1a) and (1b) to be synonymous, he rejects compositionality. Since he regards sentence meaning as transparent, he thinks that if (1a) and (1b) were synonymous, competent speakers would know it, and hence associate the same information with both. Thus, cognitive difference implies semantic difference, and compositionality must be abandoned.

The burden of semantic relationism is to explain how it can be. According to Fine, the occurrences of names in (1a), but not those in (1b), *represent their referents as the same*. (38-9) When term-occurrences to do this "anyone who raises the question of whether the reference was the same would thereby betray his lack of understanding of what [the speaker] meant."(40) Applying this idea to (1a) and (1b) is tricky, since someone who uttered either one would indicate that he took its

name-occurrences to be codesignative. Nevertheless, Fine insists, whereas one can dispute an utterance of (1b) without misunderstanding it, this is not so with (1a). In his terminology, while (1a) and (1b) both represent the referents of their name-occurrences as *being the same*, only (1a) represents them *as the same*. Term-occurrences that represent their referents *as the same* never *informatively* represent them as *being the same*. In this sense, (1b) is informative, but (1a) isn't.

Different occurrences of a name (by one intending to make the same use of it both times) represent their referents *as the same*. Occurrences of different names represent their referents *as the same* only in rare cases in which it is a linguistic convention, which competent speakers must master, that the names are coreferential. Anaphora is a more common case of occurrences of *different* terms representing individuals *as the same*. (41)

  2. Mary told *John* that *he* was late.

Some occurrences of indexicals also seem to represent their referents *as the same*.

  3a. *I* am tired, but *I* am not bored.
   b. *I* asked Martha to call *me*.

Fine's *relational semantics* assigns objects, properties, and Russellian propositions as contents of names, predicates, and sentences. (53-54) *Coordination schemes* are added to propositions expressed by sentences with multiple occurrences of the same name. (54-57) For example, the proposition (4b), expressed by (4a), contains a link coordinating the two occurrences of (the man) c in the uncoordinated, Russellian proposition (5b), expressed by (5a).

  4a. Cicero admires Cicero
   b. $<\underline{c}, \text{Admiration}, \underline{c}>$

  5a. Cicero admires Tully
   b. $<c, \text{Admiration}, c>$

Sequences of propositions are assigned to discourses like (6a) and (7a).

  6a. Cicero was an orator, Cicero was Roman
   b. $<\text{Being an orator}, \underline{c}>, <\text{Being Roman}, \underline{c}>$

7a. Cicero is was an orator, Tully was Roman.
  b. < Being an orator, c >, < Being Roman, c >

The assignment of a proposition to a sentence tells us *what the sentence means*. The assignment of a sequence of propositions to a sequence of sentences tells us *what the discourse means*. Since the sentences of (6a) mean the same, taken individually, as those in (7a), while the discourses don't, compositionality fails at the discourse level, in addition to failing for individual sentences.

Understanding (4a) requires knowing that the individual c it represents as *admiring someone* is the same as the individual it represents as *being admired*. Since understanding a sentence is grasping the proposition it expresses, grasping (4b) also requires this.(54-55) Thus, entertaining (4b) involves recognizing that it is equivalent to (8b) – which, unlike (4b), contains the one-place property of *admiring oneself*.

8a. Cicero admires himself (or is a self-admirer).
  b. < $\hat{}\lambda x$ (x Admires x), c >

Understanding (5b) doesn't require this. Thus, (4a) and (5a) differ in meaning, even though they have identical truth conditions.

Fine emphasizes this in contrasting his view with Frege's. Whereas differences in Fregean sense result in different truth conditions, differences in coordination don't.(59) The coordinated proposition < $o\underline{Ro}$ > is *representationally identical* to the uncoordinated proposition < oRo >. Since all objects explicitly represented as bearing a given property or relation by one are so represented by the other, what they explicitly say about which objects bear which properties and relations is the same. In this sense, their truth conditions are identical. They differ only in that grasping < $o\underline{Ro}$ > requires one to recognize that it is true iff o self-Rs, while grasping < oRo > doesn't. Similar points apply to sequences of sentences, and the propositions they express.

### Does Coordination Solve Frege's Puzzle?

According to semantic relationism, (9a) and (9b) mean different things.

9a. Hesperus is Hesperus
  b. Hesperus is Phosphorus

Not so (10a,b) – (12a,b), which satisfy Fine's criterion for being *cognitively different*, even though his semantics assigns them the same propositions.

    10a.  Hesperus is Venus
        b.  Hesperus is Phosphorus


    11a.  Hesperus is larger than Phosphorus
        b.  Phosphorus is larger than Hesperus


    12a.  Hesperus is a planet.
        b.  Phosphorus is a planet.

This is a problem about meaning. There is also a problem about propositional attitudes. Since the (a) and (b) propositions are identical, anyone who believes (asserts) one believes (asserts) the other. It would seem to follow that anyone who believes that Hesperus is Venus, that Hesperus is larger than Phosphorus, or that Hesperus is a planet thereby believes that Hesperus is Phosphorus, that Phosphorus is larger than Hesperus, or that Phosphorus is a planet. Since for Fine it is impossible (coherently and without logical error) to believe both that Phosphorus is a planet and that it isn't, it should also be impossible (coherently and without logical error) to believe both that Hesperus is a planet, and that Phosphorus isn't – which is something that even orthodox Millians can avoid. These problems threaten the idea that coordination provides a genuine solution to Frege's puzzle.

Fine's response to the first problem is that although the (a) and (b) sentences in (10-12) mean the same thing, larger discourses containing them don't. For example, the coordinated sequence of propositions assigned as the meaning of (13a) differs from that assigned to (13b).

    13a.  Hesperus is seen in the evening. Phosphorus is seen in the
           morning. Hesperus is larger than Phosphorus.
        b.  Hesperus is seen in the evening. Phosphorus is seen in the
           morning. Phosphorus is larger than Hesperus.

Later I will examine his response to the problem about the attitudes, which is an extension of this.

## Representational Identity and Epistemic Distinctness?

Let $P_C$ be a coordinated proposition, and $P_U$ be the corresponding uncoordinated proposition. For Fine, any objects explicitly represented by $P_C$ as bearing a given property or relation will be so represented by $P_U$, and vice versa. Since $P_C$ and $P_U$ are representationally identical, they differ only in what is required for believing and bearing other cognitive attitudes toward them. How can this be? A natural thought is that believing either one involves believing things to bear the properties and relations that both propositions explicitly represent them as bearing, while believing $P_C$ also requires believing a certain necessarily equivalent proposition Q. But this is problematic. Let $P_C$ be (4b), $P_U$ be (5b), and Q be (8b). If believing $P_C$ requires believing everything that believing $P_U$ does, then believing $P_C$ is sufficient for believing $P_U$ – and (14b) must be true if (14a) is.

14a. John believes that Cicero admires Cicero
  b. John believes that Cicero admires Tully

Since Fine can't accept this, he can't hold (i) that $P_C$ and $P_U$ explicitly represent the same objects as bearing the same properties and relations, (ii) that believing $P_U$ requires only believing of those objects that they do bear those properties and relations, *and* (iii) that believing $P_C$ requires believing not only this but also something else. The best solution is, I think, to give up the idea that $P_C$ and $P_U$ are not just necessarily equivalent, but also representationally identical.

(15) and (16) raise a related issue.

15a. John is warranted in believing that if he sees Hesperus this evening, he will see Hesperus tomorrow evening.
  b. John would be warranted in believing that if he sees Hesperus this evening, he will see Phosphorus tomorrow evening.

16a. John is warranted in believing that Hesperus is Hesperus.
  b. John would be warranted in believing that Hesperus is Phosphorus.

The (a)-sentences report warranted belief in a coordinated proposition $<\underline{v}R\underline{v}>$, which carries with it warranted belief *that v self-Rs*. But surely, if John can think of v once, and attribute self-Ring to it, he can think of v twice, using different terms 'Hesperus' and 't'. Suppose

he says to himself "Let's see, Hesperus bears R to Hesperus, and so self-R's." Looking up in the evening at Hesperus, he expresses a warranted belief by saying "That's Hesperus" (which is an informative identity with uncoordinated term-occurrences). "So," he says, "Hesperus bears R to that," thereby coming to believe the uncoordinated proposition expressed by the complement of (b). This belief is warranted by whatever warrants believing the original coordinated proposition, plus the warrant, which may be quite trivial, for the claim "That's Hesperus." Given the latter, the truth of (a) guarantees the truth of (b) – essentially trivializing the inference.

## A Possible Response

This problem is related to the earlier worry about attitude ascriptions. Since Fine assigns (11a) and (11b) the same proposition, he seems to be committed to (17).

17. Anyone who believes that Hesperus is larger than Phosphorus believes that Phosphorus is larger than Hesperus.

However, commitment to (17), taken in isolation, does *not* require commitment to the truth of larger discourses containing it. Consider a discourse containing (17) and (17Pre), which may either be explicit, or presupposed as part of the shared information in the context.

17 Pre. Mary believes that Hesperus is visible in the evening, and that Phosphorus is visible in the morning.

The discourse as a whole will be true only if: the sequence (19) gives the content of a coordinated sequence of Mary's beliefs, if (18) does too.

18. $<$Being visible in the evening, $v>$, $<$Being visible in the morning, $\underline{v}>$, $<\underline{v}$, Larger than, $\underline{v}>$

19. $<$Being visible in the evening, $v>$, $<$Being visible in the morning, $\underline{v}>$, $<\underline{v}$, Larger than, $v>$

This condition may fail to be satisfied in a context in which (20a) is true but (20b) isn't.

20a. Mary believes that Hesperus is larger than Phosphorus.
  b. Mary believes that Phosphorus is larger than Hesperus.

The same point applies to (16b) in a context C in which (16Pre) is pre-supposed.

16Pre. John is warranted in believing that Phosphorus is sometimes seen in the morning.

The question of whether (16b) is true in C, given the truth of (16a), might then be reframed as the question of whether the sequence – (16Pre), (16a), (16b) – is true, given the truth of its first two members. Presumably, it is true iff (21) gives the content of a sequence of coordinated beliefs for which John would have warrant.

21. <v, Sometimes visible in morning>, <v̲, Identity, v̲>, <v̲, Identity, v>

Since nothing guarantees that this condition is met, (16a) may be true, and (16b) false, in C.

Although these results are fine, they don't go far enough. In the many discourses in which antecedent assumptions about the agents' beliefs are *not* part of the shared presuppositions of speaker/hearers, utterances of ⌜A believes that S⌝ where S is (10a), (11a), or (12a) will (problematically) express propositions truth-conditionally equivalent to those expressed by utterances in which S is (10b), (11b), or (12b). In addition, the response doesn't include all contexts in which such antecedent assumptions are present. Suppose, in the case of (16), that John once saw Venus in the morning, and identified it as Hesperus. "So, that," he said, pointing at Venus in the morning, "is Hesperus." Suppose further that he wrongly took the body's morning visibility to be a rare event, not realizing that he had observed the object, Phosphorus, regularly seen in the morning. Given this, we can reinstate the problematic derivation of (16b) from (16a), even in a context in which (16Pre) *is* presupposed. In response, the semantic relationalist may appeal to richer contexts with stronger presuppositions. However, even if acceptable results are achieved in many such contexts, he is still saddled with counter-intuitive results in the poorer ones. What's more, when stronger inference-blocking presuppositions are offered, there may be no guarantee that further inference-reinstating elaborations of John's epistemic situation won't (sometimes) be available. Thus, it is doubtful that appealing to discourse will fully resolve the relationalist's problems. Something more than coordination seems to be at work.

## Another Puzzle

Earlier I noted that, for Fine, (12a) and (12b) mean the same thing, and express the same proposition – even though discourses containing them may not. (54-57) If this is so, it would seem that (22) must be true.

22. The proposition that Hesperus is a planet = the proposition that Phosphorus is a planet.

But now consider a context C in which (23) is true.

23. Mary believes (the proposition) that Hesperus is a planet but she doesn't believe (the proposition) that Phosphorus is a planet.

Together, (22) and (23) entail the contradictory (24).

24. There is a proposition p such that Mary believes p and she doesn't believe p.

Presumably this means that (22), and the claim that (12a) and (12b) mean the same thing, must be denied in C. But how can they be, if they are truths of a correct semantic theory?

## Thoughts

The puzzle deepens when Fine criticizes the nonrelationalist for failing to distinguish *the thought that Cicero is an orator* from *the thought that Tully is an orator* – where thoughts are "token beliefs," rather than propositions believed.(74) The alleged problem is that in using these expressions we specify the two thoughts by their contents, which the "referentialist" wrongly identifies. Apparently wishing to distinguish the thoughts by coordination relations their contents bear to the contents of other thoughts of the agent, Fine fails to explain how this is possible, given (i) that the two terms are synonymous when considered in isolation, and (ii) that it's obvious that A's use at t of ⌈B's thought (at t') that S⌉ can successfully refer to a thought the coordination relations of which don't match those of any thought of A at t.

The following remarks reveal a further difficulty.

> There is no more to the content of my belief than there is to the content of my words. I say what I believe. … If this were not so, then … the attempt … to express my belief would always fall short of the full content of what I believe. (76)

For Fine, *what one believes* is the full content of one's "token belief."
The idea is that for every proposition p I believe, there is a unique
token belief state of mine the full content of which is p. But why
should this be so? Suppose I see something o which is presented to me
as red. Although we speak of *my perception that o is red,* we don't
think that o's being red is the full content of my perceptual experience
– which may also represent o as being small, round, etc. If something
similar is true of the relationship between the propositions one believes
and the mental states in virtue of which one believes them, then the ref-
erentialist can explain how the propositional contents of the belief
states underlying an agent's 'Cicero'-remarks differ from those underly-
ing his 'Tully'-remarks, even if many of the individual propositions
believed, and expressed by those remarks, are the same.

In a related criticism, Fine argues that the referentialist can't explain
how "one can learn something different upon being told 'Cicero is an
orator' as opposed to being told 'Tully is an orator'" (78-79). The diffi-
culty is that if these express the same proposition p, then learning p
doesn't always allow one who already knows the proposition expressed
by 'Cicero is Roman' to conclude that Cicero is a Roman orator.
(80-81).

> "In the face of this difficulty, most referentialists would be
> tempted to go linguistic. It would be supposed, in the first
> case, that the hearer knows the truth of the *sentences* 'Cicero
> is Roman' and 'Cicero is an orator.' From these**,** *he infers
> the truth of the sentence* 'Cicero is a Roman orator'; and
> *from this, he then infers, given his understanding of the lan-
> guage, that Cicero is a Roman orator* … [my emphasis] In the
> second case … the corresponding inference … cannot be
> made." (81)

Fine rightly objects to this account. What he fails to see is that the ref-
erentialist does too. Referentialism sees the hearer as reasoning *in* lan-
guage, not *about* language. In the first case, the hearer's premises and
conclusion are propositions expressed by the sentences he accepts, or
comes to accept. As in formal logic, transparent *logical* relations hold-
ing among *sentences* expressing premises and conclusion allow him to
pass from one to the other. By contrast, when he is told 'Tully is an
orator', there are no *logical* relations among *sentences* he accepts that
license accepting *any sentence* expressing the proposition that Cicero is
a Roman orator. Thus, he acquires a non-linguistic belief in the first
case, but not the second, through reasoning that "will present itself to
the hearer as going from the premises that Cicero is Roman and that

Cicero is an orator to the conclusion that Cicero is a Roman orator," rather than as one that makes a detour through premises *about* language (81) Since the point holds no matter whether the cognitive vehicles that express propositions are sentences, or "token thoughts," Fine's criticism misses the mark.

## An Unresolved Tension

Fine distinguishes a "weak *de dicto*" reading of belief ascriptions that is sensitive to coordination from a "pure *de re*" reading that isn't. (103-04) On the former, the truth of ⌈John believes that S⌉ requires the proposition John accepts to be identical with the coordinated proposition expressed by S. On the latter, only referential identity (ignoring coordination) is required. This commitment to the *de re* is problematic.

On the one hand, Fine needs such readings to rescue what would otherwise be incorrect characterizations of certain examples. First, imagine Venus truly uttering (25) to her friend.

25. In the morning, they say, and believe, that *I* am visible only
    in the morning, but in the evening, they say, and believe,
    that *I* am visible only in the evening.

Since her two utterances of 'I' satisfy Fine's criterion for representing Venus *as the same*, the content clauses of (25) must be *coordinated*. But then – since the attitudes being reported are *uncoordinated* – the truth of Venus's remark requires (25) to be *de re*. Next consider

26. *John* fooled Mary into thinking *he* wasn't *John*

in which 'he' is anaphoric on the first occurrence of 'John', which is coordinated with the second occurrence. Since the three occurrences satisfy the stated the criterion of representing their referents *as the same* (p.40), the complement clause must be coordinated, and (26) will be true only if it is *de re*.

On the other hand, *de re* meanings of attitude ascriptions eviscerate the meaning transparency on which Fine's system is premised. Not only are such meanings non-transparent, counter-intuitive Millian results are reinstated – without the mitigating explanations of propositional guises (Nathan Salmon), explicable speaker error (David Braun), or difference between semantic and assertive content (Soames). Since speakers don't recognize attitude ascriptions as having any meanings on which these results are clearly correct, Fine needs

mitigating explanations of his own – raising the threat that, when given, they may undermine his case for semantic coordination. *De re* readings also threaten his account of anaphora, on which readings of (27a,b) that are both *de re* and anaphoric *wrongly* follow from (28a,b).[1]

27a. John believes that *Hesperus* is distinct from *itself*
     (i.e. is self-distinct)
  b. Mary believes that *Cicero* loved *his* mother
     (i.e. was an own-mother-lover)

28a. John believes that Hesperus is distinct from Phosphorus
  b. Mary believes that Cicero loved Tully's mother

---

[1]  The best move for the relationalist is, I think, to reject the *de re*, and to revise the notions of coordination and representing *as the same* so that the term-occurrences in the complement of (26) can be coordinated with the subject of 'fooled' without being coordinated with each other. For discussion see examples (12), (16), (19) and (34) in Soames "Attitudes and Anaphora," *Philosophical Perspectives*, 8, 1994, 251-272.