

Coordination: A Presuppositional Account^{*}

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1. Introduction: The Phenomenon of Coordination

Frege posed his problem of cognitive significance for identity sentences, but, as has been pointed out,¹ this is just a particular case. Sentences with the logical forms $a = a$ and $a = b$ have different semantically significant properties, even when both are true: the former are *a priori* or *analytic* while the latter are not. By “semantically significant” I mean that they are a piece of data for a semantic theory to explain, and thus test for the adequacy of semantic theories (cp. Yalcin 2014). The same applies to a is F and b is F , even when a and b corefer: the former logically and analytically follows from a is F and G , while the latter does not.

Russellian accounts ascribe the same coarse-grained singular contents to the schematic pair of sentences in the previous paragraph. To account for the data, Fregean accounts ascribe to them different, finer-grained contents, individuated by distinct *modes of presentation* indicated by the singular terms. Russellian accounts may also avail themselves of modes of presentation to explain Fregean cases; they are taken to be external to contents, but they play some role in explaining the data in the previous paragraph (see Braun 2017 for a review).

Debates on *coordination* or *de jure coreference* target these issues (cf. Recanati 2016, ch. 1; Gray 2017; and Pryor 2017 for good reviews). Consider first the English sentence (1):

(1) Hesperus is identical to itself.

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¹ Cf., e.g., Heck (2012, 155–156), and references there. But see also Unnsteinsson (2019) for an argument, related to our topic, that the puzzle is ultimately about identity.

The already mentioned sentence (2) adequately formalizes it in a first-order language:²

(2) $a = a$

(1) is thus logically valid in that there is a correct formalization of it in first-order logic that is formally valid (cf. García-Carpintero 2004). This looks like the intuitively correct result. Now, it is a syntactic feature of (2) that it includes expressions of the same type at two different syntactic positions in the sentence's structure. In that respect, it differs from (3):

(3) $a = b$

(3), on the other hand, would count as a correct formalization of, say, (4) below, which is not logically valid because a correct formalization such as (3) is not first-order valid, and no alternative correct first-order-valid formalization appears to exist:

(4) Hesperus is identical to Phosphorus.

All this suggests that what is relevant for determining logical validity, given the expressive conventions of the formal language in which (2) and (3) are couched, is the existence or otherwise of a semantic relation of *anaphoric dependence* of the second occurrence of 'a' in (2) on the first, which in natural languages can be expressed in the same way as in first-order languages, but which, as (1) shows, can also be expressed in alternative ways.

I have made this point with an example involving a reflexive pronoun as our anaphoric expression. There are strict linguistic constraints (articulated in Binding Theory) requiring that reflexives like 'itself' in (1) be interpreted as anaphoric relative to 'Hesperus' and foreclosing that repeating 'Hesperus' could have the same effect.³

² Some philosophers have considered to formalize such sentences as involving only a monadic predication, $F(a)$, ascribing to a the monadic property of self-identity that every object has. This would be appropriate if the reflexive verb didn't refer, as in 'Juan se va.' in Spanish. But it is semantically unwarranted for (1), which has the same logical form as 'John shaves himself.' ('Juan se afeita.' in Spanish.) I use (1) instead of the more common 'Hesperus is Hesperus.' on account of the point in the next footnote.

³ In accordance with Binding Theory, in normal utterances of 'Hesperus is Hesperus' the second occurrence of 'Hesperus' is *not* assumed to be dependent on the first, even if the terms are taken as in fact coreferential. Two different naming practices associated with the expression-type may be assumed, relative to which the identity is asserted: "(that) Hesperus is (that other) Hesperus." Cp. Perry (1988, 242 fn) and Schroeter (2007, 599).

However, the point can also be made by means of examples without this feature. Consider, for instance, (5):

(5) If Hesperus is identical to Phosphorus, then it is visible in the morning.

There is no general linguistic requirement that ‘it’ in (5) be interpreted as anaphoric with respect to ‘Hesperus.’ It is a “pragmatic” matter that it is to be understood in this way in an utterance, or as anaphoric relative to ‘Phosphorus,’ or rather as referring to another, contextually specified object. Still, if the former is the case, (6) is a correct first-order formalization, one counting as valid the inference from (4) and (5) to ‘Hesperus is visible in the morning’:

(6) $a = b \rightarrow P(a)$

The way I understand the issue, what we thus formalize is a “topic-neutral” or “functional” constituent of the expressive means in the sentence—i.e., one with the very general meaning of “logical constants,” in contrast with that of content-words like nouns, verbs and adjectives (cf. García-Carpintero 2004, 2014, 2020a). This topic-neutral component expresses a *semantic* relation of which anaphoric dependence is a particular case: abstract, but not merely formal or syntactic but proprietarily semantic, expressible by different formal means. These days it goes by different names, such as “internal” or “*de jure*” coreference, or (my default choice in this paper) ‘coordination.’ This is the relation among representations that allows for “trading on identity” (Campbell 1987/8, 275–279), encoding the identity of their semantic values.⁴ Coordination is thus a clear-cut *semantically relevant* property, in the sense canvassed above.

As we have seen, the inference formalized as $Fa \therefore Fa$, in contrast to the one formalized as $Fa \therefore Fb$, is valid and non-enthymematic; the suggestion that it is enthydematic—i.e., that there is an implicit third identity premise identifying the referent of the subjects of the other two—would launch us into a regress—cf. Heck (2012, 154–155), and Recanati (2012, 47–50) for recent discussion, and references there. The claim formalized as $a = a$, as opposed to the one formalized as $a = b$, is similarly valid. The coordination relation intuitively manifests itself in an epistemic property in the vicinity of the properties that Frege mentioned,⁵ which different writers have characterized in slightly different terms:

⁴ Perry (1988) and Lawlor (2010) use the first; Schroeter (2007) and Pinillos (2011) the second; Fine (2007 40, 68) uses ‘coordination’ for objects “being represented as the same.” I follow Gray (2017) in using it for the pre-theoretic phenomenon, not for Fine’s proposal.

⁵ Frege mentions *apriority*, but this is puzzling; $9 = 3^2$ appears to have the form $a = b$ (the two expressions have different senses), even though the identity is *a priori*.

First, ... the co-reference strikes you as obvious in the sense that no calculation or reflection is required before you're willing to treat the two uses of 'Bush' as co-referential (contrast: '54 = 7 + 47'). Second, ... the co-reference strikes you as rationally incontrovertible: you couldn't imagine how it could turn out that Bush isn't Bush ... (Schroeter 2007: 600; cf. Schroeter 2012, §1, Schroeter and Schroeter 2016, 197)

... a good test of when an object is represented as the same is in terms of whether one might sensibly raise the question of whether it *is* the same. An object is represented as the same in a piece of discourse only if no one who understands the discourse can sensibly raise the question of whether it is the same. (Fine 2007: 40)

Acknowledging the intuitive relation identified by these epistemic criteria—the one between 'itself' and 'it' and 'Hesperus' in (1) and (5) respectively—does not require the acceptance of a Fregean account. To agree that such a relation obtains and might benefit from some explaining requires only the self-awareness that detects data for semantic theorizing. It is one more fact we have to reckon with in properly accounting for rational assessment and rationalizing explanations of our acts, including mental acts such as judging, deciding or inferring. One can pre-theoretically identify the relation as suggested, and then provide a non-Fregean account.

Thus, Heck (2012) offers a *formalist*, non-Fregean explanation—“formalist” in that it essentially appeals to the sort of “formal” relations modelled for first-order logic in (2) and (6). Heck argues that “the notion of sense is not needed for the solution to Frege's puzzle” (*op. cit.*, 172); as Sainsbury and Tye put it in describing their related view, there is “nothing intensional” in coordination, it is “to be explained by sameness and differences in vehicles of content, rather than sameness and differences in content” (Sainsbury and Tye 2012, 87).⁶ Fine (2007) offers an alternative, non-formalist account, in terms of “semantic (or, more generally, *representational*) requirements,” stating facts “which belong to the semantics of a given language” (*op. cit.*, 50)—the class of facts to be predicted or explained by such theories. The account is nonetheless also meant to be compatible with a Russellian picture, excluding any role for Fregean senses. Pinillos (2011: 317–322) offers a similarly relational account in terms of a primitive relation of “p-linking,” which he characterizes by means of four axioms. In support of Russellianism, he offers an argument against any theory which purports to explain coreference by ascribing a common item to the coreferring terms, be it a Fregean sense, a mental file, or any related object; the argument depends on the fact that such theories would characterize coordination as an equivalence relation, whereas, he argues, it is not transitive.⁷

⁶ Fiengo and May (2006), Pryor (2016), Schroeter and Schroeter (2016), and Almotahari and Gray (2021) argue for similar “formalist” accounts. Recanati (2016, ch. 4) offers a good critical discussion of these views, going into details and complications I cannot examine here.

⁷ Recanati (2012, 104–112), Goodsell (2014: 310), Contim (2016), and Yoon (2021) offer critical discussions; I'll come back to this.

To sum up, there is an intuitive relation of coordination, pre-theoretically characterized by the epistemic features highlighted in the quotations above. Theoretical accounts have been provided, along Fregean or Russellian lines. In previous work (García-Carpintero 2000, 2018, 2021a), I have defended a form of the Fregean picture that I take to successfully resist Russellian arguments. This proposal agrees with Russellians that the content of the assertions made with (1) and (2), and of the attitudes they express, are just singular propositions individuated by the referents of the singular terms. I argue, however, that a full account of the relevant acts requires accompanying reference-fixing acts of presupposing. Both Pinillos (2011: 308) and Goodsell (2014: 296–297) contend that we cannot account for coordination in terms of presuppositions. I believe that their arguments can be answered, and that, properly elaborated to make the needed distinctions, the presuppositional account offers a compelling Fregean explanation.

To defend their views, authors including Recanati (2016) restrict the phenomenon they mean to account for to the specific case of synchronous states/acts of a subject. This may be a helpful explanatory strategy. But it would be a cost for any proposal that it doesn't extend to diachronic representations, or those of different thinkers; for, as I'll show, the intuitive data is equally clearly present in those other cases. In this paper I plan to examine whether to fully explain the coordination relations generating Frege's puzzles we must appeal to Fregean senses. By a "full explanation" I mean the sort of first-personally accurate account of our rational assessments and rationalizing explanations which Fregeans aspire to provide, and which Fine's and Schroeter's quotations above clearly assume in appealing to what "strikes you as obvious" or "rationally incontrovertible," and to whether "one might sensibly raise" a question.

In the next section, I'll outline the presuppositional version of the Fregean account I favor, and I'll explain how it deals with coordination in contrast with formalist and relationalist Russellian accounts (§2). Then I'll address Goodsell's and Pinillos's objections (§3). A full abductive comparison of the Fregean account I uphold with alternative Fregean and non-Fregean accounts cannot be pursued here; what follows is meant as a modest contribution to it.

2. Coordination and Presupposition

I'll start by summarizing a heterodox Fregean account of singular reference that I have defended in previous work (García-Carpintero 2000, 2018, 2021a), on which senses for names and indexicals are articulated in linguistic presuppositions.

I'll first briefly remind the reader of some basic facts about linguistic presuppositions. Although the state of information we end up in by accepting 'John stole the camera' and 'it was John who stole the camera' is the same, these two sentences pack the information they convey in different ways. The second, cleft sentence

presupposes that someone stole the camera, while the former, plainer sentence does not. For present purposes, we can think of presuppositions along the well-known lines that Stalnaker (1978, 2014) has suggested.⁸ Speech acts like assertions take place relative to a *common ground*, a set of already accepted propositions. Linguistic presuppositions are requirements on the common ground, whose satisfaction should be checked at an ideal time just after the utterance is made (because it might well be that it is the utterance itself that generates the common ground information that validates them) but before the resulting assertion is accepted—in which case it then goes to conform the common ground, licensing further presuppositions in the ensuing discourse. The difference between the two sentences lies in the fact that an utterance of the cleft sentence will feel inappropriate (at presupposition evaluation time) if it is not common ground that someone stole the camera—unless this content is “accommodated,” more on this below. But the state of information that we get into by accepting either of our sentences will be the same.

Consider then an utterance of ‘He is hungry.’ The proposal agrees with *direct reference* theorists that the asserted content is a singular proposition, *x is hungry*, for some contextual assignment to *x*. It is expressed, however, in a context in which another singular proposition is presupposed—in this case, one semantically triggered by something akin to a Kaplanian character for ‘he’—which for present purposes I’ll express thus: *x is the male demonstrated with he*,⁹ where the bold-faced ‘he’ refers to the relevant token. These semantically triggered presuppositions are metalinguistic—reflexively picking out the very tokens of the linguistic expressions conveying them. They will typically be supplemented by further pragmatically triggered presuppositions, specifying additional features of the demonstrated referent, perceptually accessible or accessible from previous discourse.¹⁰ (These presuppositions illustrate the point made in the previous paragraph about the time at which presuppositions are to be appraised.) The descriptive identificatory sense embodied in such presuppositions is “reference-fixing” and not “meaning-giving,” in Kripke’s (1980) sense, even though they contribute to the overall meaning of the representational act. In the case of proper names, the presupposition is also metalinguistic; for a proper name *n*, it would be *x is the K-object (for a contextually specified kind K) picked out by the n-naming practice*, where naming practices are individuated by—roughly—a “baptism” episode (García-Carpintero 2018).

⁸ My own views, although strongly influenced by him, differ in important respects (cf. García-Carpintero 2020b, 2021a). I think of speech (and mental) acts, including what I take to be ancillary acts like *presupposing* and *referring*, as constitutively normative; I think of basic presuppositions as constituted by normative requirements that their contents are already known. I also take linguistic presuppositions to be semantically triggered.

⁹ This statement of the presupposition contains another presupposition associated with the definite description, which I do not unpack further for the sake of perspicuity.

¹⁰ Proposals along these lines are quite standard nowadays in formal semantics; cf. Heim (2008), Maier (2010) and Hunter (2013). Maier (2016) extends this sort of account to mental states in a way compatible with my own views mentioned below. Richard’s (2019) account of meaning gives

This is not, it should be clear, a reductive view: far from aiming to reduce singular representational states/acts to descriptive general ones, it assumes primitively singular speech acts and attitudes. The suggestion is just that general descriptive information helping to fix the individuals the utterances are about is a constitutive feature of them. This information figures in associated presuppositions. But the presuppositions are themselves singular, and not just because they may mention singular token representational items; the intended referents, if there are any, contribute to characterizing their contents. Singularity, like presuppositionality, is here understood as a constitutive feature of the representational devices, a “semantic requirement” (Fine 2007) on them—a fact to be embedded in a theory of such representations, which must be grasped for them to be fully comprehended.¹¹

Semantics, Fine (2007, 50) says, “is given by a body of semantic requirements” (50). By this, he just means that the semantics of a given language is not a set of *objective* facts closed under logical consequence, but rather “a body of knowledge that is somehow implicit in the speaker’s use of the language. It is not that he must explicitly know the semantics or consciously apply it but it must at least be possible to see his use of the language as being in conformity with his hypothetical possession of this knowledge” (Fine 2007, 49); cf. Gray’s contribution to this volume for more on this. Fine uses this to motivate a relevance-theoretic notion of *manifest consequence*. This is well taken, but I go beyond him in talking of semantic *requirements* quite literally: we should think of languages, I have argued (García-Carpintero 2021b), as *sui generis normative codes*, like traffic regulations or the rules of a game. The norms in question are the constitutive rules of the different speech acts that languages are meant to allow, assertions, promises, commands, but also ancillary ones like presupposing and referring. I lack the space to go further into this here. Most of what I want to say can be understood without it, by just assuming something like Fine’s (and Gray’s, this volume) inchoate use of “semantic requirement”; but it is an essential aspect of my full picture nonetheless.

This is, in a nutshell, the view I want to defend. As indicated above, I take co-ordination to be a generic relation, of which the relation of anaphoric dependence

prominence to the sort of presuppositions my Fregean view posits, constituting what he calls “interpretive common ground”: “When a speaker speaks, she makes presuppositions that she expects her audience will recognize as made, ones she expects the audience will have ready for use in making sense of what she says. Some such presuppositions are tied to particular words and accompany their use. [...] For some such presuppositions, it will be common ground in a linguistic community that speakers make them and expect that to be recognized by their audience” (Richard 2019, 3). I am more sanguine than he is about capturing with such notions not just (against Quine and his followers) a scientifically important notion of meaning, but also one of analyticity together with it. And my normative stance would smooth away many serious wrinkles in his descriptive view, I think. My views owe much to Richard’s earlier discussions of these topics.

¹¹ Singular representations thus understood may fail to have an object; there are, e.g., singular presuppositions associated with singular terms in fictions that are merely pretend. Our theoretical claims are to be understood as made in the framework of a free logic.

illustrated by (1) and (5) is a particular case.¹² It is very abstract, expressed for items in many semantic categories, simple and complex, not just singular terms: general terms like nouns, verbs and adjectives, verbal and noun phrases, also prepositions and conjunctions, and, indeed, sentences themselves: *p, therefore p* is a valid transition that “trades on identity”—on the identity of the semantic values of sentences. It is the sort of “topic-neutral” feature expressed by what linguists call *functional* (as opposed to *lexical*) items like auxiliaries, suffixes, prefixes, or morphosyntactic features like mood.

Coordination is commonly expressed by formal relations, like the relation among token expressions of being of the same type; but the latter doesn’t suffice to express it, and it doesn’t need to be expressed that way, as (1) and (5) show.¹³ It is non-symmetric (as anaphoric dependence shows) and, as indicated below, also non-transitive. Although not reducible to them, it can be grounded on formal relations like type-identity: “the semantic relationship—of representing-as-the-same—might hold in virtue of a syntactic relationship—of the name being the same” (Fine 2007, 41). This is crucial for my account, which may otherwise create a regress. The two singular propositions expressed in an utterance of ‘He is hungry’ that I mentioned above, the “at issue” and presupposed contents, are coordinated because the vehicles indicating the object that they both are about are not just type-, but token-identical.¹⁴ But the relation of coordination itself is semantic—just like the features indicated by topic-neutral expressions like ‘some’ and ‘or’ (García-Carpintero 2004, 2014, 2020a)—in that it should be countenanced by any decent semantic theory of a natural language to meet its explanatory goals. Focusing on the case of coordination expressed by anaphoric dependence, as I’ll do here, is helpful to argue for this because it is relatively clear-cut to analyze it as a lexically triggered presupposition, which there are good independent reasons to count as semantic.

My proposal for the sort of coordination found in cases of anaphoric dependence like (1) and (5) is then straightforward. It was anticipated when the account

¹² I take the view I defend to be very close in substance to Evans’s (1980).

¹³ Cf. Fine (2007, 41), Pinillos (2011, 310–311), and Gray (2017, §4.1) for related points against “formalist” accounts. Both on relationist and Fregean accounts, coordination is “representationally encoded,” as Goodman and Gray (2022, 211) aptly put it.

¹⁴ A reviewer with “formalist” allegiances argues as follows: “While one can give a “same level” analysis of coordination as a personal level phenomenon in terms of presuppositions, someone who is interested in the *fundamental ground* of the *most fundamental instances* of coordination on which others asymmetrically depend (synchronous same-subject cases, I assume, see §3) will end up having to appeal to something like the identity of some “transparent” non-semantic entity, for which coordination problems simply do not arise. In the presuppositional account, this seems to be the role ultimately played by token-identity of the vehicle(s) of the two sorts of contents invoked. If that is so, there is *some* sense according to which coordination is ultimately grounded in formal identity by the presuppositionalist’s lights.” I grant all this; I’d just insist that the personal-level, properly semantic aspect of the explanation cannot be overlooked, see the discussion below in the final paragraphs of this section about “mental files” as subpersonal implementation of personal-level representations, and the comparison with Fine’s views.

was introduced with the case of a demonstrative use of ‘he’ above, which was said to presuppose *x is the male demonstrated with he*. As said, I take the determinable “demonstrated” to have the case in which it is the linguistic context that helps picking out the referent as a determinate. The relevant presuppositions are hence in these cases twice metalinguistic; they reflexively pick out the referring token, and the one on which it is anaphoric in addition. If the use of ‘he’ is anaphoric on σ , the presupposition can be articulated as *x is the male demonstrated with he, picked out by σ* .¹⁵ For proper names, the fact that the presupposition described above mentions a specific naming practice already takes care of coordination, which my account hence defines thus:

(CP) Expressions μ and σ are coordinated iff they jointly trigger the presupposition that μ and σ corefer, if any of them does refer.¹⁶

Fine (2007, 3) characterizes his account as positing “irreducible semantic relationships ... not reducible to the intrinsic semantic features of the expressions between which they hold.” Intrinsic semantic properties include for him relational ones; for instance, the property of referring to, or being true of Venus. What distinguishes intrinsic and extrinsic semantic properties is, he says, that the former, unlike the latter, “do not concern its semantic relationship to other expressions” (Fine 2007, 22). By this characterization, the account just outlined would count as a form of relationism. But, like Gray (2017, §2), I take it to be too weak to distinguish the specificity of the account that Fine puts forward and his claims about it. “Intrinsic” properties by Fine’s lights correctly include monadic properties derived from relations by plugging relata for all arguments but one, like *referring to o* or *expressing sense μ* (these are Fine’s examples). Why shouldn’t the monadic relational property mentioned in the previous paragraph count? My general proposal is a form of Fregeanism that posits finer-grained contents for utterances with names and indexicals than Russellians do, affording “modes of presentation” of or “perspectives” on referents (García-Carpintero 2000, 2018). The extension to anaphoric demonstratives is consistent with this. As understood here, demonstratives can be incorporated in a compositional semantics assuming *general compositionality* (Pagin and Westerståhl 2010) without raising any differential problems, as the referenced formal semantics implementations show; again, the extension to anaphoric demonstratives doesn’t

¹⁵ As Sandro Zucchi reminded me, these expressions have—systematically and across languages—in addition to deictic and anaphoric uses others in which they are bound by quantifiers; it is generally agreed that a good semantic account should cover all of them uniformly, cf. García-Carpintero (2021b, §3). This might be achieved if the presuppositions for anaphoric uses are determinates of a determinable condition that the semantic value of the dependent expression be appropriately related to the one on which it depends. Developing ideas in Heim and Kratzer (1998), Stojnić (2021) offers a formalized account in terms of a generic notion of *prominence* that applies also to bound uses.

¹⁶ Coreference is made conditional on reference because there can be coordination involving nonreferring expressions like ‘Vulcan’; more on this below.

raise specific issues. But it is notoriously unclear whether Fine's relationalist account can be embedded in a compositional semantics (Gray 2017, §4.2). Our disagreement may perhaps ultimately be terminological (cp. Pryor 2017, 1051–1052), but Fine's (2007, chs. 2–3) anti-Fregean stance makes this doubtful.

A similar issue arises with respect to Schroeter and Schroeter's account. As said above, they take the phenomenon of coordination we are investigating to be personal-level; any subpersonal mechanisms underwriting it, they say, gives rise "to a specific epistemic signature at the conscious level" (Schroeter and Schroeter 2016, 197). This "signature" is the "appearance" of coordination, the "*subjective appearance of guaranteed sameness of topic*" (Schroeter and Schroeter 2016, 197). This appearance concerns the semantic value of expressions; for the anaphoric case, it may just be the conscious manifestation of the sort of presupposition that my account posits.¹⁷

Now, Schroeter and Schroeter contend that, unlike "standard ways of understanding Fregean cognitive significance," their notion "does not assume that the appearance of *de jure* sameness is explained by a match in the reference-fixing criteria associated with token words or elements of thought" (Schroeter and Schroeter 2016, 197). But the Fregean account I have outlined takes the presuppositions that I think the relevant "appearances" manifest to be the crucial reference-fixing criterion, and they don't need to "match." Schroeter and Schroeter assume that, as Almotahari and Gray put it, "[o]ne thing that all Fregeans have in common is that, whatever they think MOP [modes of presentation] are, they understand coordination as sameness of MOP" (Almotahari and Gray (2021, 1263). This may be so on "standard" versions of the Fregean picture; as we will see, Pinillos's (2011) anti-Fregean arguments depend on precisely this assumption. But the Fregean view I have outlined rejects it in general. The assumption is true for the case of proper names, but the mode of presentation for the dependent anaphors above differs from that for the expressions on which it depends. Quite in general, and despite Evans's (1985) famous attempt, it is difficult to see how reasonable, explanatory modes of presentation can be ascribed to indexicals compatibly with that "Fregean" assumption (which Frege himself also famously rejected, at least for first-personal reference),¹⁸ so it is defeatist to accept it. My disagreement with the Schroeters may thus also be terminological. As with Fine, however, their general anti-Fregean stance makes it more natural to think that I am putting forward a third view in between their "matching" and ".binding" models, consistent with fundamental Fregean tenets.¹⁹

Parallel issues to those we are discussing arise for the case of thought; here I'll focus on the linguistic case, but the view I advance can be easily extended to

¹⁷ As a reviewer pointed out, this raises concerns about the relations between personal-level accounts and phenomenal consciousness, which cannot be addressed here.

¹⁸ Gray (2020, §5) and Almotahari and Gray (2021, §5) mention the case of *de se* thoughts to question that Relationalism can provide a general account of coordination.

¹⁹ Cf. Gray (2020, 2022) for discussion of varieties of Fregeanism and Relationalism. Gray (2020, 81; 2022, 435) shares the "standard" or "traditional" assumption about Fregeanism I have dismissed, and

thought, with background beliefs playing there the role of linguistic presuppositions. In the linguistic case, entities corresponding to senses along the lines I understand them are reified as “discourse referents” or “roles” (Maier 2010, 2016; Cumming 2014). Corresponding items in the mental case are reified as “mental files” (Recanati 2012, 2016). The notion can be understood as a helpful but non-explanatory metaphor (Goodman and Gray 2022) for cognitive items that get and lose pieces of information as the inferences that “trade on identity” exemplified at the outset proceed. Or, more ambitiously, as a theoretical posit in sub-personal psychology (Clarke 2016, 355), for psychologically real structures that ground those inferential dispositions. Pryor (2016) offers what is to me the best abstract characterization of mental files thus understood; among other virtues, his account nicely captures cases in which relations are predicated of items picked out by different files. As Clarke (2016) points out, however, even on the stronger interpretation files don’t fully explain coordination, because this is a personal-level phenomenon with normative aspects: it is typically rational to go along with the relevant dispositions, although, as we will see, the entitlements they thus provide are defeasible. The personal-level normative presuppositional attitudes my account posits are meant to capture this.²⁰

These are, in summary, the main features of the account of coordination I am advancing here: (i) it rejects formalism; accounts like Pryor’s (2016) are at best good procedural implementations of the personal-level representational processes truly defining coordination. Such subpersonal implementations don’t “screen off” the personal-level explanations, as can be shown, along the lines that Almotahari and Gray (2021) pursue to defend their own proposal, by deploying Yablo’s (1992) notion of “proportional” explanations. (ii) Unlike relationist accounts such as Fine’s (2007) and Pinillos’s (2011), it doesn’t posit compositionality-compromising holistic relational meanings. (iii) The view is Fregean in a clear-cut sense, but it doesn’t necessarily explain coordination in terms of *sameness of sense*, or by positing a “third object.”

3. Objections to Presuppositional Accounts

Pinillos (2011, 308) and Goodsell (2014, 214–217) question accounts not unlike CP, with considerations that Pryor (2017, 1036) endorses; Goodsell substitutes

hence my view doesn’t fit what he calls “Strict Fregeanism” (Gray 2022, 438). But it doesn’t seem to fit either his “Minimal Fregeanism” (Gray 2022, 439). His taxonomy comes from a “reverse engineering” strategy of working out characterizations of Fregean views as “that which relationism reject” (Gray 2022, 437), and, in spite of his own misgivings mentioned in the main text, in these papers he works with Fine’s excessively broad characterization of relationalism. This may explain the difficulty of fitting forms of Fregeanism like mine into it.

²⁰ Clarke (2016, §3) offers an account that appears consistent with the view on offer here.

“assumed” for “presupposed” coreference, but the account she offers is along the Stalnakerian lines that I espoused above. In my view, their arguments depend on two questionable assumptions, about (i) presuppositions, and (ii) coordination. Regarding (ii), the problematic assumption is the notion that coordination requires knowledge of (conditional) coreference: “Any competent speaker who fully understands [(1)/(5)] will know of the underlined occurrences that if they manage to refer, then they refer to the same thing (Pinillos 2011, 305).²¹ Similarly, on Goodsell’s (2014, 309) preferred account, two terms are coordinated just in the case that “a competent language user who fully grasp(s)” the discourse in which they occur “immediately know(s) *a priori*” that they corefer if they both refer.²² Contim (2016, 373) also makes knowledge of conditional coreference, understood in a stronger way (see below), a test for coordination and a necessary condition in his account (Contim 2016, 380). However, as shown below, these are not constitutive features of coordination; Fine’s and Schroeter’s intuitive descriptions of the phenomenon in the quotations in §1 (as both would agree) characterize an appearance that only putatively constitutes knowledge.

Regarding (i), the problematic assumption about the nature of presupposing is explicitly stated here: “just saying that the speaker presupposes that A and B corefer isn’t enough to establish that A and B are known to be coreferential if they refer at all … what is presupposed in conversation, even if true, need not be known by the participants” (Pinillos 2011, 308). I have already indicated that a knowledge requirement on what I take to be presupposed in coordination is too strong; as I’ll explain momentarily, it is just *correctly presupposing* that may have a knowledge requirement. Now, it is quite true that, in general, correctly presupposing *p* doesn’t require knowing *p*; expressions trigger their standard presuppositions in fiction, for instance, or otherwise on contents that are merely imagined, conjectured or supposed. If we aimed for a characterization of presupposition generally applying to all cases, we should need to appeal to some technical notion like Stalnaker’s (2002) “acceptance.” However, this need not be the best strategy. Analogously, we (literally) use sentences in the declarative mood to do all kind of things, including guessing, supposing, and perhaps fiction-making. We would have to concoct something very weak if we tried to state a normative condition covering all those acts.

A more promising strategy is suggested by Williamson (1996). As I interpret it (cf. García-Carpintero 2021b), the idea is to assume that there is an interesting

²¹ Pinillos’s account of coordination posits a primitive relation, *p-linking*, which he characterizes by means of four axioms. The first states the alleged fact of conditional coreference that is said to be known by competent speakers in the quotation, so I reject it for reasons given below.

²² Recanati (2016, 17–20) endorses Pinillos’s and Goodsell’s epistemic condition. Pryor (2017, 1055) expresses qualms about it but, in my view, he goes too far in separating semantic from epistemic issues; semantics involves epistemic conditions, if properly stated along the normative lines described below.

“natural” (social) kind indicated by default by the declarative mood, “flat out” assertion; to offer a substantive account of it—on Williamson’s view, in terms of a constitutive knowledge norm; and then to try to understand the other acts that we literally perform with declaratives as departures from the default in different directions. I have defended to do the same for presupposing (García-Carpintero 2020b) and advanced a constitutive *common knowledge* norm for “flat out” presupposing.²³ If this is correct, the presuppositions involved in “flat out” coordination cases would have to be (commonly) known by competent speakers; hence knowledge of (conditional) coreference is required of them. This, however, is not to embrace Pinillos’s and Goodsell’s claims on (ii). Both (flat out) asserting and presupposing *p* can occur even when their constitutive norms are violated—say, when *p* is false; what is constitutive of them is that such occurrences would be wrong. Coordination can occur on the present view when the coordinated items fail to corefer, even if either (or both) of them refer. It is just that the linguistic performance is wrong insofar as that is the case, and constitutively so (García-Carpintero 2022).

Pryor (2017, 1036) mentions as counterexamples to presuppositional accounts sentences like (7), which Evans (1980) invoked against accounts in fact very unlike the one I am providing:

(7) Cicero was too proud to admire other people, but Cicero admired him (pointing at a bust of Marcus Tullius Cicero), so he (still pointing) must be Cicero.

There may well be an intuitive sense of ‘presuppose’ in which, in uttering (7), the speaker is “presupposing” that the underlined items corefer (if they refer). This would be problematic because they clearly fail the intuitive characterization in Fine’s and Schroeter’s quotations in §1. But that is not the sense of ‘presuppose’ I am deploying here. As indicated, the presuppositions CP relies on are meaning-constituting; the underlined indexicals, however, are deictic uses of demonstratives, and hence the reference-fixing presupposing material determining the determinable described in the previous section is afforded by the perceived situation in both cases. One may worry how we distinguish meaning-constituting presuppositions from others. This is a metasemantic issue, about which I’ll say something more below. But let me say at this point that a crucial factor is given for our cases by the intuitions that the quotations by Fine and Schroeter gesture at, absent when it comes to (7). Invoking them is of course not circular; I am just assuming that the theoretical account CP explains them, and hence, in good cases, when present they reveal the presuppositions the account posits, and when absent their absence.

²³ I use this as a partial reason to modify Williamson’s epistemic norm for assertion, making it a social knowledge-transmission norm, cf. García-Carpintero (2020b).

Let's consider now Goodsell's (2014) argument. Like Pinillos, she claims that "assumed coreference" is weaker than (as they call it) *de jure* coreference. She compares (8a) and (8b):

(8) a. I've friends in Chicago, so I was delighted when I found cheap flights to the Windy City.
 b. I've friends in Chicago, so I was delighted when I found cheap flights there.

She says this about them: "In both (8a) and (8b), the occurrences of the underlined NPs assumedly corefer. But in (8b) and not (8a), the occurrences seem to be guaranteed to corefer (if they refer at all)—simply because of the linguistic rules concerning anaphora. In contrast, in (8a) it is merely common ground that the occurrences corefer, and this assumption may not be correct (as in example III)" (Goodsell 2014, 297). Her example III is a confusion case, for present purposes identical to one of Lawlor's (2010, 488) that I'll use instead:

(9) a. Wally, pointing to Udo: He needs a haircut.
 b. Zach, meaning to agree but looking at someone else: He sure does.

Zach's demonstrative is naturally taken to have its reference fixed in a complex way; it is meant to be anaphoric on Wally's, but it is also understood to have its reference fixed by Zach's deictic intentions—or the deictic gesture implicit in the direction of his gaze, his attention, or in general what he "has in mind." It is a metasemantic issue which of these are reference-fixing in the circumstances, see below. If both presuppositions are reference-fixing, on a standard view on presupposition reference fails for Zach's 'he,' but not for Wally's. On a natural interpretation (see below), the conditional coreference claim then fails, and thus it cannot be known.

On Goodsell's view, this means that we don't really have coordination in this case. Now, for all the speaker knows "immediately *a priori*," the same can obtain in (8a). For this is a case like one in which the author of a biography of Wittgenstein, not to bore her readers with too many repetitions of the name, uses at some point 'the author of the *Tractatus*' as anaphoric on previous uses of the name. We cannot rule out "immediately *a priori*" that, unbeknownst to the author (and to us!), Wittgenstein in fact didn't author the book. (8a) is complicated by flaunting a description that has "grown capital letters," which share traits with proper names and with descriptions proper (Rabern 2015). On Rabern's (2015) metalinguistic account, the description in (8a) means *the item bearing the name 'Windy City'*. If this is so, as in the Wittgenstein case we can envisage a situation in which the name in fact applies to some other city and hence we are mistaken in thinking that the item in question is Chicago.

So far, so good. The problem with Goodsell's argument, however, is that the contrast she sees between (8a) and (8b) doesn't exist. In the quotation above, Goodsell says that in (8b) coreference is guaranteed simply by "the linguistic rules concerning anaphora," while "in contrast," coreference in (8a) depends on what is contextually assumed. This may suggest that the sort of coordination she is characterizing should be determined by the standing meaning of expression-types—the "character" they have prior to contextual specification. On this strict view of "linguistic rules," at most the sort of coreference indicated by reflexives, as in (1), might fit the bill,²⁴ and even this is doubtful, because I think we can also reproduce for them confusion cases like the ones we are considering. But perhaps Goodsell has a more liberal understanding of linguistic rules. Quite rightly, she wants her account to "be used to define *de jure* coreference ... even across multiple constructions or constructions uttered by different speakers" (Goodsell 2014, 309). This suggests that examples like (5), where coreference is indicated by merely contextual features, are expected to be encompassed; (8b) is in fact a similar case. The problem for Goodsell then is that it is easy to produce (9)-like confusion situations, analogous to those suggested for (8a). Just imagine that (8b) is uttered by the speaker while she excitedly flashes the tickets she just bought, which are quite evidently for New York.

What this shows, I think, is that the impression of (conditional) coreference in the intuitions described by Fine and Schroeter in §1 are (as they both would agree) in general just appearances that may fail. As I have indicated, the CP account does characterize coordination in terms of knowledge of conditional coreference in central "flat out" cases, because of an epistemic normative condition on flat out presupposing; but we may have coordination without knowledge when the norm is not met. Note that the mere possibility of the envisaged confusion scenarios doesn't imply that knowledge (even "immediate" and "*a priori*" in some sense) of conditional coreference is absent in normal cases. Among other options, as Clarke (2016, 359) suggests, we can adopt the epistemic "dogmatism" advocated by Pollock (2001) and Pryor (2000), on which the impressions afforded by correct understanding are enough to ground (analytic) knowledge in the absence of defeaters, without the need to gather evidence to rule out the scenarios.

As anticipated, those who define coordination as knowledge of conditional coreference have some room for maneuver—cf. Goodsell (2014), Contim (2016), Recanati (2016), and Yoon (2021). In the first place, although I haven't so far emphasized this, the condition can be understood in two ways: that some term refers—which leaves open that one doesn't; or that both refer. The latter entails the former, but not the other way around; as a result, if understood in the former way the conditional has more restrictive truth-conditions. Recanati (2016, 26,

²⁴ Recanati (2016, ch. 4) has a good discussion of these issues.

40) claims that they characterize not just two different notions of coordination, but two varieties thereof: a “strong” and a “weak” one, respectively, both with intuitive support and appropriate to characterize certain cases. Secondly, we could take different views about confusion cases. We can say that the confused use fails of reference, or we can say that it only fails of *determinate* reference, while still “partially” or “indeterminately” referring to each candidate; and there are further possibilities (Goodsell 2014, 300).

Pinillos (2011, 315) uses examples like (10) to argue against “third object” accounts of coordination like standard Fregean accounts or unadorned mental files views:

(10) We were debating whether to investigate both *Hesperus*₁ and *Phosphorus*₂;
but when we got evidence of their true identity, we immediately sent probes
there_{1,2}.

The subscripts indicate the anaphoric relations that Pinillos intends. The argument is in a nutshell that “third object” accounts are transitive; but if ‘there’ is truly anaphoric on both ‘*Hesperus*’ and ‘*Phosphorus*,’ such accounts would make them, after all, coordinated—against what seems reasonable to accept. In response, Goodsell (2014) and Contim (2016) bring out formally identical cases in which the stated identity is confused and, playing with the leverage afforded by the two features in need of elaboration mentioned in the previous paragraph, they argue that Pinillos’s argument that transitivity fails for coordination is at the very least inconclusive; in a more recent discussion, Yoon (2021) reaches a similar conclusion.

Recanati (2012, 2016) agrees that weak coordination is not transitive, and develops the mental files account to deal with this. He insists, however, that synchronous strong coordination is transitive (2016, xiv), and can be accounted for by the standard mental files Fregean framework. He also argues that knowledge of the strong conditional claim is safe, which he thinks is required in proper Fregean accounts. This is because they are meant to explain the attitudes of rational thinkers, and he thinks they should hence secure “transparency,” which for coordination cases amounts to having the relevant knowledge: “Since *de jure* coreferential relations are an aspect of meaning, it seems that they must be transparent to the language user. It must not be possible for the language user to be mistaken as to whether or not the relevant coreference relations hold” (Recanati 2016, 17–18; cf. Recanati 2021 and his contribution to this volume for extended discussion).

Fregeans shouldn’t espouse Recanati’s transparency requirement, I think (Ball 2015, 362–366). Although I cannot go into this here, in my view a proper defense of a priori knowledge based on analyticity requires extending to it the fallibilist view familiar for empirical knowledge; understanding-based appearances may fail, or even when they don’t, may be defeated. Moreover, as several authors have

argued (Schroeter 2007, 2012; Lawlor 2010), Recanati's strategy of isolating some central cases (synchronous judgments or inferences, made by fully competent psychologically apt thinkers) for which strong coordination obtains fails: even under such conditions there are cases where weak conditional coreference fails. As said, it is a metasemantic question which potentially reference-fixing material is doing the work in particular cases. I find it quite plausible that, as Schroeter argues, there are synchronous confusion (9)-like situations for which the correct diagnosis has it that, while Wally's 'he' refers to Udo, Zach's demonstrative has its reference fixed deictically and hence succeeds in referring to the person he is attending to, so that even weak conditional coreference fails in such a case.²⁵

Is this consistent with the presuppositional account I have provided? The impression of coreference is still present in those cases, and I have explained it as the presupposition that Zach's 'he' corefers with Wally's. But then the presupposition should contribute to reference-fixing, and reference should fail, shouldn't it?²⁶ This argument, however, overlooks an important distinction. Consider this variation on a famous example from Keenan: "It was not John who stole the camera, it was not Mary who stole it, it was not Alex who stole it ... in fact, I do not know that anybody stole the camera." This is sometimes described as "presupposition cancellation" or "suspension," but this should be qualified. Given that the presuppositions of it-clefts are conventionally triggered, they cannot be contextually cancelled the way that conversational implicatures in principle can. As Chierchia and McConnell-Ginet (1990, 314–315) put it, the speaker rhetorically contradicts the (non-cancelled) presupposition for the purposes of challenging and changing the contextual assumptions. The way I propose to elaborate on their suggestion (García-Carpintero 2020b, 2021b) is this. We should distinguish a semantic, *locutionary* indication of a force and a content, from the *illocutionary* presence of the corresponding act. Both the malapropistic utterance of 'The vote was anonymous.' and an ironical utterance of 'John is the most loyal friend.' locutionarily convey (let's say) flat out assertions of the corresponding contents; but the speakers are not truly (illocutionarily) committed to them. Analogously, in the Keenan-like example the utterances locutionarily convey the relevant presuppositions, but the speaker is not really making them.

In the Keenan-like cases, it is the intentions of the speaker that establish that she is not committed to the locutionary presuppositions. Other cases, I suggest, admit similar diagnoses, albeit the situation may be less transparent to speakers. I think we should treat Donnellan's "the man over there drinking martini" case in this way. If it is a semantic affair that the description is used referentially, on my view reference is locutionarily fixed by the descriptive content and hence it fails. The impression that it picks out a referent after all is explained because what is taken for granted as truly, illocutionarily doing the reference-fixing job is a weaker

²⁵ Cf. the discussion in Schroeter and Schroeter's contribution to this volume, §5.

²⁶ Thanks to François Recanati for extended discussion of these issues over the years.

condition that is also typically present in ordinary, successful cases, “the man *who appears to be* drinking martini”; when no repair of this sort is apparent (‘the little green man over there drinking martini’), we do have the intuition that reference fails. A similar treatment can be given for ‘He [pointing to a dog] is frolicking—yes, “he” is, but “he” is a she.²⁷

My proposal is thus that, in those cases where even weak conditional coreference fails, the presupposition that CP posits is still locutionarily there; this explains the impressions that Fine and Schroeter use to characterize the intuitive notion of coordination, present in them. In some cases, however, the best metasemantic account of what is going on establishes that they are not illocutionarily present; whatever they may feel, speakers are not really committed to the norms constitutive of presupposition, and weak coreference fails. As suggested, ordinary speakers need not be fully aware of this, which is a theoretical claim: it is just that this is the best explanation of what is going on, all things considered. Or so I suggest.²⁸

Unlike Recanati’s, this proposal doesn’t posit two “forms” of coordination, which is a cost for any account. CP uniformly characterizes the intuitive notion by means of the stronger notion of conditional coreference. The way I feel it, my impressions of coordination are the same in diachronous as in synchronous cases, in intrapersonal and extrapersonal cases.²⁹ Moreover, the impression intuitively feels disproved both when I have the inclination to judge that the two terms refer, albeit to different entities, and also when I judge that one refers and the other fails to. Of course, these are just my impressions, but this is the data that we have to go on. This is the sort of thing that should be investigated by X-philosophers, and I hope that it will be.

What about transitivity? At least in some cases, I feel as agreeing with Pinillos’s intuitions about (10)-like cases in which a term is coreferential with two uncoordinated terms, such as the pronoun in (10), or some of Pinillos’s “slash” terms (*Robert Zimmerman, aka/alias Bob Dylan*), cf. Goodsell (2014), Contim (2016), Yoon (2021) for discussion. But as I have emphasized, my account doesn’t really posit “third objects,” so it is not subject to Pinillos’s objections. Is not the account I have provided committed to transitivity at least for cases involving proper names, and couldn’t it then be questioned by “slash term” cases? If we stick just to the

²⁷ García-Carpintero (2020b) offers this Lewis-inspired “repair” account of the phenomenon that Lewis (1979) called *accommodation*, as in cases of informative presuppositions (“Bring me the potato chips bag in the kitchen.”) in which the presupposition is not shared but nothing untoward is felt. The cases in the main text instantiate I think the same phenomenon.

²⁸ Yoon (2021, 2269–2270) provides an alternative account of why the weak conditional coreference condition might fail in Lawlor’s (9) case, and an account of Pinillos (10)-like cases that also makes use of an unconventional notion of accommodation. As a reviewer helpfully reminded me, here the restriction to linguistic cases of coordination is not innocuous; it is at the very least not immediate how to extend these accounts to corresponding cases for mental states. I cannot address here this well-taken objection as it deserves.

²⁹ Goodsell concurs in a quotation I offered above.

strong conditional coreference that CP deploys, and we adopt the treatment of ‘Madagascar’-like cases I have advocated (García-Carpintero 2018, §4.1, cf. also Contim 2016, §5 and Schroeter and Schroeter, this volume), there might also be failures of transitivity for names.³⁰

4. Conclusion

In this paper, I have outlined the “metalinguistic presupposition” semantic account of reference-fixing I have defended in previous work, and I have shown how it easily adapts to deal with coordination, providing a uniform account of the epistemic intuitions that several authors have advanced to characterize the intuitive phenomenon. Then I have argued that objections to inchoate presuppositional accounts by Pryor, Goodsell, and Pinillos can be resisted if taken to be addressed to it, and I have argued that the account deals well with debates about the transitivity and transparency of coordination.

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³⁰ The story is supposed to have gone as follows: Europeans pick from locals the name ‘Madagascar’—used by them for the portion of the African mainland to which ‘Mogadishu’ (which apparently comes from the same source) refers to—to refer to the island, while intending to preserve its reference. On my account, the process leads to the inadvertent creation of a new, successful naming practice for the island, after a period of indeterminate reference-failure uses. We can then find chains whose first term refers to Mogadishu, the third to Madagascar, while the second fails to refer. The metaphysics of the mental files that can be taken to implement coordination relations might perhaps be understood as suggested by Prosser (2020).

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