

Minimal Fregeanism

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Abstract

Among the virtues of Relationist approaches to Frege's puzzle is that they put us in a position to outline structural features of the puzzle that were only implicit in earlier work. In particular, they allow us to frame questions about the relation between the explanatory roles of *sense* and *sameness-of-sense*. In this paper, I distinguish a number of positions about that relation which have not been clearly distinguished. This has a few payoffs. It allows us to shed light on recent controversies about the 'essential indexical'. And it also allows us to see what's at stake between Relationists and their opponents. When we see what's at stake, we can see that we have reason to adopt an account of cognitive significance that incorporates elements of both Relationist and Fregean approaches.

Relationism is a relatively recent approach to Frege's Puzzle. When it's discussed, it typically follows a familiar statement of the puzzle, appearing as one option among a few others. This is unfortunate, because it obscures one of the most attractive features of Relationist ideology: that it enables a more perspicuous understanding of the challenge posed by Frege's Puzzle. The first goal of the paper is to show that the Relationist challenge to Fregeanism, properly developed, allows us to see contours to the debate about cognitive significance that have previously been obscured. One upshot here will be a new perspective on the relation between Frege's Puzzle and puzzles about essential indexicality. The second goal is to argue that once we see those contours, we have reason to adopt a picture of cognitive significance that incorporates elements of both Relationism and Fregeanism.

1 Frege's Puzzle and Coordination

Frege's Puzzle surfaces in different domains. I'm concerned here with the propositional attitudes. The puzzle starts from the suspicion that the referential content and force¹ (*i.e.*, belief, desire,

¹I will mostly suppress reference to force. Take it as given when I say, e.g., that cognitive significance isn't determined by referential content, what I mean is that cognitive significance isn't determined by force and referential content.

etc) of an attitude doesn't determine its cognitive significance. By the 'referential content' of an attitude, we mean the way that the attitude portrays properties and relations as distributed over objects.² By the 'cognitive significance' of an attitude, we mean the role that an attitude can play in certain explanations.³

When I speak of 'explanation', here and below, I am speaking in a metaphysical, rather than epistemological, register. I assume that token attitudes—or mental events consisting of the tokening of an attitude-type—cause other mental events, actions, *etc.* So when I talk about the explanatory role of a token attitude, I'm speaking of the place that a mental event can occupy in a certain kind of dependence relation. My target is not the semantics of attitude ascriptions, or the practice using attitude ascriptions to make behaviour intelligible.

No doubt the two questions—how behaviour depends on attitudes, how speakers describe that dependence in language—are intimately connected. The kind of realism that I'm assuming about the attitudes fits most naturally with the idea that when speakers explain behaviour using natural language attitude ascriptions, they are often tracking genuine patterns of dependence. And I will rely, below, on 'ordinary' judgments about what an agent's attitude-state would, or would not, give them a reason to do, in this or that circumstance. So I don't pretend that questions about the two senses of 'explanation' are disconnected. But the assumptions I make, and the position I arrive at, are consistent with a range of positions about the semantics and pragmatics of ascriptions.

The cognitive significance of a token attitude, as we're understanding it, is the role that it can play in a certain kind of explanation. What I have in mind here, in particular, is *rationalizing psychological explanation*; for example, the explanation of what people do in terms of their beliefs and desires, what they come to think in virtue of their evidence, what they say in terms of what they believe, *etc.* Roughly speaking, what is characteristic of this kind of dependence is that the outputs are assessable as reasonable or unreasonable relative to the inputs. I won't offer a theory of rationalizing explanation here. But I will register that I'm assuming that one goal of theorizing about the attitudes is to characterize the properties of token attitudes that figure in these patterns of dependence.

Having clarified these points, we can return to the thought that Frege's Puzzle starts from the suspicion that the referential content of an attitude doesn't determine its cognitive significance. The token belief that I would express with 'Hesperus is Hesperus' and the token belief that I would express with 'Hesperus is Phosphorus' differ in their explanatory role. (Going forward, I will drop

²Take this idea in an imprecise, theory-neutral way. Given a theory of the attitudes, we might have to do some work to identify *the* referential content of an attitude. On some approaches, attitudes have more than one kind of content that can be characterized truth-conditionally (e.g., (Perry, 2001), (Chalmers, 2002)). But in these cases, it's clear which level to treat as referential content in the sense that is relevant.

³This is, perhaps, a slightly unorthodox use of this expression 'cognitive significance', which is often applied to sentences, or utterances, rather than attitudes. I take the use I put it to here to be a natural extension of the expression. But, to reiterate, the topic here is the attitudes. Questions about the cognitive significance of sentences will be left to the side.

the formulation: ‘the token belief that I would express with ...’ . For ease of exposition, I will simply speak of ‘my belief that Hesperus is Phosphorus’ *etc.* Please take that as shorthand for the more cumbersome formulation.⁴). My belief that Hesperus is Phosphorus is part of the explanation of why I called the astronomical society to report a startling discovery. My belief that Hesperus is Hesperus did not, and could not, play that role. The challenge is to characterize the representational features of attitudes, beyond their referential content, that determine their cognitive significance.

We might worry that this way of putting things smuggles in too much: why assume that it’s a *representational* feature of an attitude that bridges the gap between reference and cognitive significance? Let me admit, in response, that I’m using ‘representational’ with a sense such that *any* feature of a token attitude that determines how it can participate in rationalizing explanation is a representational feature (for me, it’s true by *definition* that rationalizing explanation subsumes token attitudes in virtue of their representational features).

The alternative would be to work with some more substantive notion of a representational feature—one that would leave open for debate whether rationalizing explanation subsumes attitudes in virtue of their representational features. I’ll explain why this alternative route isn’t appealing for my purposes. First, non-descriptive forms of Fregeanism will be important below. And substantive characterizations of ‘representational’ are liable to exclude non-descriptive senses by *fiat*. It’s better to cast a wide net. Note that our topic isn’t linguistic meaning or the semantics of attitude ascriptions. So calling something a representational feature of an attitude, in our sense, doesn’t commit one to holding that *sentences* have analogous representational features.

More importantly, this choice doesn’t prevent us from framing genuinely non-terminological issues. For example: *does* rationalizing psychological explanation appeal to features of token attitudes beyond their referential content? It’s possible to hold that it doesn’t. We might have principled reasons to reject our initial characterization of Fregean examples. A pure Russellian about the attitudes would hold that the only property of an attitude that plays a role in rationalizing explanation is its referential content.⁵ Pure Russellianism doesn’t deny that token attitudes have properties distinct from their referential content. It only holds that those properties are not involved in rationalizing explanation. Rationalizing explanation, on this view, is indifferent to the existence of Frege cases: the cognitive difference between coreferential attitudes is only relevant to some other kind of explanation (perhaps purely functional explanation) (Fodor, 1995, pg. 47).

I won’t argue against pure Russellianism here. So it’s best to think of what follows as an intra-

⁴On some theories of the semantics of ‘belief’, the English noun phrases ‘my belief that Hesperus is Hesperus’ and ‘my belief that Hesperus is Phosphorus’ refer to the same token attitude. I wish to remain neutral about this question. That is why I’m asking for the reader to interpret ‘my belief that Hesperus is Phosphorus’ as shorthand for ‘the token belief I would express with “Hesperus is Phosphorus”’. I take it to be uncontroversial that ‘the token belief I would express with “Hesperus is Hesperus”’ and ‘the token belief I would express with “Hesperus is Phosphorus”’ can refer to distinct token states. Thanks to a referee for raising this issue.

⁵This view is defended in (Fodor, 1995), (Schneider, 2005), (Almotahari & Gray, 2020), and, arguably, in (Braun, 2000, 2001).

mural dispute between kinds of non-Russellianism. But I will highlight another, more immediately relevant, way that the dialectic below is substantive, despite the capacious sense of ‘representational’. The issue below is the relation between monadic and relational representational features. And whatever one calls the non-referential features of attitudes that play a role in rationalizing explanation, a version of this issue will arise. We might posit, for example, *guises* as features of token attitude states. We can still ask, for example, whether the particular guises employed in an attitude state are relevant to rationalizing explanation or, in contrast, whether all that is relevant is patterns of sameness or difference of guise. That is a substantive question, whether or not we call guises ‘representational’ features. So, even though they might balk at my use of ‘representational’, theorists who eschew senses but allow that guises (or notions, symbols in a language of thought, or whatever) make a difference to rationalizing explanation will face the issues discussed below.

One final point of clarification: I will argue below that cognitive significance is not exhausted by attitude content, as content is understood by Russellians and certain Relationists. But we should not take this to be, by itself, an argument against those conceptions of content. It is a further question, one that will not be addressed here, whether the extra features of cognitive significance motivated here ought to be conceptualized as part of the content of the attitudes, on some proprietary sense of ‘content’. And so the argument below is consistent with those conceptions of content.

The Fregean solution to Frege’s Puzzle is familiar: posit two layers of content. Each representation, in addition to denoting its referential content, expresses a sense. Two representations can share referential content while differing in sense. The cognitive significance of a representation is determined by its sense. Resist, for now, the temptation to ask what senses are. We can get a picture of the issue between Fregeanism and Relationism without saying anything about senses.

The focus of disagreement between Fregeans and Relationists is the nature and explanatory status of *coordination*. Coordination is a relation that can hold between representations of the same object. Roughly put, two representations are coordinated when the identity of their referents is ‘*directly encoded*’ in their representational features. ‘Direct encoding’ of coreference contrasts with explicit representation of identity.

Certain forms of rationalizing explanation require certain patterns of coordination. As an example: my belief that Hesperus is visible and my desire to see Hesperus jointly explain my looking towards the heavens. This kind of explanation requires that the two representations of Venus in those beliefs are coordinated. My belief that Phosphorus is visible couldn’t play the same role in conjunction with my desire to see Hesperus because the representations of Venus in those two attitudes are not coordinated.

There may be forms of explanation—of say, communication or joint action—that require coordination across subjects. So we need a notion of coordination that applies interpersonally. In that context, similar questions to the ones we raise below will arise (see, *e.g.*, (Cumming, 2013a) and

(Onofri, 2017)). But our focus here will be on intrapersonal coordination (and, in fact, synchronic intrapersonal coordination).

So Frege's Puzzle and coordination are intimately related. One way that two attitudes with the same referential content can differ in cognitive significance is by being coordinated with different further attitudes and thus being able to participate in different coordination-requiring explanations. And for traditional Fregeans coordination is internally connected to the individuation of senses. This is a locus of disagreement between Fregeans and Relationists. Putting it vaguely for now, the issue between Fregeans and Relationists is how coordination is related to other representational features.

2 The Landscape

The first thing I'll argue is that the Relationist challenge to Fregeanism illuminates the space of possible accounts of cognitive significance.

2.1 Relationism

Relationism is a relatively recent approach to cognitive significance.⁶ In slogan form, where Fregeans posit representational properties, Relationists posit representational relations. The Relationist family of approaches can be characterized with two theses, each of which is in need of precisification. The first is a positive thesis about the explanatory role of coordination.

Cognitive Significance as Coordination Differences in cognitive significance between attitudes with the same referential content are explained by coordination.⁷

The idea is that coordination can do the explanatory work that Fregeans want sense to do. Relationists hold that the difference in cognitive significance between two attitudes that share referential content is explained by differences in the way that elements of those attitudes are coordinated with elements of other attitudes.

As an example, this thesis holds that to explain the cognitive difference between my belief that Hesperus is Hesperus and my belief that Hesperus is Phosphorus we need not appeal to a difference in sense between my Hesperus-representations and my Phosphorus-representations; we need only appeal to the fact that the two representations of Venus are coordinated in one belief, and are

⁶(Putnam, 1954), (Fodor, 1990), and (Fiengo & May, 2006) might be called *proto-relationist*. I would classify (Taschek, 1995, 1998), (Fine, 2007, 2010), (Pinillos, 2011, 2015), (Heck, 2012), (Schroeter, 2012), and (Pryor, 2016b) as Relationists proper. For an overview, see (Gray, 2017).

⁷The imprecision in the thesis makes it difficult to cite definite precedents. After all, Fregeans themselves acknowledge the relevance of coordination. I limit myself to citing theorists who express scepticism about the explanatory value of sense considered as an 'intrinsic' representational feature or who posit an explanatory level where appeal to coordination predominates: (Fodor, 1990), (Richard, 1990, 1986, Chp. 3-4), (Taschek, 1995), (Taylor, 2003), (Sainsbury, 2005, 2002), (Fine, 2007, esp. Chp. 2-3), (Heck, 2012, esp. section 2-3), (Cumming, 2013a,b).

not coordinated in the other. Relationists extend this style of explanation to cognitive differences that depend on coordination *between* attitudes. So the cognitive difference between my belief that Hesperus is beautiful and my belief that Phosphorus is beautiful would be explained by the fact that the representations of Venus in those two beliefs are coordinated with the different further representations of Venus.

The other Relationist thesis is a negative claim about coordination.

Relationism about Coordination Coordination isn't determined by the sameness of (or resemblance between) intrinsic representational features. Coordination is an irreducibly relational representational feature.⁸

How to interpret talk of 'intrinsic representational features' will be a theme in what follows. Fine introduces intrinsic representational features by contrasting them with relational ones. Relational representational features 'concern' relations *between* representations (2007, pg. 22). The synonymy of two representations is a relational representational feature in this sense. Intrinsic representational features are non-relational; they don't concern relations between representations. So, for example, the *reference* of an expression is an intrinsic representational feature in this sense. But intrinsic representational features are not, in principle, restricted to reference and related properties. Senses, if there are any, are intrinsic representational features.

Relationism about Coordination should be understood against the background of the Fregean approach to coordination. Coordination is the direct encoding of coreference. For the traditional Fregean, this encoding happens at the level of sense. In particular, for traditional Fregeanism, coordination is *sameness* of sense. For the Relationist, coordination is not sameness of sense. It is an irreducibly *relational* representational feature. How, then, should it be understood? We find two related models in the literature. Fine (2007; 2010) treats coordination as semantically-required coreference. He treats semantic facts as bodies of semantic requirements. Those bodies are not closed under logical consequence. So the fact that two representations are semantically required to corefer is not determined by the fact that each refers to the same thing. Taschek (1995; 1998), generalizing an idea from (Putnam, 1954), treats coordination as a feature of 'global logical form'. The idea is that the semantic features of a representation, for example its inferential role, depend on its logical form (for example, that it is properly schematized with the re-occurrence of a term in certain positions). Logical form is *global*, for Taschek, in that the logical form of a body of representations is not fixed by the logical forms of its elements, considered individually. On either model, coordination is an irreducibly relational representational feature.

⁸See (Taschek, 1995, pg. 83), (Fine, 2007, pg. 42), (Pinillos, 2011), (Heck, 2012, esp. pg 144-5), (Schroeter, 2012), (Pryor, 2016b,a), (Goodman & Gray, 2020).

2.2 *Strict Relationism*

The Relationist theses need precisification. *Relationism about Coordination* can be precisified by giving an account of intrinsic representational features. I'll do that below. *Cognitive Significance as Coordination* can be precisified by being explicit about its *scope*. The way it's framed above suggests that Relationists hold that *every* cognitive difference between attitudes with the same referential content is explained by coordination. But this isn't clear. Fine's central focus is on accounting for the cognitive difference between attitudes expressed with coreferential proper names. Less attention is paid to demonstrative or indexical attitudes.⁹ So it isn't clear what he is committed to with respect to those issues.

I'll use 'Strict Relationism' as a name for view that gives a maximalist interpretation to *Cognitive Significance as Coordination*. Strict Relationism holds that there is nothing to cognitive significance beyond reference and coordination.

Strict Relationism Rationalizing explanation appeals only to attitude-force, reference, and coordination.

Strict Relationism is the total repudiation of sense. We shouldn't think of any Relationist as determinately committed to it. At the same time, though, we shouldn't think any Relationist as determinately rejecting it either. The question isn't often explicitly framed. An exception is (Heck, 2012, pg. 161). But even once Heck explicitly frames it, they are non-committal.

2.3 *Fregeanism*

The Relationist challenge is simple: why should we think that the *relations* that are relevant to rationalizing explanation are determined by the *properties* that are relevant to rationalizing explanation? If we accept the idea that there is nothing incoherent in the idea of an irreducibly relational representational feature, we're left with two questions: Are there any such features? And, if so, how much work can they do?

With this in mind, I'm going to suggest that we can reverse-engineer Fregeanism: we can think of Fregeanism as *that which Relationism rejects*. Or, more carefully, we can think of different varieties of Fregeanism as characterized by the acceptance or rejection of (interpretations of) the Relationist theses. I don't claim any historical accuracy for this idea, nor any fidelity to the self-conception of recent self-described Fregeans. I'm offering it as a new way to see the structure of the issues. The justification for this reorientation will come from the illumination it provides. We'll see that is very natural to think of (at least a certain class of) extant Fregean approaches in this way.

⁹Fine briefly discusses the first-person pronoun (2007, pg. 124). What he says there—that uses of 'I' are coordinated with experiences 'of oneself'—seems to presuppose a non-relational account of the nature of first-person experience.

So we'll think of Fregeanism—as a family of approaches—as the rejection of Strict Relationism.

Fregeanism Rationalizing explanation appeals to a representational feature of attitude states distinct from their force, reference and coordination.

Call this putative feature—the representational property possessed by attitudes in addition to their reference and coordination relations—sense. We have yet to say anything substantive about what senses are. But this is enough to get a contrast off the ground with Strict Relationism.

I'll pause here for a reminder: because of the capacious sense of 'representational' at issue here, this use of 'sense' and 'Fregeanism' is potentially misleading. If Strict Relationism is false, all that follows is that rationalizing explanation appeals to a feature of token attitudes beyond reference and coordination. It doesn't follow that this extra feature is part of the 'content' of the attitudes in some stronger sense (as the traditional Fregean maintains), rather than a feature of guises, notions, *etc* (as a certain kind of Russellian will insist). So this taxonomy will count certain theorists as Fregeans who would not appreciate the label. With apologies to them, I use the label for two reasons. First, though I won't argue for it, I take the alleged difference here to be largely terminological. Second, the picture of cognitive significance that I develop is inspired by non-descriptive Fregean approaches.

2.4 *Strict Fregeanism*

We characterized the family of Fregean approaches in terms of the rejection of a maximalist interpretation of *Cognitive Significance as Coordination*. We can use *Relationism about Coordination* to characterize varieties of Fregeanism. The rejection of Strict Relationism is consistent with both the acceptance or rejection of *Relationism about Coordination*.¹⁰

On our taxonomy, if we reject Strict Relationism we thereby hold that (at least some) mental representations have senses. This is to say that they have representational properties distinct from reference and coordination. It doesn't commit us to anything about those senses; in particular it doesn't commit us to any thesis that links the distribution of senses to coordination. Let's call the kind of Fregeanism that accepts the Fregean picture of coordination 'Strict Fregeanism'.

Strict Fregeanism Representations r_1 and r_2 are coordinated if and only if the sense of r_1 = the sense of r_2 .

¹⁰We're characterizing what it might mean to hold that the coordination of two representations is determined by their 'intrinsic representational features'. Let's get one kind of interpretation out in the open so that we can ignore it. Someone might interpret the Fregean as holding that the 'intrinsic' features of a representation are those features that it possesses independently of its relation to other representations. This would be to treat the Fregean as a metasemantist atomist. I'm not aware of any Fregean who takes on a position like this. And it's not plausible on its own merits. Note that *reference* isn't plausibly an intrinsic representational feature, in this sense.

This characterizes a family of views; it doesn't say what senses are, it adds a structural constraint on their distribution.

2.5 Minimal Fregeanism

Taxonomizing the positions in this way allows us to see the space for another, non-traditional, form of Fregeanism. Let's call the position that accepts Fregeanism and *Relationism about Coordination* 'Minimal Fregeanism'.¹¹ It accepts that senses exist, but denies that sense determines coordination.

Minimal Fregeanism Rationalizing explanation appeals to a representational feature of attitude states distinct from their force, reference, and coordination; but that feature doesn't determine coordination.

This position holds that representations have *sense* and that representations can be coordinated, but that these two representational features make structurally independent contributions to cognitive significance.

3 Determination

The clearest way to see the relation between these positions—I will rely on this later in giving an argument for Minimal Fregeanism—is to note that they differ with respect to what representational features fix the total representational state of an agent's attitudes.

We'll say that two attitude states are *coordinatively-isomorphic* if they involve the same attitudes towards the same referential content, coordinated in the same way.¹² Recall that Strict

¹¹I'm not completely happy with this name. The position stands in the same relation to Strict Relationism as it does to Strict Fregeanism. So it could just as easily be called 'Minimal Relationism'. And the name has already been used in the literature. (Speaks, 2015) uses 'Minimal Fregeanism' for a version of Strict Fregeanism that I would prefer to call 'Fregean Quietism'; this view holds that there are senses, but there is nothing informative to say about what they are beyond the individuation conditions we can characterize using the intuitive criterion of difference (this might be the best way to think of the view in (McDowell, 1977)). Sainsbury uses 'Minimal Fregeanism' too (he also talks about 'pared down Fregeanism'; I'm not sure whether they are the same view). Some of what he says about it suggests he has in mind something like Strict Relationism (Sainsbury, 2005, pg. 15). But his overall approach might be more in line with McDowell (see, e.g., (Sainsbury, 2003, pg. 15)). Having said that, and with apologies to Speaks and Sainsbury, I couldn't think of a better name.

¹²This informal characterization elides a distinction. There is a weaker relation: attitude states B and B' are coordinatively-isomorphic *iff* there is a bijection, f , from B to B' such that *i*) for every $b \in B$, b and $f(b)$ have the same referential content and force and *ii*) for every $b_1, b_2 \in B$, b_1 and b_2 are coordinated *iff* $f(b_1)$ and $f(b_2)$ are coordinated. And there is a stronger version that replaces *ii*) with: for every $b \in B$ and every representation r (which may or may not be in B), b and r are coordinated *iff* $f(b)$ and r are coordinated. The weaker condition only requires that the internal coordinative structure of B is mirrored in B' . The stronger condition requires that all B 's coordinative links are shared by B' . (This distinction corresponds to the distinction that Fine draws between weak de dicto and strong de dicto readings of attitude ascriptions.) The distinction is mostly irrelevant in what follows. Because we are focusing on forms of rationalizing explanation that do not require coordination across subjects—we're leaving aside questions about joint action and communication—it's plausible that what matters is the internal coordinative

Relationism holds that that all there is to cognitive significance is reference and coordination. It follows from Strict Relationism, then, that if distinct subjects have coordinatively-isomorphic attitude states they will be indistinguishable from the perspective of rationalizing explanation. Cognitive significance would supervene on coordinated referential content.

Conversely, if we're Fregeans—if we reject Strict Relationism—we hold that cognitive significance doesn't supervene on coordinated referential content.¹³ Fregeans hold that subjects with coordinatively-isomorphic attitude states are not necessarily indistinguishable from the perspective of rationalizing explanation. They may differ in terms of which senses are associated with which attitudes.

We can also define the idea of attitude states being *intrinsically-isomorphic*: two attitude states are intrinsically-isomorphic if they involve the same attitudes towards the same referential content with the same distribution of senses over those contents. Recall that Strict Fregeanism holds that sense determines coordination. It is the mirror of Strict Relationism: it entails that if two subjects have intrinsically-isomorphic attitude states then they are indistinguishable from the perspective of rationalizing explanation.

Finally, Minimal Fregeanism holds that sense and coordination make structurally independent contributions to cognitive significance. So it holds that neither coordinatively-isomorphic nor intrinsically-isomorphic attitude states are indistinguishable. Coordination and sense can vary independently.

4 Sense

This way of conceptualizing the issues—reverse-engineering Fregeanism as the rejection of Strict Relationism—allows us to offer a general characterization of the (or at least 'a') notion of sense. We characterized sense as the representational feature that explains how the cognitive significance of an attitude state exceeds what is determined by reference and coordination (if cognitive significance does exceed that). This is a minimal and unfamiliar way of thinking about sense. So before we evaluate whether there are senses, construed in this way, we'll think more about what things would be like if there were. My contention, which space will allow me to only partially defend, is that many extant approaches to sense fit this mould. The discussion will serve, at the same time, as an explication of the idea of an 'intrinsic representational feature', as it appears in *Relationism about Coordination*. My goal in this section is to clarify the notion of sense sufficiently to allow

structure of an agent. But the Strict Relationist, strictly, holds only that agents who stand in the stronger relation are in the same attitude state. See note (18) for one place where this might make a difference. Thanks to a referee for raising this.

¹³This is slightly too quick. This only holds if we assume that sense, itself, doesn't supervene on coordinated referential content. It would be a strange form of Fregeanism that posited senses, but held that they were determined by coordinated referential content. But see the discussion in §6.

us to see what Relationists and Fregeans ought to be arguing about.

To that end, we'll develop a simple framework for modeling how representational features work in rationalizing explanation.¹⁴ Think of the form of rationalizing explanation as follows.

$$(1) \quad I_1 \dots I_n \rightarrow O$$

$I_1 \dots I_n$ are input states; O is an output state. It doesn't matter what kinds of states can be the inputs or outputs to rationalizing explanation, except, of course, that token attitude can be. Recall we're assuming that rationalizing explanation subsumes token attitudes in virtue of their representational features.

Consider an example: I believe that Hesperus is beautiful, call this belief B_1 ; B_1 is part of the explanation of why I intend to look towards the heavens in the evening (call this intention E).

$$(2) \quad I_1^e, \dots, B_1, \dots, I_n^e \rightarrow E$$

$I_1^e \dots I_n^e$ are the other things, in addition to that belief, that are part of the explanation. It doesn't matter what they are for now.

Suppose, additionally, that if I hadn't believed that Hesperus is beautiful, and instead believed that Phosphorus is beautiful, call that belief B_2 , holding everything else about my cognitive situation fixed—in particular, holding fixed $I_1^e \dots I_n^e$ —I wouldn't have looked towards the heavens.

$$(3) \quad I_1^e, \dots, B_2, \dots, I_n^e \not\rightarrow E$$

So B_1 and B_2 have different roles in rationalizing explanation. So, by our lights, they differ in their representational features. Given they have the same referential content, we must appeal to coordination or sense to capture their difference.

If Strict Relationism is true, the only thing to appeal to is coordination: B_1 and B_2 can only differ *relationally*, in terms of which other attitudes they are coordinated with. So the cognitive difference between them must bottom out in the presence or absence of token attitudes with which one member of the pair is coordinated and the other is not.

Perhaps that's the right thing to say about this case. Maybe the crucial fact is that $I_1^e \dots I_n^e$ contain attitudes with constituents that are coordinated with constituents of B_1 . An obvious candidate would be a belief with the referential content that Venus appears in the evening, in which the Venus-constituent is coordinated with the Venus-constituent of B_1 .

So if we imagined a more complete permutation of my cognitive state, not just trading B_1 for B_2 , but also trading any of the other inputs that is coordinated with B_1 for a referentially equivalent attitude that is coordinated with B_2 , we would have a cognitive state that would rationalize intending to look towards the heavens.

¹⁴The discussion in this section builds off (Gray, 2020) and was inspired by (Ninan, 2016).

$$(4) \quad I_1^{e'} \dots, B_2, \dots, I_n^{e'} \rightarrow E$$

Here $I_1^{e'} \dots I_n^{e'}$ are permutations of the original inputs, in which attitudes coordinated with B_1 are replaced with referentially-equivalent attitudes coordinated with B_2 (for example, the belief that Hesperus appears in the evening is replaced with the belief that Phosphorus appears in the evening). The crucial point is that the explanations in (2) and (4) are isomorphic.

Fregeanism, as we're understanding it, is just the denial of Strict Relationism. If senses exist, they are representational features that allow coreferential attitudes to differ in cognitive significance—that is, allow them to differ in what rationalizing explanations they can participate in—in a way that doesn't bottom out in what other attitudes they are coordinated with. So this gives us a clearer grip on what the Fregean is committed to and what sense is. She is committed to the existence of representational features, and corresponding forms of rationalizing explanation, that *do not fit the pattern exemplified in (2)-(4)*.

To see how this works, let's look at a particular account of sense. In the non-descriptive Fregean tradition, theorists have posited *perceptual demonstrative senses*.¹⁵ Roughly, the idea is that the fact that attitude about an object is governed by a perceptual relation is registered in its cognitive significance. Given that standing in such a relation to an object is *not* a matter of having certain coordinated attitudes about it, the explanatory role of these senses won't fit the Strict Relationist pattern.

An example: I see an apple, a , in front of me, and form a token belief on the basis of that perception that a is tasty. Call that belief B_3 . B_3 is part of the explanation of why I form the intention to reach out my right hand to grasp the apple (call that intention R).

$$(5) \quad I_1 \dots, B_3, \dots, I_n \rightarrow R$$

Suppose, additionally, that if I didn't have a perceptual belief that a is tasty, but instead had formed a testimonial belief with the same referential content—call this B_4 —holding everything else fixed, I wouldn't have formed the intention to grasp a . (To fill in the case: my eyes are closed, and a friend says to me 'I call my favourite apple, "Crunchy". Crunchy is tasty.' Unbeknownst to me, Crunchy is directly in front of me. I don't reach for Crunchy.)

$$(6) \quad I_1 \dots, B_4, \dots, I_n \not\rightarrow R$$

B_3 and B_4 differ in cognitive significance. It's open to the Fregean to claim this isn't just because B_3 is coordinated with attitudes that B_4 is not. Part of the cognitive significance of perceptual demonstratives senses, for the non-descriptive Fregean, lies in their connection to perception and

¹⁵See (Evans, 1982, chp. 5), (Evans, 1985), (Peacocke, 1981), (Campbell, 1987), (Recanati, 2012), (Dickie, 2015, chp. 4).

action. And this connection isn't supposed to be fully explained by the presence of propositional attitudes *about* the perceived object and its relation to the perceiver. Perceptual demonstrative senses are partly constituted by a subject's 'pre-conceptual' abilities to track an object in perception and to act on the basis of that tracking.¹⁶

The Fregean claim is that there is no permutation of the inputs in (6) that would allow B_4 to participate in an explanation that is isomorphic to (5). If we tried the same trick we did with (2) and (4), and swapped out $I'_1 \dots I'_n$ for inputs that differ only in that coordination links to B_3 are replaced with coordination links to B_4 , we would still have a state that wouldn't explain R .

$$(7) \quad I'_1 \dots, B_4, \dots I'_n \not\rightarrow R$$

Note that the claim is *not* that B_4 could never be part of an explanation of R . It's only that it couldn't play the structural role that B_3 plays in (6).

This is very abstract. We haven't said anything about *why* the permutation in (7) fails. In a sense, this is fine for our purposes. I'm not, in this section, trying to establish that there *are* senses. I'm only trying to establish what things would look like if there *were*. But a little speculative detail will help bring this into view. The non-descriptive Fregean holds that even if I had beliefs on the basis of testimony about, say, the location of the apple relative to my limbs, and these beliefs were coordinated with B_4 , that wouldn't be enough to generate an isomorphic explanation of my reaching. Either such beliefs were no part of the original explanation in (6)—because the perceptual character of my belief makes beliefs about locations otiose—or their addition wouldn't suffice to generate an explanation in (7)—because I need more than just beliefs *about* locations in order to act on them, I need those beliefs to be 'wired' in the right way to perceptual channels. Perceptual demonstrative attitudes are supposed to guide reaching behaviour in some more intimate way than beliefs formed by other means can.

I've been focusing on perceptual demonstrative senses because they offer a clear way into these issues. Though space doesn't allow me to defend it, I'll register my contention that other extant approaches to sense will fit the structure just characterized: they posit representational features that are not preserved under coordinative-isomorphism. For example, the role of primary intensions in (Chalmers, 2002) will have this structure (consider: my 'water'-attitudes and my 'H₂O'-attitudes might be coordinatively-isomorphic, yet the difference in primary intensions between 'water' and 'H₂O' is supposed to explain why certain 'water'-conditionals are *a priori* for me when the corresponding 'H₂O'-conditionals are not). Similarly, the kind of practical modes of presentation posited in (Stanley, 2011) and (Pavese, 2015) are supposed to have an explanatory relevance to action that isn't determined by coordinated referential content.

¹⁶See (Evans, 1982, chp. 5), (Evans, 1985), (Peacocke, 1981), (Campbell, 1987), (Campbell, 2002, Chp. 5), (Dickie, 2015, chp. 4). See (Scholl, 2001) and (Pylyshyn, 2007, chp. 2) for an overview of the empirical results that some Fregeans take to be relevant here.

So we have sharpened our understanding of what Strict Relationism and Fregeanism are disagreeing about. I have not yet argued for the existence of senses. But we now have a tolerably clear idea about what they would be like if they did exist. A clear enough idea, in fact, to argue both that they do exist, and that their distribution doesn't determine coordination.

5 Against Strict Relationism

The plausibility of Strict Relationism depends on whether there is more to cognitive significance than coordinated referential content. Or, alternatively: whether agents in coordinatively-isomorphic attitude states are indistinguishable from the perspective of rationalizing explanation. There are different ways that one could argue against Strict Relationism, corresponding to different views about the explanatory role of sense.¹⁷ The simplest route, and the one most likely to convince the unaffiliated, runs through considerations that are typically discussed in the literature under the heading of 'essential indexicality'.

Imagine a variation on a case from (Perry, 1977): Smith is being attacked by a bear, while Jones looks on. Smith curls up into a ball. Jones shouts at the bear to scare it away. We can imagine filling out the details such that Smith and Jones are in states that are coordinatively-isomorphic in the relevant domain: each desires that Smith not be harmed, believes that Smith is in danger, *etc.* So from the perspective of the Strict Relationist, they are in the same attitude state.¹⁸ But their attitude states rationalize different things: Smith's state gives her a reason to roll into a ball. Jones's states give her a reason to shout. So Strict Relationism is false.

That was very quick. How might the Strict Relationist respond? I'll consider four options.

First, perhaps we were too quick to assume that Smith and Jones would be in attitude states that were coordinatively-isomorphic in the relevant domain. We have tried to proceed without making too many assumptions about *which* attitudes rationalize each's behaviour. Perhaps we've overlooked a crucial asymmetry.

The challenge here is to find attitudes that are relevant to Smith's rolling into a ball and such that we cannot imagine duplicating them in Jones without altering the contrast at issue. For example, Smith might have beliefs she would express with 'If I roll into a ball I'll remain unharmed' and

¹⁷Though it is only implicit, the discussion in (Gray, 2020) can be read as an argument that considerations internal to Relationists own examples—in particular, the coherence of the kind of 'mirrored'-perceptual situations discussed in (Austin, 1990), (Fine, 2007), and (Pryor, 2016b)—can be used to argue against Strict Relationism. Those situations are only intelligible if Strict Relationism is false.

¹⁸This is one place where the distinction between the weaker and stronger versions of coordinative isomorphism might be relevant (see note (12)). If we employ the stronger notion, Smith and Jones would be in the same attitude state only if their attitudes are coordinated with each other. There is no barrier to this, given Fine's characterization of interpersonal coordination. We need only imagine that Smith takes her attitudes about herself to be strictly coreferential with her utterances of 'I' and that Jones takes her attitudes about Smith to be strictly coreferential with Smith's utterances containing 'I'. That is enough, in Fine's system to ensure that their attitudes are coordinated with each other. And stipulating this doesn't change the contrast at issue in this case.

‘I’m able to roll into a ball’. And these beliefs are plausibly part of the explanation of why she rolled into a ball. But we could easily imagine Jones having beliefs she would express with ‘If Smith rolls into a ball she will likely remain unharmed’ and ‘Smith is able to roll into a ball’. The presence of these beliefs wouldn’t rationalize Jones rolling into a ball. So once we expand our view to include them, Smith’s and Jones’s attitudes would be isomorphic in the relevant domain and would still rationalize different actions.

This process might continue: the Strict Relationist offering other potentially relevant attitudes for Smith and the objector mirroring them in Jones. We can skip to the end of the process and imagine that Smith and Jones believe and desire all of the same referential contents (and do so isomorphically). This wouldn’t change the fact that they still occupy different perspectives. Here we have reached Lewis’s (1979) two gods, without the omniscience. The two gods have completely isomorphic attitude states. Lewis focuses on their referential omniscience and argues that they are still ignorant of an important fact. We can focus on their coordinative-isomorphism and note that were one of them attacked by a bear, they would have reason to act in different ways. So this strategy won’t help the Strict Relationist.

The second response is to appeal to coordination with content-bearing states that are not attitudes (this response is based on discussion in (Heck, 2012, pg. 161)). One option here is to hold that attitudes can be coordinated with perceptual representations. The Strict Relationist could conceive of the situation like this: Smith’s attitudes are coordinated with Smith’s perceptual representations (most relevantly, her attitudes about the bear are coordinated with her visual representations of the bear); Jones’s attitudes are coordinated with Jones’s perceptual representations. Given that Smith and Jones will have different perceptual representations—they have a different perspective on the scene of the attack—we can explain the difference in their behaviour in terms of those differences.

Without an account of the nature of perceptual content, it is hard to evaluate this move. In particular, in what sense are Smith’s and Jones’s perceptual states supposed to *differ* in their content? On some views in this areas, their perceptual states will differ in their *indexical* content.¹⁹ And if this is the case, the Strict Relationist has not solved the problem but merely relocated it.

Moreover, we can re-imagine the case to remove the temptation to appeal to perceptual differences. Imagine that Smith and Jones are blindfolded in the woods. Stipulate that they are in coordinatively-isomorphic attitude states. A silent bear approaches. A friend, watching, tells them ‘Smith is about to be attacked by a bear’. Smith forms a belief that she would express with ‘I’m about to be attacked by a bear’. Jones forms a belief that she would express with ‘Smith is about to be attacked by a bear’. Smith rolls into a ball. Jones shouts. Neither is in any perceptual state that is relevant to their situation. The intelligibility of each’s behaviour doesn’t require any such

¹⁹This isn’t an uncommon claim about perception—see the discussion in (Siegel, 2016).

difference. So the difference in their behaviour must be explained by a difference in their attitudes.

Another option—still under the heading of the second response—is to hold that attitudes can be coordinated with emotional states, construed as content-bearing. Suppose we think, for example, that fear has a representational component. Perhaps, when she is attacked, Smith is in a state of fear that has her as an object. Suppose that Smith's attitudes about herself are coordinated with this fear. Perhaps this breaks the symmetry with Jones.²⁰

As with the case of perceptual content, it is hard to evaluate this without an account of the content of emotions. Can fears have something other than their bearers as objects? Could Jones not also be in a state of fear about Smith? If so, as seems likely, the problem would simply be reinstated here.

And, again, we can re-imagine the case to remove the temptation to appeal to emotional states. The temptation is natural in the dramatic case at issue. But we need only lower the stakes. Suppose that Smith has a very mild desire to not dirty her new boots. And Jones also has a mild desire that Smith not dirty her boots. Smith believes she is about to step into patch of mud; Jones believes the same thing. These attitudes give Smith a reason to pause mid-step but give Jones a reason to call out a warning. It's not clear that any emotions are relevant here. It's just a difference in perspective. Unless we hold that even the most mundane action explanation requires emotional involvement, we can find cases that have the relevant structure.

As a third response, the Strict Relationist might appeal to a relation between attitude states and non-representational psychological states (this response is also based on discussion in (Heck, 2012, pg. 161)). She might claim, for example, that attitudes can be 'coordinated' (note the scare quotes) with non-representational kinaesthetic states. Perhaps Smith's attitudes about Smith are 'coordinated' with Smith's kinaesthetic states; Jones's attitudes about Smith are not 'coordinated' with Jones's kinaesthetic states. This 'coordination', we can imagine, has some effect on how attitudes are translated into motor routines. Perhaps that's the relevant difference.

The issue is that once we extend coordination beyond a relation between object-representations, we lose a grip on what the Relationist is claiming. The substance that we've given to the idea of intrinsic representational features requires that non-intrinsic representational features be preserved under isomorphism of coordinated referential content. If we allow 'coordination' to hold between a representational state and a non-representational state, we lose this characterization of what the Relationist is denying about coordination (we lose our grip on *Relationism about Coordination*).

The idea that 'I'-thoughts are special because they are wired differently to sub-personal systems of action is at the core of the sorts of non-descriptive pictures of sense we characterized in §4. And this is one of the pictures of sense that Relationists have set themselves against. If we accept that any difference in the way that an attitude is functionally realized can be thought of as

²⁰Thanks to a referee for raising this possibility.

a difference in coordination, we lose any possibility of a giving a substantive characterization of intrinsic representational differences. And so we lose the possibility of characterizing a genuine disagreement between Relationism and Fregeanism.

I should mention that I don't take myself to be arguing against Fine or Heck, exactly: neither explicitly commits themselves to Strict Relationism. And it is possible that they would accept the idea that the specialness of 'I'-thoughts is located in their functional connection to action (Heck, in particular, raises this possibility). But if this is the case, we should think of them as Minimal Fregeans. This is because we have a tolerably clear understanding of what coordination is, for the Relationist. And, on that understanding, coordination holds between representations. Recall our two Relationist pictures of coordination: semantically-required coreference and global logical form. Neither of these is consistent with coordination holding between a representation and a non-representational state. So if we were to try to extend coordination to include relations to non-representational states, we would lose the grip we have on the notion. So this line of response is not promising.

As a final response, the Strict Relationist might simply deny that Smith and Jones are in states that rationalize different actions. The special character of indexical thought has recently come in for scepticism. We should ask if the Strict Relationist could find comfort here. The short answer is no. A central dialectical move in the relevant arguments—(Cappelen & Dever, 2013) and (Magidor, 2015)—is the claim that the putative special status of indexical thought is just an instance of the general phenomenon of Frege-cases. But the sceptics don't offer a theory of Frege-cases, let alone a Strict Relationist one. So it would be dialectical three-card-monte for the Strict Relationist to appeal to scepticism about the essential indexicality to avoid positing senses when that scepticism presupposes an independent, but not offered, theory of Frege-cases.

Note also that the argument in this section is consistent with one of Cappelen & Dever's main contentions: that even if the sorts of cases to which proponents of essential indexicality appeal show that a purely Russellian view of content is insufficient for action-explanation, we have been given no reason to think that it is representations of the *self*, or of the *current time*, or of the *present location*, where the 'extra' explanatory power must be located (2013, chp. 3). Nothing in this section is inconsistent with this claim, because we made no attempt to *locate* the representational difference between Smith's and Jones's attitudes. We might locate it in a difference in sense between Smith's representation of Smith and Jones's representation of Smith; or between Smith's representation of the bear and Jones's representation of the bear; or both; or somewhere else. The argument was only supposed to establish that they were in distinct yet coordinatively-isomorphic attitude states. More work—in particular, a theory of sense—would be required to characterize the difference substantially.

Of course, just because extant sceptics about essential indexicality don't offer a Strict Relation-

ist account of Frege puzzles, doesn't mean that one won't forthcoming. I can't argue against any possible form of such scepticism. It's enough, I hope, to show that the scepticism that we *find* in the literature doesn't actually support the claim that coordinatively-isomorphic attitude states are indistinguishable from the perspective of rationalizing explanation. And reflection on the cases above suggests that this claim is dubious. That's enough to establish that Strict Relationism is implausible.

One final note about *de se* scepticism. The recent literature has revolved, in part, around whether the cases that are said to motivate essential indexicality are 'just' Frege-cases.²¹ One difficulty in having this discussion is lack of clarity about exactly what being a Frege-case amounts to. Our discussion here identifies one clear sense in which Perry-style cases exhibit a structure that is not (at least not obviously) shared with Hesperus/Phosphorus-type cases. A 'Hesperus'-thought can differ in cognitive significance from a referentially equivalent 'Phosphorus'-thought. But, plausibly, this difference is fully explained by the other attitudes with which each thought is coordinated. An 'I'-thought can differ in cognitive significance from a referentially equivalent 'That person'-thought. But it is much less plausible, in this case, that the difference is fully explained by coordination and its absence. A whole coordinated body of 'I'-thoughts differs in its rationalizing powers from an isomorphic body of 'That person'-thoughts. If that's right, this is a clear sense in which Perry-style cases do not simply exhibit the same phenomenon as Hesperus/Phosphorus-cases. This fact has been obscured in the literature because of failure to clearly distinguish questions about coordination from more general questions about cognitive significance. Clarity here, in my view, makes the job of the *de se* sceptic more difficult.

6 Against Strict Fregeanism

Strict Fregeans hold that representations of the same object are coordinated if and only if they have the same sense. Senses are representational features that are not preserved under coordinative-isomorphism. The problem for Strict Fregeanism is that there aren't enough differences in sense to go around. To show this, we can adapt an anti-Fregean argument that is already present in the literature. I say 'adapt' because our dialectical context allows the argument to be more targeted and persuasive.

Fine and Pryor offer 'mirrored-perception' arguments against Fregeanism. In Fine's (2007) version, a subject's perceptual field is perfectly mirrored. She perceives an object twice, once on each side of her visual field. She forms two distinct bodies of attitudes about it. Pryor (2016a) imagines a creature with eyes on long stalks, the deliverances of which are not combined into a single visual field. The creature perceives the same object through two distinct eye-stalks, and

²¹See, *e.g.*, (Cappelen & Dever, 2013), (Magidor, 2015), (Ninan, 2016), (Shaw, 2019).

forms distinct bodies of attitudes on the basis of those perceptions.

The scenarios are supposed to pose a problem for Fregeanism because the ‘mirrored’ elements in the distinct bodies of attitudes do not differ in their intrinsic representational features. From our perspective, though, it’s not entirely clear how to interpret them. Fine and Pryor don’t offer an explicit characterization of sense. Relatedly, they don’t distinguish the two aspects of Relationist ideology—*Cognitive Significance as Coordination* and *Relationism about Coordination*—so it isn’t clear whether they are targeting Fregeanism as a family of approaches or Strict Fregeanism more narrowly (though it seems fair to say that the main thrust of the arguments is for *Relationism about Coordination*). In (Gray, 2020), I argued that the failure to distinguish these different aspects of the dialectical landscape means that these discussions do not succeed as knock-down arguments against any possible Fregean approach. Put briefly, Fine’s and Pryor’s scenarios involve putative cases in which a single subject has distinct bodies of attitudes that are coordinatively-isomorphic *and* such that the mirrored elements of which do not differ in sense. But this is only dubiously coherent (or, so I argued).

More importantly, our goal here is more precise and more modest. We have a tolerably precise characterization of sense. And we have already argued that *Cognitive Significance as Coordination* is false. So our task is simply to argue for *Relationism about Coordination*. To do that, we needn’t look for coordinatively-isomorphic bodies of attitudes. We only need find a pair of uncoordinated coreferential attitudes that do not differ in terms of the features of cognitive significance they possess that exceed what is determined by coordination and reference.

And it turns out that once we clearly see what is needed to argue against Strict Fregeanism, the relevant cases are familiar. Take Kripke’s (1979) famous discussion: Peter learns about the famous musician/statesman Paderewski in two conversations. He fails to realize that he is being told about one person, so comes to believe that Paderewski, the statesman, and Paderewski, the musician, are distinct. Suppose either that he has no perceptual recognitional capacity with respect to Paderewski, or that he cannot distinguish the ‘two’ Paderewskis perceptually. The result is that Peter has two distinct coordinated bodies of attitudes about Paderewski. One body, call it $P_1^m \dots P_n^m$, contains a belief with the referential content that Paderewski is a musician, a desire with referential content that Paderewski play more concerts in Krakow, *etc.* The other, call it $P_1^p \dots P_n^p$, contains a belief with the referential content that Paderewski is a politician, a desire with the referential content that Paderewski win the next election, *etc.*

Grant the Fregean that each representation of Paderewski in $P_1^m \dots P_n^m$ and $P_1^p \dots P_n^p$ has a sense; that is, that it has some representational feature that exceeds what is determined by referential content and coordination. It’s difficult to know what explanatory role these senses are supposed to have, but leave that aside.²² We can ask: is there any reason to think that the Paderewski-senses in

²²It’s common for non-descriptive Fregeans to posit name-based senses. See (Ackerman, 1979), (Evans, 1982, chp.

the two bodies are *distinct*? Is there any reason to think that there is one Paderewski-sense that is shared by every representation of Paderewski in $P_1^m \dots P_n^m$, and a distinct Paderewski-sense that is shared by every representation of Paderewski in $P_1^p \dots P_n^p$?

Let S^m be the sense associated with $P_1^m \dots P_n^m$ and let S^p be the sense associated with $P_1^p \dots P_n^p$. If S^m and S^p are distinct, the difference between them will be displayed in the *different* way that they participate in rationalizing explanation. Is there any such difference? Here is a reason to think that there isn't. If S^m and S^p were distinct, we could imagine another agent, call him Paul, whose attitudes about Paderewski were coordinatively-isomorphic to Peter's, but in which the senses of the two bodies were *switched*. So Paul has a body of attitudes that corresponds to $P_1^m \dots P_n^m$ (it contains the belief that Paderewski is musician, the desire that he play a concert, *etc*) but those representations of Paderewski are associated with S^p . And he has a body of attitudes that corresponds to $P_1^p \dots P_n^p$ (it contains the belief that Paderewski is a politician, the desire that Paderewski be elected, *etc*) but those representations are associated with S^m . To put it plainly, we should be able to imagine the musician-contents presented via the politician-sense and the politician-contents presented via the musician-sense.

My contention is that this permutation is incoherent.²³ Once we've been told that an agent has two distinct bodies of attitudes associated with the name 'Paderewski', that one contains attitudes with referential content *such-and-such* and the other contains attitudes with referential content *so-and-so*, we know everything I need to know about the explanatory potential of the attitudes in each body. There is no explanatory work for a difference in sense between the two bodies do. So Strict Fregeanism is false. There can be uncoordinated attitudes that don't differ in sense.

It might be replied that the Strict Fregean has an obvious response.²⁴ She could simply hold that the distribution of senses over a body of attitudes supervenes on the coordinated referential content of that body. This would explain why it is not possible to permute the senses in Peter's attitudes about Paderewski while holding fixed the coordinated referential content.

The problem with a conception of sense that makes sense supervene on coordinated referential content is that it would make sense explanatorily idle (here I'm following a point Heck (1995) makes in the inter-personal case). This view admits that once we've fixed the referential facts about a body of attitudes, and we've fixed the coordination structure, we have fixed everything that is relevant to rationalizing explanation. It insists, though, that we should still posit senses, which, on this view, simply correspond to equivalence-classes of coordinated representations.

This approach is coherent. But it is without motivation. Senses are theoretical posits and should earn their keep by doing some explanatory work. If we admit that they do no work in

11), (Devitt, 1989), (Recanati, 1997, chp. 10), (Davis, 2005, chp. 13), (Dickie, 2015, chp. 5).

²³One can find this style of argument for Relationism, which in I call a 'degrees of freedom' argument in (Gray, 2017), in (Pinillos, 2011) and (Pryor, 2016b).

²⁴Thanks to a referee for pressing this point.

relation to rationalizing explanation that is not done just as well by reference and coordination, we ought to let them go. To put the point another way, this kind of position is only motivated by an antecedent commitment to the falsity of *Relationism about Coordination*. But where could that commitment come from? It is not generally true that the relations in some domain are determined by the properties in that domain. Fine (2007; 2010) offers an elegant model for understanding how the representational domain might have this structure. Absent an argument from the Strict Fregean that coordination cannot be a representational primitive, there is no reason to accept their approach. We should not be led, by unmotivated rejection of *Relationism about Coordination*, from the fact that differences in sense *sometimes* do explanatory work to the claim that we must posit enough differences in sense to mirror the structure of coordination. Strict Fregeanism forces us to posit brute distinctions in sense that make no explanatory difference. The most perspicuous framework in which to represent cognitive significance appeals directly to coordination, and only posits differences in sense where they make a difference. This is Minimal Fregeanism.

7 Minimal Fregeanism

Once we get the landscape of options in view—by distinguishing Strict Relationism, Minimal Fregeanism, and Strict Fregeanism—we see that the two extreme positions have complementary flaws. To refute Strict Relationism, we argued that a certain kind of cognitive permutation—holding fixed coordinated referential content while permuting first-person/third-person perspective—is intelligible. To refute Strict Fregeanism, we argued that a different kind of cognitive permutation—holding fixed coordinated referential content while permuting ‘Paderewski’-senses—is *not* intelligible. These two results establish that neither Strict Relationism nor Strict Fregeanism is correct. Both have an overly-simplistic conception of the relation between coordination and intrinsic representational features. We need to posit both senses and coordination and hold that neither is determined by the other.

Pursuing Minimal Fregeanism requires reconsidering fundamental questions about cognitive significance. Space doesn’t permit an exploration, but I’ll note one important feature of Minimal Fregeanism: it cannot use the traditional Fregean tool for individuating senses. That tool—called *Frege’s Constraint* (Schiffer, 1978) or *The Intuitive Criterion of Difference* (Evans, 1982, pg. 20)—holds that we can read sameness and difference of sense off of facts about when it wouldn’t be irrational to take conflicting attitudes towards pairs of contents. But now that we have allowed that two representations can fail to be coordinated despite sharing a sense, this test doesn’t work. A contradiction is ‘explicit’ only when its referential elements are coordinated. So the reason that it isn’t irrational to take conflicting attitudes towards referentially equivalent contents, when it isn’t, is the absence of coordination between the relevant referential elements. Given Minimal Fregeanism, the fact that Peter has a belief, in one body of attitudes, that Paderewski is a musician

and doubts, in the other body, that Paderewski is musician, is consistent with the two attitudes sharing a sense. It only shows that the two representations of Paderewski are not coordinated.

Though this might initially seem troubling—we have taken away the Fregean’s most powerful tool—I suggest that we should think of it as a liberation.²⁵ If we don’t tie senses to coordination, we won’t be faced with the familiar situation of offering a substantive account of sense and having it immediately refuted by an application of *Frege’s Constraint*. One of the motivations for Relationism has simply been the failure of Fregeans to give a substantive account of sense that legitimates *Frege’s Constraint*. We can see now that Fregeans shouldn’t have been trying. We can focus on the explanatory work that we want sense to do and let the relationship between sense and coordination be revealed by our investigation.²⁶

References

- Ackerman, Diana. 1979. Proper names, propositional attitudes and non-descriptive connotations. *Philosophical Studies*, **35**(1), 55–69.
- Almotahari, Mahrad, & Gray, Aidan. 2020. Frege Cases and Bad Psychological Laws. *Mind*. <https://doi.org/10.1093/mind/fzaa078>.
- Austin, David F. 1990. *What’s the Meaning of “this”? : A Puzzle about Demonstrative Belief*. Cornell Univ Pr.
- Braun, David. 2000. Russellianism and psychological generalizations. *Noûs*, **34**(2), 203–236.
- Braun, David. 2001. Russellianism and explanation. *Noûs*, **35**, 253–289.
- Campbell, John. 1987. Is sense transparent? *Pages 273–292 of: Proceedings of the Aristotelian Society*, vol. 88. Aristotelian Society.
- Campbell, John. 2002. *Reference and consciousness*. Oxford University Press.
- Cappelen, Herman, & Dever, Josh. 2013. *The inessential indexical: On the philosophical insignificance of perspective and the first person*. OUP Oxford.
- Chalmers, David J. 2002. Sense and Intension. *Philosophical Perspectives*, **16**, 135–182.
- Cumming, Samuel. 2013a. Creatures of darkness. *Analytic Philosophy*, **54**(4), 379–400.
- Cumming, Samuel. 2013b. From Coordination to Content. *Philosophers’ Imprint*, **13**(4), 1–16.
- Davis, Wayne A. 2005. *Nondescriptive meaning and reference: An ideational semantics*. Oxford University Press on Demand.
- Devitt, Michael. 1989. Against direct reference. *Midwest studies in philosophy*, **14**(1), 206–240.
- Dickie, Imogen. 2015. *Fixing reference*. Oxford University Press.
- Evans, Gareth. 1982. *The Varieties of Reference*. Clarendon Press.
- Evans, Gareth. 1985. Understanding Demonstratives. *Pages 291–321 of: Collected Papers*. Clarendon.
- Fiengo, Robert, & May, Robert. 2006. *De lingua belief*. The MIT Press.
- Fine, Kit. 2007. *Semantic Relationism*. Wiley-Blackwell.
- Fine, Kit. 2010. Semantic Necessity. In: Hale, Bob, & Hoffmann, Aviv (eds), *Modality: Metaphysics, Logic, and Epistemology*. Oxford University Press.
- Fodor, Jerry. 1990. Substitution arguments and the individuation of beliefs. *Pages 63–79 of: Boolos, George (ed), Meaning and method: Essays in honor of Hilary Putnam*. Cambridge University Press.
- Fodor, Jerry A. 1995. *The elm and the expert: Mentalese and its semantics*. MIT press.
- Goodman, Rachel, & Gray, Aidan. 2020. Mental filing. *Noûs*, 1–23. <https://doi.org/10.1111/nous.12354>.
- Gray, Aidan. 2017. Relational approaches to Frege’s puzzle. *Philosophy Compass*, **12**(10).
- Gray, Aidan. 2020. Indistinguishable senses. *Noûs*, **54**(1), 78–104.
- Heck, Richard Kimberly. 1995. The Sense of Communication. *Mind*, **104**, 79–106. (originally published under the name "Richard G. Heck, Jr").

²⁵In fact, *Frege’s Constraint* is probably unhelpful independently of the issues discussed here. See (Speaks, 2013).

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- Heck, Richard Kimberly. 2012. Solving Frege's Puzzle. *The Journal of Philosophy*, **109**, 132–174. (originally published under the name "Richard G. Heck, Jr").
- Kripke, Saul. 1979. A puzzle about belief. *Pages 239–283 of: Margalit, A. (ed), Meaning and Use*. D Reidal.
- Lewis, David. 1979. Attitudes de dicto and de se. *The philosophical review*, **88**(4), 513–543.
- Magidor, Ofra. 2015. The myth of the de se. *Philosophical Perspectives*, **29**(1), 249–283.
- McDowell, John. 1977. On the Sense and Reference of a Proper Name. *Mind*, **86**(342), 159–185.
- Ninan, Dilip. 2016. What is the problem of De Se attitudes? *Pages 86–120 of: M. Garcia-Carpintero, S. Torre (ed), About Oneself: De Se Attitudes and Communication*. Oxford University Press.
- Onofri, Andrea. 2017. The Publicity of Thought. *The Philosophical Quarterly*, **68**(272), 521–541.
- Pavese, Carlotta. 2015. Practical Senses. *Philosophers' Imprint*, **15**.
- Peacocke, Christopher. 1981. Demonstrative thought and psychological explanation. *Synthese*, **49**(2), 187–217.
- Perry, John. 1977. Frege on demonstratives. *The philosophical review*, **86**(4), 474–497.
- Perry, John. 2001. *Reference and reflexivity*. CSLI Stanford.
- Pinillos, N Ángel. 2011. Coreference and meaning. *Philosophical Studies*, **154**(2), 301–324.
- Pinillos, N Ángel. 2015. Millianism, Relationism, and Attitude Ascriptions. *Pages 322–334 of: Bianchi, Andrea (ed), On Reference*. Oxford.
- Pryor, James. 2016a. De jure Codesignation. *In: Hale, Bob, Wright, Crispin, & Miller, Alexander (eds), A companion to the philosophy of language, second edition*.
- Pryor, James. 2016b. Mental Graphs. *Review of Philosophy and Psychology*, **7**(2), 309–341.
- Putnam, Hilary. 1954. Synonymity, and the analysis of belief sentences. *Analysis*, **14**(5), 114–122.
- Pylyshyn, Zenon W. 2007. *Things and places: How the mind connects with the world*. MIT press.
- Recanati, Francois. 1997. *Direct Reference: From Language to Thought*. Blackwell.
- Recanati, François. 2012. *Mental files*. Oxford University Press.
- Richard, Mark. 1986. Attitude ascriptions, semantic theory, and pragmatic evidence. *Pages 243–262 of: Proceedings of the Aristotelian Society*, vol. 87. JSTOR.
- Richard, Mark. 1990. *Propositional attitudes: An essay on thoughts and how we ascribe them*. Cambridge University Press.
- Sainsbury, R.M. 2002. Fregean Sense. *Departing from Frege: Essays in the Philosophy of Language*, 125–36.
- Sainsbury, R.M. 2003. *Departing from Frege: Essays in the philosophy of language*. Routledge.
- Sainsbury, R.M. 2005. *Reference without referents*. Clarendon Press.
- Schiffer, Stephen. 1978. The basis of reference. *Erkenntnis*, **13**(1), 171–206.
- Schneider, Susan. 2005. Direct reference, psychological explanation, and Frege cases. *Mind & Language*, **20**(4), 423–447.
- Scholl, Brian J. 2001. Objects and attention: The state of the art. *Cognition*, **80**(1), 1–46.
- Schroeter, Laura. 2012. Bootstrapping our way to samesaying. *Synthese*, **189**(1), 177–197.
- Shaw, James R. 2019. De Se Exceptionalism and Frege Puzzles. *Ergo, an Open Access Journal of Philosophy*, **6**.
- Siegel, Susanna. 2016. The Contents of Perception. *The Stanford Encyclopedia of Philosophy*, URL = <https://plato.stanford.edu/archives/win2016/entries/perception-contents/>.
- Speaks, Jeff. 2013. Individuating Fregean sense. *Canadian Journal of Philosophy*, **43**(5-6), 634–654.
- Speaks, Jeff. 2015. *The phenomenal and the representational*. OUP Oxford.
- Stanley, Jason. 2011. *Know How*. Oxford University Press.
- Taschek, William W. 1995. Belief, substitution, and logical structure. *Noûs*, **29**(1), 71–95.
- Taschek, William W. 1998. On ascribing beliefs: Content in context. *The Journal of philosophy*, **95**(7), 323–353.
- Taylor, Kenneth A. 2003. What's in a Name? *Pages 1–32 of: Reference and the Rational Mind*. CSLI Publications.