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CONTEXT AND CONTENT



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Krakowskie Przedmieście 3, 00-047 Warszawa

e-mail: [studiasemiotyczne@pts.edu.pl](mailto:studiasemiotyczne@pts.edu.pl)

<http://studiasemiotyczne.pts.edu.pl/>

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MARIA MATUSZKIEWICZ\*

## INTRODUCTION

The six papers collected in this volume address a broad range of problems related to the theme of context and content. Among the topics discussed by the authors are the relation between mental and linguistic content, the role of context in the determination of the semantic values of demonstrative expressions, the foundational question about the nature of propositions and their role as objects of propositional attitudes, the temporal versus eternal nature of desire contents and challenges posed by attitudes *de se* to the traditional view of contents. Some of these papers were presented at the 3<sup>rd</sup> *Context, Cognition and Communication*, which took place in Warsaw in September 2022, and one paper was discussed in the workshop *Demonstratives and Indexicals III* dedicated to Una Stojnić's book *Context and Coherence* (2021). The workshop was organized in Warsaw in January 2023 as part of the project "Semantic and Epistemological Aspects of Ostension: From Demonstrating Procedures to the Exploitation of the Context of Utterance".

In "Demonstratives, Gesture and Logical Form", Geoff Georgi scrutinizes two theses of Una Stojnić's (2021) theory of demonstrative reference. Multi-Modality treats gestures as syntactic elements of demonstrative expressions, and Ambiguity claims that those syntactic elements are individuated by the objects of the demonstrative reference. The two theses are part of Stojnić's solution to the problem of referential promiscuity: the fact that multiple occurrences of a demonstrative expression in one sentence contribute different propositional contents relative to the same context. Georgi discusses each of Stojnić's four arguments supporting Multi-Modality and Ambiguity, deeming them inconclu-

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\* University of Warsaw, Faculty of Philosophy. E-mail: maria.j.matuszkiewicz@gmail.com. ORCID: 0000-0001-5799-4972.

sive. In the last section of the paper, he focuses on the argument from different inferential schemes involving sentences with multiple occurrences of a demonstrative expression, offering an alternative solution that takes a coordination scheme to be part of the Kaplanian context. The alternative approach avoids the main drawback of Stojnić's theory—the massive ambiguity at the level of deictic gestures, which would make language learning implausibly difficult.

In “Twardowski on Content and Meaning”, Marie Michon examines the relationship between the mental notion of *content* and the linguistic notion of *meaning* in the philosophy of Kazimierz Twardowski. After introducing Twardowski's conception of intentionality with its central distinction between the mental act's content and object, the author focuses on a less studied topic—the philosopher's conception of meaning. Michon emphasizes Twardowski's pragmatic approach to language with its central idea that speakers use language to convey meanings and thereby elicit mental presentations in their listeners. The resulting conception, the author argues, sees meanings as subjective and dynamic. Michon closes her paper with a discussion of similarities and differences between Twardowski's and Frege's theories of meaning.

In “The Act-Type Theory of Propositions as a Theory of Cognitive Distinctness”, Thomas Hodgson examines Scott Soames' version of the act-type theory of propositions and the way it accounts for propositions' playing the role of objects of attitudes. To capture fine-grained differences between attitudes Soames distinguishes between representational and cognitive identity of propositions and between direct and mediate predication. Hodgson argues that Soames' theory of mediate predication fails its task and proposes an alternative solution that makes the required distinctions.

In “One Semantic Content, Belief Content and Belief Ascription”, Juliana Lima proposes a novel solution to Frege's Puzzle on the basis of two ideas. First, she argues that semantic and cognitive contents are not identical: the Millian theory provides the former, and the Fregean theory provides the latter. Second, Lima articulates the view that takes truth values of belief sentences to be relativized to a point of evaluation. These points of evaluation consist of a narrative surrounding a belief ascription that specifies the cognitive content to be found in the subject's belief box.

In “Desire Contents and Temporal Adverbs”, Daniel Skibra defends desire temporalism—the view that desire contents do not contain time indications—from the apparent counterexample of desire ascriptions containing temporal adverbs. To answer this objection the author interprets temporal adverbs as constraining the temporal parameter of the circumstance of evaluation rather than contributing a time indication to the propositional content. Skibra considers a way of implementing this idea on the basis of Brogaard's (2012) theory of composite time operators. However, he prefers a different approach which accommodates the proposed interpretation of temporal adverbs with the pronominal account of tenses

In “Saving the Traditional View of Contents From the Messy Shopper and His Crazy and Amnesiac Acolytes”, Jakub Rudnicki addresses the challenge that attitudes *de se* present to the standard view of contents which sees them as absolute and accessible. The standard view has difficulty accounting for the role that attitudes *de se* play in explaining behavior. Rudnicki’s Double Belief Theory offers a new solution for those who wish to save the standard view. The author analyzes beliefs *de se* as consisting of two beliefs, one of which is a second-order belief about the other. Rudnicki presents two versions of the theory that differ in whether the second-order belief concerns the content of the first belief or the act of believing it.

All the contributions collected in this volume highlight the central role that the notions of context and context continue to play in philosophical debates. Addressing a broad range of issues, proposing novel solutions, and engaging with some recent competing theories, these papers will—we hope—open new avenues of discussion.

#### REFERENCES

- Brogaard, B. (2012). *Transient Truths: An Essay in the Metaphysics of Propositions*. Oxford: OUP.
- Stojnić, U. (2021). *Context and Coherence: The Logic and Grammar of Prominence*. Oxford: OUP.





GEOFF GEORGI\*

## DEMONSTRATIVES, GESTURES, AND LOGICAL FORM

**SUMMARY:** In *Context and Coherence* (2021), Una Stojnić defends two theses about demonstrative reference: that the deictic gestures accompanying uses of demonstratives are syntactically encoded in multi-modal syntactic constructions, and that deictic gestures so encoded are syntactically individuated by objects and individuals. Critical scrutiny of both theses reveals surprising lessons about the relationship between demonstratives and logic, but such scrutiny also reveals weaknesses in Stojnić's arguments for the theses.

**KEYWORDS:** indexicals, demonstratives, deictic gestures, context, coherence.

### Introduction

In a scene in the last third of *The Force Awakens* (1:41:09–1:41:17), Han Solo gestures over Finn's shoulder. Han Solo uses *lip-pointing*, in which someone purses their lips and gestures with their chin. (Harrison Ford hardly moves his lips, but the gesture is clear). Finn (John Boyega, playing it straight) does not understand and finally asks what Han Solo is doing, performing an exaggerated form of the gesture. The scene is humorous at least in part because it is difficult to imagine not understanding Han Solo's gesture (though of course one may not know that Han Solo's gesture is called lip-pointing). But the scene also offers insight into Finn, who perhaps never learned to recognize the gesture, having been raised as a storm-trooper from birth.

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\* Georgia State University, Department of Philosophy. E-mail: Geoff.Georgi@mail.wvu.edu. ORCID: 0000-0002-2799-6309.

Interest in gesture in formal semantics and the philosophy of language originates in large part via interest in demonstratives in logic and semantics. As a result, philosophers tend to focus on *deictic gestures* or *demonstrations*: gestures that help resolve deixis, or demonstrative reference, in linguistic communication, and with one or two exceptions below, the present paper shares this focus. Pointing is the canonical deictic gesture, and while index-finger pointing is often taken for granted, lip-pointing is a widely recognized alternative (again, it is difficult to imagine not understanding Han Solo in the scene above).

In *Context and Coherence*, Una Stojnić develops an account of demonstrative reference based on the following two theses about gestures and the syntax and semantics of demonstratives:

**Multi-Modality:** A speaker’s demonstrative or deictic gestures (including index-finger pointing and lip-pointing) are syntactic constituents of the objects of semantic interpretation, or part of what is uttered, in an utterance of a sentence containing demonstratives.

**Ambiguity:** A speaker’s demonstrative or deictic gestures are *syntactically individuated* by the objects identified for demonstrative reference.

The following passages illustrate the two theses:

A demonstrative gesture is not a mere extra-linguistic supplementation on a par with other extra-linguistic resources. Indeed, it is not a part of extra-linguistic context, to begin with, but rather a part of utterance, an expression among others, with its own conventionally specified contribution, that of an attention-shifting update. This means that uttering a sentence featuring a demonstrative pronoun while pointing at different things is not like uttering the same sentence in various different circumstances; it is like uttering different sentences altogether. (Stojnić, 2021, p. 46)

Pointing is not semantically interpreted as having a context-sensitive meaning, which given a context (and together with potentially extra-linguistic resources that context makes available), determines a referent. Rather, pointing gestures are ambiguous between multiple possible forms, for example, *pointing at Betty*, *pointing at her tail*, *pointing at one of her whiskers*, etc. In this way, they are akin to names (Stojnić, 2021, p. 54, italics in original)<sup>1</sup>

According to Multi-Modality, deictic gestures (hereafter I will mostly drop “deictic”) contribute to the syntactic individuation of utterances. What is uttered is, at least in some cases, *multi-modal*: some syntactic combination of word-types and gestures.<sup>2</sup> To have a simple term, I will call these multi-modal sentences. According to Ambiguity, the gesture types that occur in multi-modal sentences

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<sup>1</sup> All subsequent citations with just a page number are to Stojnić’s text.

<sup>2</sup> Note that there is no claim here about whether deictic gestures themselves are multi-modal.

es are not merely physical act-types, like the act of pointing with one's index finger, but are syntactically individuated by their referents—a different gesture for each object. Together, Multi-Modality and Ambiguity entail the surprising conclusion that demonstrative reference is syntactically encoded.

Multi-Modality and Ambiguity are, of course, only a small part of Stojnić's sophisticated theory of language and communication. A careful examination of the whole of Stojnić's theory is inappropriate in scope for a single paper, but it may be helpful at the outset to consider briefly Stojnić's account of deixis in the context of her broader theoretical aims. According to Stojnić, all semantic context sensitivity "is governed by linguistic rules" (p. 5): "Contrary to the dominant tradition, which maintains that the meaning of context-sensitive language is at least partially determined by non-linguistic features of utterance situation [sic], I argue that meaning is determined entirely by grammar" (p. vii).

Two sources of context-sensitivity with which Stojnić is concerned are deixis and anaphora, and no small part of the power of Stojnić's theory derives from her unified account of these. Much of that power is lost, however, if Stojnić's accounts of deixis and anaphora are not independently motivated.

In this paper, I examine both Multi-Modality and Ambiguity critically. In Section 1, I analyze a central tension identified by Stojnić in the semantics of demonstratives as an inconsistency between four initially plausible claims, and I introduce the details of her solution to the tension. In Section 2, I consider three of four arguments Stojnić gives in defense of Multi-Modality, and I argue that none succeeds. In Section 3, I turn to the fourth argument, and I argue for two claims: (i) that recent work on the logic of demonstratives undermines a dilemma on which the fourth argument relies, and (ii) such work avoids challenges to Ambiguity from the learnability of language.

Finally, while the business of the present paper is to articulate objections to Stojnić, I hope it is clear in what follows that it was extremely rewarding to work through Stojnić's views about demonstratives, anaphora, and discourse.

## **1. Stojnić on Demonstratives and Deictic Gestures**

Kaplan famously distinguished between pure indexicals and true demonstratives. A pure indexical like "I" has a character that for any context uniquely returns the content of "I" in that context. True demonstratives behave differently, and a central problem in the giving a semantics for demonstratives is to characterize the difference.

### **1.1. The problem of referential promiscuity**

Here is how Stojnić frames the central problem raised by demonstratives:

Either an ambiguity or an underspecification seems inevitable if we want to maintain that

- (i) utterances like “He [pointing at Bill] is sad, because he [pointing at Tim] is leaving” are interpreted against a single, unchanging context; and
- (ii) the two occurrences of the demonstrative in “He [pointing at Bill] is sad, because he [pointing at Tim] is leaving” have different semantic interpretations. (pp. 29–30)

Stojnić correctly identifies a tension in the naïve application of a Kaplanian picture to true demonstratives. What Stojnić calls “ambiguity” and “underspecification” amount to rejecting (1D) and (2D), respectively:

- (1D) The demonstrative “that” has the same linguistic meaning wherever it occurs.
- (2D) The linguistic meaning of an expression is or determines its character: a function from contexts to propositional contents.

What we want to maintain, according to Stojnić, are a view of context as a fixed, unchanging, parameter of semantics and an apparent feature of demonstratives and other pronouns. The Kaplanian picture of context as a fixed, unchanging parameter of semantics is bound up with questions about what Kaplan calls “monsters”—expressions that shift a parameter of context. Fundamentally, however, what is at issue is the compositionality of our semantic theories:

- (3D) The propositional content of a complex expression  $e$  relative to a context  $c$  (the result of applying the character of  $e$  to  $c$ ) is determined by the propositional contents of the immediate constituents of  $e$  relative to  $c$  (the results of applying each of the characters of the immediate constituents of  $e$  to  $c$ ), plus the syntactic structure of  $e$ .

This is a principle of compositionality in Kaplanian semantics.<sup>3</sup> Stojnić’s “unchanging context” is explicit in this principle, according to which the propositional content of a complex expression relative to a context  $c$  is determined by the propositional content of its constituents relative to the same context  $c$ . Allowing shifts or updates to context can lead to violations of this compositionality principle.

The second claim Stojnić suggests we want to maintain is a seemingly obvious fact about true (I will drop “true” hereafter) demonstratives. They are what I will call *referentially promiscuous*:

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<sup>3</sup> It is stated here informally. For details, see Kaplan (1989a, p. 507), Rabern (2012), and Westerståhl (2012). I also set aside here challenges to the identification of propositions with compositional semantic values.

**Strong Referential Promiscuity.** An expression  $e$  is strongly referentially promiscuous if and only if for every sentence  $S$  containing multiple occurrences  $O_1$  and  $O_2$  of  $e$ , there is some context  $c$  such that the propositional content of  $O_1$  relative to  $c$  (what  $O_1$  contributes to the proposition expressed by  $S$  relative to  $c$ ) is distinct from the propositional content of  $O_2$  relative to  $c$ .<sup>4</sup>

The apparent referential promiscuity of demonstratives is not unique to English. It is attested cross-linguistically in studies of contrastive uses (such as “I like this beer better than this beer”).<sup>5</sup> I know of no language whose demonstratives are not referentially promiscuous.

Rejecting an apparently universal feature of demonstratives is a costly move. Yet Stojnić observes, as others have before, that (1D–3D) together are inconsistent with the referential promiscuity of demonstratives. Consider a simple sentence such as (1):

- (1) That chases that.

Let  $c$  be any context. According to (2D), the character of (1) is (or determines, but I will drop this hereafter) a function from contexts to propositions. Let us say, for simplicity, that the propositional content of (1) relative to  $c$  is *the proposition expressed by (1) relative to  $c$* . According to (3D) the proposition expressed by (1) relative to  $c$  is determined by the propositional contents, relative to  $c$ , of the constituents of (1). The contents of the constituents of (1) relative to  $c$  are the results of applying the characters of the constituents of (1) to  $c$ .

According to (1D), the two occurrences of “that” in (1) have the same character. Together with (2D) and (3D), it follows that the occurrences of “that” in (1) contribute the same content, relative to  $c$ , to the proposition expressed by (1) relative to  $c$ . But our choice of  $c$  was arbitrary. It follows that for any  $c$ , the occurrences of “that” in (1) relative to  $c$  will contribute the same contents to the proposition expressed by (1) relative to  $c$ . This consequence is inconsistent with the thesis that demonstratives are strongly referentially promiscuous. Thus, if we want to maintain that demonstratives really do behave as they universally appear to behave, we have to reject at least one of (1D–3D). In the remainder of this paper, I will call this result *the problem of referential promiscuity*.<sup>6</sup>

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<sup>4</sup> I distinguish strong and weak referential promiscuity. The latter is that for some sentence containing multiple occurrences and some context, the occurrences differ in their contribution to the proposition expressed by the sentence relative to the context. Weak referential promiscuity can arise in some theories from the semantics of binding.

<sup>5</sup> Cutfield (2018), Herrmann (2018), Levinson (2018), Terrill (2018), and Wilkins (2018) all offer examples from languages other than English.

<sup>6</sup> A clear recent statement of this argument is given by Pickel, Rabern, Dever (2018).

## 1.2. Stojnić's Solution

Stojnić's solution to the problem of referential promiscuity can be divided into three steps. As we shall see, Multi-Modality and Ambiguity only arise in the third step. The first step is to identify (3D) as the culprit in the problem. Instead, Stojnić proposes a dynamic conception of context that shifts or updates with demonstrative or deictic gestures. Stojnić is not the first to suggest such a view. Pickel, Rabern, and Dever, for example, explicitly reject the compositionality principle (3D) in their dynamic semantics for demonstratives.

The second step is a theory of such dynamic contexts. For Stojnić, a context is a ranking of objects that tracks the changing attentional states of the conversational participants: "At any given point in a discourse, the context provides a ranking by prominence of candidate interpretations for a pronoun, tracking what is most prominent—that is, at the center of attention" (p. 40).

Here Stojnić borrows the idea of an attentional state from work by Barbara Grosz and others.<sup>7</sup> Since deictic gestures can shift the attention of conversational participants, distinct occurrences of the same demonstrative may be evaluated relative to distinct attentional states. Hence we need some mechanism in semantics to update, or shift, a context.

Stojnić's third step is to modify the view of attentional states. According to Grosz and Sidner, for example, the attentional state is determined by the salience of objects in a conversational situation (p. 175). Stojnić, in contrast, takes attentional states to be a record of what she calls "prominence". Prominence is not salience, according to Stojnić, because shifts in prominence are linguistically controlled rather than pragmatically worked out. Various syntactic constituents of a sentence can shift a prominence ranking, including, for Stojnić, deictic gestures.

In her formal theory, Stojnić represents deictic gestures as follows:

$$\langle \pi b \rangle,$$

where " $\pi$ " is her symbol for a gesture, and " $b$ " names the object determined by the gesture.<sup>8</sup> Interpretation of the gesture  $\langle \pi b \rangle$  relative to a context  $c$  yields an updated context  $c'$  differing from  $c$  at most in that the object named by " $b$ " is at the top of the prominence ranking and all other values are demoted:

To represent the effect of pointing, we can introduce a family of updates,  $\langle \pi e \rangle$ , where  $\pi$  corresponds to the act of pointing and  $e$  names the individual pointed at. This update stores the entity denoted by  $e$  as the top-ranked entity—the new center of attention—and pushes all others down a position in the ordering. (p. 44)

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<sup>7</sup> Grosz and Sidner's (1986) is one source. Stojnić cites others.

<sup>8</sup> Two points: (i) in a footnote, Stojnić suggests that  $\pi$  is the type of definites more generally, and (ii) strictly, there is another element, so that a full formal representation looks like this:  $\langle \pi \theta b \rangle$ , where  $\theta$  indicates the place in a prominence ranking where the object named by " $b$ " is placed by the update.

Gestures combine with demonstratives in syntax, and the resulting multi-modal demonstrative phrases are then combined with predicates or verb phrases to yield multi-modal sentences. For example, suppose I utter (2) while pointing throughout my utterance at one object:

(2) That is identical to that.

Using a kind of mashup of natural language syntax and Stojnić's formal notation, we may represent what Stojnić calls the *logical form* of my utterance of (2) as follows:

$$[(\pi b) \text{ that}] = [(\pi b) \text{ that}]$$

In contrast, sometimes I utter (2) when I am clearly pointing at different objects. Given Ambiguity, the logical form of such an utterance would be:

$$[(\pi b) \text{ that}] = [(\pi c) \text{ that}]$$

Here I use square brackets to indicate syntactic constituency relations. (Stojnić does not use this notation, but this small misrepresentation of her view has no effect on the argument of the present paper).

Semantically, given a context, an occurrence of the demonstrative “that” is assigned the most prominent value of the context. Because a gesture is interpreted before its corresponding demonstrative, and the effect of a gesture on context is to place the object named by the gesture at the top of the prominence ranking, the value of an occurrence of a demonstrative is always the object named by its corresponding gesture. According to Stojnić, gestures syntactically encode demonstrative reference.

In summary, we may clearly distinguish three claims in Stojnić's account of demonstrative reference:

- (a) Context is or includes a dynamic, updating parameter.
- (b) This updating parameter tracks the changing attentional state of conversational participants.
- (c) All updates to context are linguistically controlled.

The first claim is sufficient to avoid the problem of referential promiscuity, but it says nothing about what contexts are. The second claim is Stojnić's answer to this question. Yet only the third claim requires something like Multi-Modality and Ambiguity. In rejecting Stojnić's arguments for Multi-Modality and Ambiguity in what follows, I am not rejecting the use of dynamic semantics in the treatment of demonstratives, such as recent work by Pickel, Rabern, and Dever, nor am I challenging the utility of an attentional state parameter. The best semantics

for demonstratives may well turn out to require some kind of shifting context, an attentional state parameter, or both.

## 2. Against Three of Four Arguments for Multi-Modality

There are, by my count, four clear arguments for Multi-Modality in Stojnić's text:

- an argument from the conventional nature of gestures (based on Kendon and Wilkins, 2003),
- an argument from the overriding force of deictic gesture,
- an argument from prosody (based on Kendon, 2004),
- an argument from logic

Stojnić's own discussion suggests that the second and third of these are based on the first, but each one raises issues of its own. Furthermore, the argument from logic may also be taken to support Ambiguity. Accordingly, in this section, I evaluate the first three arguments exclusively as arguments for Multi-Modality. I turn to the argument from logic in the last section.

### 2.1. Gestures and Conventions

Stojnić calls the first argument "the key argument" (p. 46). The crucial premise of the key argument is that "[t]he association between a form and shape of a gesture and its semantic effect is arbitrary, learned, and it varies across different linguistic communities" (pp. 46–47).

She cites several examples from Adam Kendon (2004) and Wilkins (2003) as evidence for the conventionality of deictic gestures. For example, thumb pointing is not generally allowed by English speakers as a deictic gesture. There are restricted circumstances where thumb-pointing is allowed, such as a use of "can you believe this guy" while thumb pointing toward someone to one's side, but such restrictions seem like arbitrary conventions. Another example concerns the use of an open palm in index pointing to indicate a particular class or type of the object demonstrated. (Her particular example is "That is a British Shorthair cat" [p. 47] with an open palm). The latter example is a clear case of Stojnić's premise: "The distinction in form underwrites distinction in meaning" (p. 47).

These examples clearly show that deictic gestures differ conventionally in some of their semantically significant features. But it does not follow that all semantically significant features of deictic gestures are conventional. Her example of an open versus closed palm in index pointing, in particular, provides no reason to think that index pointing generally is conventional. Plausibly, open palm and closed palm are conventional variations on a more fundamental behavior of index pointing. Of course, there is nothing conventional about the physical



limitations of the human body, but we impose many different conventions on the sounds we can physically produce. But the case of index pointing is importantly different, in that there is something universal about the significance of the gesture: “We may describe pointing as a universal gesture in babies given the geographical dispersion of the longitudinal studies” (Butterworth, 2003, p. 11).

However much cultural variation there is in the use of deictic gestures, some semantically significant features of index pointing are universal.

Stojnić appears to suggest that lip-pointing is not allowed in English: “Other languages, unlike English, allow speakers to indicate objects in other ways, for example, by deictic gestures of the lips, and not an extended index finger” (p. 48).

The Star Wars example at the beginning of the paper is a counterexample to Stojnić’s suggestion. We do not take Han Solo to be trying to use a language other than English in the scene, and Finn’s misunderstanding is not like our failure to understand a speaker of another language. The use of a pointing gesture may be more or less conventionally accepted, but even if a gesture is not widely used it does not follow that the gesture is not immediately or universally understood. All this suggests that there are semantically significant nonconventional features of pointing.

The force of the present objection is not merely that even if we grant Stojnić’s claim that the conventions governing pointing are syntactically encoded, nothing follows about Ambiguity. A fully justified response to this observation is that nothing is supposed to follow about Ambiguity. Rather, the present challenge is structural: if only the culturally specific conventions governing deictic gestures are linguistically encoded, Ambiguity is false. Stojnić’s argument at best supports the claim that culturally specific conventions are linguistically encoded. So the strongest interpretation of her argument undermines her own theory.<sup>9</sup>

One response to the present objection to Stojnić appeals to a recent account of linguistic conventions due to Armstrong.<sup>10</sup> Armstrong is concerned with two kinds of what he calls “linguistic innovation”. One is where a speaker uses a word with which the addressee is unfamiliar, but the addressee immediately and correctly identifies the relevant convention. The other is where a speaker uses a familiar word in a novel way: “Bea managed to houdini her way out of her cell” (Armstrong, 2016, p. 94). According to Armstrong, speakers and audiences can coordinate on linguistic conventions on the fly, so that linguistic conventions are dynamic, rather than stable, for speakers of languages.

Borrowing from Armstrong, it is open to the defender of Stojnić’s view to take a pointing gesture to be governed by such a dynamically identified convention. In particular, a pointing at an object *o* may be taken by conversational participants during the conversation to be a conventional name of *o*. Because ges-

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<sup>9</sup> Thanks to an anonymous referee for pushing me to clarify the relationship between the present argument and Ambiguity.

<sup>10</sup> Thanks to an anonymous referee for pressing this point.

tures are conventional, Stojnić's argument from conventionality for Multi-Modality succeeds.

We can, I think, find clear cases of innovation in pointing. We point with all kinds of tools, from pencils to lasers, and these strike me as plausible candidates for Armstrong's account.<sup>11</sup> But the present argument concerns standard index pointing—the use of an extended index finger to indicate an object or direction—which is not analogous to either of Armstrong's examples of linguistic innovation. Index pointing is a universally familiar gesture. There is no recognition of something unfamiliar in our understanding of a standard use of index pointing. Thus, pointing at an object is not like the use of an unfamiliar word. But neither is a standard use of index pointing the use of something familiar in a novel and surprising way. (Though, to repeat, there are such pointing gestures). We use index pointing to point things out. Novelty in the object being pointed out does not require or appear to us as an innovative use of pointing. It is the point of pointing. (Similarly, using a demonstrative to refer to an unfamiliar object is not the use of a familiar word in a novel way. It is a proper use of a demonstrative). Extending Armstrong's account of dynamic conventions to deictic gestures seems at best ad hoc, and at worst a mistake about the conventions governing pointing and the use of demonstratives.

## 2.2. Gestures and Intentions

In developing the argument from conventionality, Stojnić introduces two further arguments in favor of Multi-Modality: (i) that demonstrative gestures have an overriding force even in the face of other reasons to take some object to be prominent; and (ii) that our use of demonstrative gestures is required to be synchronized with speech in specific ways. Given the weakness of her "key argument", what support for Multi-Modality do these arguments offer?

I will return to (ii)—what I will call the argument from prosody—below. The argument from overridingness is explicit in the following passage: "The presence of a deictic gesture is hard to override, which suggests that it does not merely serve as one piece of evidence on a par with other contextual, extra-linguistic cues" (p. 50).

As an argument for Multi-Modality, we might interpret this passage along the following lines: the overriding force of a deictic gesture, even in cases in which it seems the speaker intends to refer to something else, are analogous to cases of malapropism. Suppose I utter "She is inconsiderate", in a context in which it is clear that I mean of someone that she is inconsistent. Despite my clear intention, what I have said is that she is inconsiderate. The word I use is what determines what I say. On this understanding of Stojnić's argument, the overriding force of a deictic gesture is a result of its status as a syntactic constituent. Multi-Modality

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<sup>11</sup> Thanks to Adam Podlaskowski for discussion and examples.

is thus defended as the best explanation of the overriding force of deictic gestures in the semantic interpretation of demonstratives.

As with all arguments to the best explanation, the strength of the argument here turns on the strength of the alternative explanations. An intentionist about demonstrative reference—one who maintains that demonstrative reference is fixed by some intention on the part of the speaker—can offer an alternative: deictic gestures have overriding force because they are clear indications of the relevant intention. Yet according to Stojnić, the intentionist explanation falters in cases where the intention and the gesture come apart. She offers an example:

Suppose I want to say that Mary is my best friend, but due to some accident, perhaps a muscle spasm, or confusion, I point at Sue while saying “She is my best friend”. While you might realize that a mistake of sorts happened, because, say, you might have good reasons to think that Mary is the one I in fact wanted to talk about, it is essential to the case that a *mistake* happened: I accidentally said something I did not mean, just as I would have said something I did not mean to say had I uttered a wrong word. (p. 50)

I want to consider this example in some detail, because I think there are different ways to understand it, and they yield, at least to me, different intuitions. I suggest that none of the different ways of understanding the example is individually compelling.

Note that Stojnić considers two options in the example: a muscle-spasm or confusion. On reflection, the muscle-spasm case itself factors into two. Recent work on intentions suggests that intentions are discerned in perception, and in particular, they not merely inferred from perceptual evidence about behavior:

It is a fact of experience that when a perceiver observes someone else’s bodily movements, she directly perceives these movements as goal-directed and intentional. Moreover, what is consciously perceived and stored in memory is not the pure sensorimotor aspect of the movement, but rather part of its teleological content, that is a specific dynamic interaction between behavior and environment, as involving this or that part of the body, with this kind of timing and that portion of space being a target of the action. (Proust, 2003, p. 300)

Gestures are intentional actions, and Kendon may be granting Proust’s point about perceiving intentions when he says “an action that is gestural has an immediate appearance of gesturalness” (Kendon, 2004, p. 15). Pointing gestures, in particular, are plausible candidates for objects of perception. Yet in Stojnić’s muscle-spasm case, the bodily movement produced by the speaker is not intentional (even though she intends to perform a gesture). While Stojnić allows that the audience “might realize that a mistake of sorts happened”, she does not specify whether the audience correctly does not perceive her movement as intentional, or the audience mistakenly perceives her movement as intentional.

Neither option presents a challenge for intentionist theories of demonstrative reference. If the movement is not perceived as intentional because the audience

recognizes the symptom of a muscle-spasm, then the movement is not perceived as a deictic gesture at all, and on Stojnić's own theory the movement is not a syntactic constituent of anything (unless syntax is desperate). If the movement is mistakenly perceived as intentional, then the speaker is mistakenly taken to have said something, similar to how I might take you to be saying something when I fail to recognize that you are talking in your sleep.

The other option Stojnić considers is that the speaker is confused. I take this to be a kind of case where the speaker does perform a deictic gesture but is mistaken about what object their gesture singles out for demonstrative reference. Much ink has been spilled about such cases. Here I will only suggest a response: on one variety of intentionism, the relevant intention is descriptive, where the speaker intends the hearer to identify an object in a particular way. If a speaker performs a deictic gesture, it is immediately recognized as such, and so the overriding descriptive content we attribute to the speaker is something like *the \_\_\_ at which I am pointing* (this is obviously very rough). Such a view—call it *descriptive intentionism*—captures the overriding force of deictic gestures in cases in which the speaker is confused, because an object may satisfy the description of such an intention without being what the speaker in some looser sense has in mind. The speaker, in particular, may have a singular intention to refer to *o* for an object *o* that does not satisfy the description of their descriptive intention, but according to descriptive intentionism, the descriptive intention is semantically significant, and thus overrides any singular intention. Descriptive intentionism is no *worse* as an explanation of the overriding force of deictic gestures than is Stojnić's incorporation of deictic gestures into syntax. This is sufficient to undermine any argument to the best explanation (of the overriding force of deictic gestures) in favor of Multi-Modality.

### 2.3. Gestures and Speech

I turn now to the argument from prosody. The central idea behind this argument is that the use of deictic gestures is subject to constraints on well-formedness: "English speakers count deixis as well-formed only when the pointing action is synchronized appropriately with the prosody of the accompanying utterance. They often repair utterances that fail to align speech and gesture in time" (p. 48). Stojnić cites here the work of Kendon. Kendon breaks a gesture down into three components, or phases: a preparation, where the speaker moves their hand or hands into position, a stroke, and a recovery, where the speaker's hands return to a resting position (Kendon, 2004, p. 112). The stroke is the semantically significant phase of a gesture, and Kendon observes that with many kinds of gesture, speakers will regulate their speech to synchronize the stroke of a gesture with the utterance of the particular word or phrase that the gesture is intended to semantically modify. Speakers, for example, may pause their speech during the preparation phase in order that the semantically relevant word is synchronized with the stroke phase. Or they may pause speech during

the stroke phase in order to avoid the stroke of a gesture overlapping with the use of another word.

Stojnić takes observations like this to support Multi-Modality, insofar as prosody (such as intonation to clarify focus) is syntactically encoded: “That there should be such constraints on well-formedness would be really surprising if pointing effects were not integrated in the logical form (indeed, it seems somewhat arbitrary to exclude the effects of pointings while including effects of prosody)” (p. 53, Footnote 29).

I agree that Kendon’s observations about synchronization would be very surprising for deictic gestures in communication, but while Kendon’s observations about synchronization are compelling, the most compelling examples he provides involve non-deictic gestures. One of Kendon’s clearest examples involves a speaker uttering the sentence: “He used to go down there and throw ground rice over it” (Kendon, 2004, pp. 113–114).

The utterance occurs during a conversation about basement storage in a grocery shop. During this utterance, the speaker produces a gesture mimicking the scattering of ground rice. The start of the stroke phase of this gesture is synchronized with the speaker’s utterance of “throw”, but the stroke takes longer than the utterance of “throw”. Kendon observes that the speaker pauses their utterance until the stroke is completed, only resuming with an utterance of “ground” during the recovery phase of the throwing gesture.

In the examples of deictic gestures that Kendon analyzes (mostly in Chapter 11, *On Pointing*), however, there is little indication of such prosodic constraints. The stroke of a pointing gesture usually temporally overlaps with the utterance of a demonstrative, but the stroke may also overlap with utterances of other words as well (and not just nominal complements of complex demonstratives). Intuition about our own use of deictic gestures supports this as well: we can use pointing gestures fairly freely in indicating objects for demonstrative reference, to the point of no overlap at all.<sup>12</sup> Of course, some of this freedom is lost if we utter sentences containing multiple demonstratives, but in such cases, there are pragmatic reasons to synchronize deictic gesture and utterance more clearly. We generally seek to avoid confusion in a conversation over what is being said about what.

Stojnić offers an example that seems to push back on the above objection:

The misalignment is marked; for instance, it would be strange to utter “I would like a piece of that cake”, where the pointing gesture accompanies the utterance of “I”, but not “that cake”. (p. 48)

Once again, careful consideration of the example suggests two possibilities. I submit that this example is not compelling unless it is clear in the case that the speaker *intends* the gesture to be synchronized with their utterance of “I”. If the

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<sup>12</sup> Justin Khoo (in press) raises this issue for Stojnić as well.

speaker adjusts their utterance to synchronize the gesture with their utterance of “I”, the accompaniment is forced to relevance, and it is unclear why the speaker has done this. Thus, in the intentional case, the misalignment the gesture and the utterance of the demonstrative is marked, because there is a conflict with the semantics of “I”. But if the gesture is performed more freely, without any suggestion that the speaker intends to synchronize their gesture with their utterance of “I”, then the gesture may occur at many points during the utterance of “I would like a piece of that cake” without being marked.

In particular, suppose I make eye contact with the baker across the store and point at a cake on display. The baker makes his way over, and long after my pointing gesture is complete, I utter “I would like a piece of that cake”. I am not required to make any other gesture at this point in the conversation, unless there is some unclarity about which of several cakes my original gesture indicated. Yet prosodic features, no matter how much variation is allowed, seem to require some overlap with the syllabus or segments they modify. Prosody offers a poor analogy for the constraints on our use of deictic gestures.

It is useful to compare the argument from prosody with another argument from elsewhere in the text. In her account of anaphora, Stojnić maintains that what she calls discourse conventions are grammatically, or linguistically, encoded. Discourse conventions, for Stojnić, resolve anaphora by updating or shifting the prominence ranking of the values of a context (not by adding a new value). She argues that discourse conventions are needed to account for cases where pragmatic abductive reasoning about anaphoric resolution, or perceiving speakers’ intentions, overgenerates available readings:

- (3) Margaret Thatcher admires Ronald Reagan, and George W. Bush absolutely adores her (p. 68, attributed by Stojnić to Kehler).

It is important for the example that “her” here is the unstressed pronoun. Stojnić argues that this sentence (so understood) is infelicitous, but if anaphoric pronoun resolution were merely a matter of pragmatic abductive reasoning (or, we might add, perceiving speakers’ intentions), then there should be no trouble in finding a felicitous use of (3) according to which “her” is anaphoric on “Margaret Thatcher”. This is a powerful argument that appeals to clear and compelling linguistic intuitions. Leaving pronoun resolution up to abductive reasoning (or perception of intentions) cannot explain clear restrictions on available readings of (3).

The argument from prosody for deictic gestures does not approach this argument in strength. In Stojnić’s example of constraints on anaphora, there is a clear target for felicitous pronoun resolution, so abductive reasoning or perception should find it and presumably quickly. The question is what prevents us from considering it, or why it is infelicitous. In Stojnić’s “I would like a piece of that cake”, the questionable case—where the gesture is intentionally synchronized with the use of “I”—is ruled out by the semantics: nothing in the context is both the speaker and the cake. If it is clear that the gesture was intended to be syn-

chronized with the use of “I”, the audience is within their rights to pause for clarification. (Though even here an addressee might press ahead, interpreting the demonstrative correctly and ignoring the oddity of the timing). But if the gesture is even loosely connected to the utterance “that cake” (even with a temporal gap between them), then abductive reasoning or perception of intentions is sufficient to account for the reference resolution. No matter how we understand the example, appealing to speaker intentions and audiences’ abilities to infer or perceive such intentions is sufficient to explain our intuitions.

I can think of at least one kind of case in which I detect stronger restrictions on synchronization of deictic gesture and demonstrative.<sup>13</sup> Suppose we replace the demonstrative “that” in Stojnić’s cake example with the indefinite “this”:

I would like a piece of this cake.

Here, it seems to me, there are some restrictions on pointing and the use of the demonstrative. If there is no overlap in utterance and pointing, the case is usually marked.<sup>14</sup>

Yet we can explain this kind of case by appealing to semantic features of “this” and to cross-linguistic observations about pointing. Unlike “that”, the indefinite demonstrative “this” imposes a restriction on proximity to the speaker. A distinction between proximal and non-proximal demonstratives (those that impose a proximity restriction and those that do not) appears to be a linguistic universal, though other languages make more distinctions than English does. It

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<sup>13</sup> A very different kind of case is based on a different example from Kendon: “They come in crates about as long as that” (Kendon, 2004, pp. 165–167). Suppose that in uttering this sentence, the speaker holds their hands out some distance apart, palms facing each other. Such a gesture seems to me to be required to overlap with the speaker’s utterance of “that”, but the gesture in question is not a pointing gesture.

Kendon takes his example to illustrate the use of gesture in creating a target for deictic, or demonstrative, reference (p. 177). The sense in which such a gesture creates a length is not clear to me, but I agree with Kendon that such gestures behave differently than standard pointing gestures. The gesture itself makes the length available for deictic reference. There are other ways to do this. If, for example, a stick of the appropriate length were nearby, then I could point at the stick. But in the absence of something else of the correct length, a speaker may introduce the length using the kind of gesture Kendon considers. It follows that there are clear reasons to synchronize one’s gesture with one’s utterance of “that” in such cases. Unless the gesture is synchronized, or at least overlapping, with one’s utterance of “that”, the length one wants to refer to with the demonstrative is not available in the context. This explanation does not require that gestures be syntactically encoded.

<sup>14</sup> Suppose there is only one cake, prominently displayed, but the baker is across the room. I might make eye-contact while pointing at the cake, but only utter “I would like a piece of this cake” once the baker has crossed the room, after the pointing. Here the temporal gap between pointing and use of “this” is less marked to me, but it is an open question whether the proximity induced by the pointing is relevant once the baker has crossed the room.

has also been widely observed across languages that pointing extends proximity (Levinson, 2018, p. 19):

**Pointing Extends Proximity.** A pointing gesture extends proximity to include the object of the gesture. The object of a pointing gesture is proximal to the gesturer (during the gesture).

Even a distant peak may be referred to using “this” provided that the speaker is clearly pointing at the peak. Furthermore, there is no evidence I am aware of to suggest that the effects of pointing on proximity survive the pointing gesture itself. For an English speaker to exploit the effects of pointing on proximity, therefore, they must time their utterance of “this” to overlap with the gesture. Nothing in the present explanation requires that gestures be part of syntax.

Stojnić is not the first to accept Multi-Modality. Frege appears to have accepted this thesis, though without the contemporary theoretical understanding of gesture. While Multi-Modality remains an intriguing hypothesis, I have argued that three of Stojnić’s four arguments identified above offer little to no support for it. The universality of index pointing undermines the argument from conventionality. The argument from the overriding force of deictic gesture raises several methodological and philosophical issues, but ultimately nothing follows about gestures being included in syntax. The argument from prosody is not very strong, in part because we can account for the most compelling cases without Multi-Modality. Thus the burden of proof for Multi-Modality, and for Stojnić’s account of demonstrative reference more generally, now falls to the fourth of Stojnić’s arguments. Evaluating this argument will occupy us for the remainder of the paper.

### 3. The Argument from Logic

Stojnić’s fourth argument appeals to intuitions about valid inference using demonstratives: “Finally, note that the linguistic contribution of a pointing gesture affects the inference patterns (17) licenses” (p. 51). Here we must proceed carefully, because her examples involve anaphora as well. To avoid questions about the proper treatment of anaphora in logic, I will focus on examples involving only deictic uses of demonstratives. As we have seen above, I take Stojnić’s arguments about anaphora to be much stronger than her arguments concerning deixis. The point of the present discussion is that Stojnić’s theory of deixis is inadequate if it cannot handle examples involving only deictic uses of demonstratives, and so I draw no conclusions about Stojnić’s theory of anaphora.

#### 3.1. Stojnić’s Dilemma

To fix ideas, consider the following examples, based on Braun (1996), who in turn adapted an example from Perry (1977):



### The Ship

We are sitting on a hill, watching ships enter and exit a harbor. From our vantage point, a tall building obscures a stretch of the channel. Having turned away for a moment, I turn back to see the bow of a ship emerging to the left from behind the building, and the stern of a ship disappearing behind the building from the right. I utter:

(4) That ship is identical to that ship.

Example A: while pointing at the emerging bow throughout my utterance.

Example B: while pointing first at the bow and then at the stern. B factors into two cases:

B1: there is exactly one ship whose bow and stern I point at.

B2: the bow and stern at which I am point belong to different ships.

In A and in B1, I have said something true. In B2, I have said something false. Already we have a difference in inference patterns, because nothing false follows from anything true, but true things follow from themselves. More subtly, however, it is plausible that A and B1 differ in their inference patterns. As Kaplan and others after him have emphasized, there is an important way in which I could be wrong in B1 that is not possible in A. In particular, it is in some sense epistemically possible in B1 that I am in B2, because we may suppose that the physical actions of my gestures are the same across the two cases.<sup>15</sup> As a result, my utterance in A has an epistemic or logical force that the utterance in B1 lacks.

According to Stojnić, the only way to capture the inferential behavior of demonstratives in a Kaplanian framework requires abandoning the referential promiscuity of demonstratives: “The difference in form between [the two uses of her example] boils down to a difference in the representation of the pronoun, that is, to a difference in the choice of a variable that represents the pronoun” (p. 51). The idea is that what appears to be the same sentence appearing in different contexts (and exhibiting different inferential behavior) is in fact two different sentences each with its own unique inferential behavior. For example, in appearing to utter (4), a speaker is really uttering one of either (4.1) or (4.2) or (4.3) or, etc.:

(4.1) That<sub>1</sub> ship is identical to that<sub>1</sub> ship.

(4.2) That<sub>1</sub> ship is identical to that<sub>2</sub> ship.

(4.3) That<sub>2</sub> ship is identical to that<sub>247</sub> ship.

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<sup>15</sup> One might object here that given Kaplan’s “old switcharoo” (1989b, p. 589), there are no cases like A. Georgi (2020, p. 130, Footnote 9) rejects this argument.

The result is a kind of massive ambiguity, and Stojnić describes it as such: “This suggests that the ambiguity is in the pronoun itself” (p. 51). Strictly speaking, however, on the view targeted by Stojnić, there is no one referentially promiscuous or ambiguous demonstrative “that”. There are, instead, a series of demonstratives “that<sub>1</sub>”, “that<sub>2</sub>”, etc. So the view Stojnić targets amounts to rejecting the referential promiscuity of demonstratives. To have a name for this proposal, I will call it the *demonstratives as variables view*.

Stojnić takes the ambiguity entailed by the demonstratives as variables view to be problematic. She concludes that her account of the logical behavior of demonstratives is simpler than any Kaplanian account. The conclusion follows via a simple dilemma: “It [the demonstratives as variables view] represents the difference between [the utterances of (4)] as a difference in the representation of a single ambiguous expression, rather than as a difference in the linguistic material the two utterances contain” (p. 52). Stojnić appears to assume here that there are two options for capturing the inferential behavior of demonstratives: either the target view or her own. If these two options are exhaustive, then any challenges to the demonstratives as variables view are evidence in favor of Stojnić’s account of demonstratives, and Stojnić has a valid argument for her account. But if these options are not exhaustive, then Stojnić’s argument is invalid.

Work on the logic of demonstratives by Georgi (2015; 2020), however, shows that Stojnić’s options are not exhaustive. According to Georgi (2020), Kaplanian contexts determine *coordination schemes*, where a coordination scheme is a restriction on coreference between occurrences of demonstratives. Georgi proposes that a sentence containing demonstratives is logically true relative to a context *c* iff it is true in all contexts of all models that share the coordination scheme of *c*. On this picture, we model logical differences between utterances of (4) as differences in context. (4) is logically true relative to a context *c* iff the two occurrences of “that” are coordinated in *c*. Example A above is a plausible candidate. Yet in B1, the occurrences of “that” are not coordinated, and this is sufficient to explain the differences in logical force in the example: (4) as uttered in B1 is true, but it is not logically true.

### 3.2. Ambiguity and Logic of Demonstratives

Georgi’s logic of demonstratives is sufficient to show that Stojnić’s argument from logic is invalid. The key dilemma on which Stojnić relies is not exhaustive. But Stojnić is correct to reject the demonstratives as variables view. There is nothing ambiguous about the demonstrative “that”. It is one word. In learning to use demonstratives, we do not learn an infinite sequence of indexed expressions “this<sub>1</sub>”, “that<sub>1</sub>”, “this<sub>2</sub>”, “that<sub>2</sub>”, etc. And when a speaker utters a sentence like “That is a dog” there is no sense in which it is unclear what the first word is, in contrast to “Banks are good places to relax” (see Stanley, Szabó, 2000, pp. 226–227 for discussion).

Finally, there are clear cognitive benefits to having a single word whose semantic role, to borrow a term from Kit Fine, is to semantically encode objects in the shared environment of a conversation. If each apparent use of a demonstrative to refer to a distinct object is in fact a use of a new word, the result is a significant challenge to our finite cognitive resources.

Stojnić, however, appears to accept that an adequate treatment of the inferential behavior of demonstratives will require some kind of ambiguity.<sup>16</sup> As a result, her theory amounts at best to offloading the problematic ambiguity onto deictic gestures, and so it appears to face at least some challenges of any ambiguity view. Pickel, Rabern, and Dever, for example, argue that any view along the lines proposed by Stojnić imposes significant cognitive costs on language users: “Language learners are still left with a vast primitive vocabulary to learn. And in this case, the vocabulary consists largely of demonstrations—pointing fingers, gestures, glances, directing intentions, must all be construed as lexical inputs to interpretation” (Pickel, Rabern, Dever, 2018, p. 146).

On Stojnić’s view, understanding a pointing gesture is akin to learning a new name, because understanding a pointing gesture amounts to learning a conventional sign for the thing pointed at. (We will return to the role of convention in Stojnić’s argument below). Given the frequency with which we use demonstratives, the result is a massive increase in the vocabulary of language users. It makes no difference that this vast vocabulary is gestural rather than verbal. Each new convention must be learned. Thus, even if we are sympathetic toward Multi-Modality, we should be suspicious of Ambiguity.

It is important to recognize that the required vocabulary is massive. The inferential behavior of deictic gestures requires that deictic gestures be very fine-grained. Examples B1 and B2 above show that what appear to be instances of the same gesture are in fact instances of distinct gestures naming distinct objects. This much Stojnić explicitly grants in the second quoted passage at the beginning of the paper. Examples A and B1, however, show that distinct gestures may name the same individual. Otherwise, Stojnić can only represent what is uttered in A and in B1 using the same formula:

$$[\langle \pi b \rangle \text{ that ship}] = [\langle \pi b \rangle \text{ that ship}]$$

This fails to account for the logical differences between A and B1. To distinguish distinct pointing gestures aimed at the same object, Stojnić’s formal theory requires either a series of indexed symbols for each gesture:  $\pi_1$ ,  $\pi_2$ , etc., or that

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<sup>16</sup> This is suggested, for example, in her use of the definite description “the ambiguity” in the passage quoted four paragraphs above and repeated here: “This suggests that the ambiguity is in the pronoun itself” (p. 51).

different constants in her formal notation can denote the same object. Each option imposes further cognitive costs on language learners.<sup>17</sup>

In contrast, Georgi's logic of demonstratives requires no such ambiguity. The two occurrences of "that ship" in (4) are coordinated in A but not in B1. As a result, Georgi's logic entails that (4) is logically true relative to the context of A, but it is not logically true relative to the context of B1 (even though it is true relative to this context). Thus, Georgi's logic of demonstratives offers an account of the inferential behavior of demonstratives without any ambiguity at all.

### 3.3. Validity, Semantics, and Pragmatics

Yet Stojnić may object here that the conception of logical consequence defended by Georgi is unacceptably pragmatic, because the logical form of an argument in a context is determined in part by pragmatic processes of pronoun resolution. She presses just this objection to the demonstratives as variables view:

Further, it also suggests that, if we want to capture the intuitive difference between [the two utterances of (4)] as a difference in validity of the logical form, we would have to understand validity partly as a pragmatic notion, as it is pragmatic reasoning that guides the choice of the representation of the pronoun. (p. 51)

But one might extend her point to Georgi's proposal, via the following argument. According to Georgi, coordination, like the reference of a demonstrative on Kaplanian views, is a parameter of context. As such, it is identified by discourse participants via pragmatic reasoning or perception. If such coordination is not necessary for logical form, then validity is not, on Georgi's proposal, strictly a matter of logical form alone, because validity requires such coordination. Yet if such coordination is necessary for logical form, then the logical form of an argument can vary from one context to another, and Georgi's proposal makes logical form itself a matter of pragmatic processes. Thus, either validity, or logical consequence, is not formal (not a matter of logical form), or validity is in part a pragmatic notion.

There is, however, a significant disanalogy between the demonstratives as variables view Stojnić rejects and Georgi's proposal. On the demonstratives as variables view, the logical properties of an utterance if (4) are a matter of *what sentence*—(4.1) or (4.2)—was uttered. This is sometimes called a *pre-semantic* role of context, because any resolution of what is uttered must occur prior to the semantic interpretation of what is uttered. It follows that on the demonstratives as variables view, coordination relations are determined pre-semantically. It is this role of context that Stojnić rejects in the passage quoted in the previous paragraph. On Georgi's proposal, in contrast, coordination relations are deter-

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<sup>17</sup> One might appeal to Armstrong's work on dynamic conventions in response to this argument as well, but the disanalogies between Armstrong's examples and deictic gestures discussed in Section 2.1 remain.

mined by the contexts of our semantics. As a result, coordination, on Georgi's view, is as much a matter of the semantic role of context as is standard indexical reference for Kaplan. To the extent that Kaplanian semantics is distinct from pragmatics, we may reject the second horn of the dilemma in the previous paragraph. The logical form of a sentence or argument can vary from one context to another, but logical form, and hence validity, is not an objectionably pragmatic notion.

### Conclusion

My goals in this paper have been limited: I have argued (i) that none of the four arguments Stojnić offers for Multi-Modality is wholly successful, and (ii) that Ambiguity has significant cognitive costs for language users. Along the way, we have encountered an alternative logic of demonstratives that avoids introducing any kind of ambiguity to account for the inferential patterns we observe in the use of demonstratives.

As I have emphasized above, none of the objections to Stojnić in the present paper challenge her views about anaphora. But the present objections do undermine the appeal of Stojnić's unified account of deixis and anaphora. Such a unified account promises greater overall theoretical simplicity. Simplicity considerations, however, are tiebreakers at best. They require an "all else equal" condition. But the argument of Section 3 suggests that all else is not equal in comparing Stojnić's and Georgi's account of logic. Simplicity considerations alone cannot support the surprising theory that demonstrative reference is syntactically encoded.<sup>18</sup>

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MARIE MICHON\*

## TWARDOWSKI ON CONTENT AND MEANING

**SUMMARY:** Kazimierz Twardowski elaborated an original conception of intentionality in his habilitation thesis, *On the Content and Object of Presentations*, in 1894. He gives a crucial place to the notion of content, as the basis of any presentation. This allows him to offer a solution to the problem of objectless presentations. But I will focus here on a property he attributes to content, that is, its ability to convey meaning. Outside the proper scope of philosophy of language, he provides a conception of meaning that does not focus on reference but rather on designation. His theory does not account for the Fregean distinction between sense and reference, so I will propose a comparison between the two philosophers' conceptions of meaning.

**KEYWORDS:** Twardowski, meaning, content, Frege, Intentionality.

### Introduction

Few people would deny that content and meaning are related, even linked. In propositions, for example, the meaning conveyed can be closely associated with the content of the proposition. But one could also argue that a difference between the two is that content is situated *within*. The content is, as stated by the very definition of the word, contained or included in something, whereas meaning may be elsewhere: it is what is expressed. Our meanings do have contents, but do our contents have meanings? These terms possess specific definitions that

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\* Université Paris 1 Panthéon-Sorbonne, Institute of History and Philosophy of Science and Technology. E-mail: mmarie.michon@gmail.com. ORCID: 0009-0002-3853-4748.

evolved from a long philosophical tradition, one that precedes the establishment of logic as we currently know it. In this paper, I would like to offer insights based on the work of the Polish philosopher Kazimierz Twardowski. He was a student of Franz Brentano and developed a new conception of intentionality that places the content of a presentation front and center. With his new conception also comes a new dynamic for conceiving the relationship between the subject, the world, and the meaning ascribed to it. But the catch here is that Twardowski's theory is more than a theory of content: it can also be read as a theory of meaning. Indeed, even if he was not a philosopher of language *per se*, he founded his approach in the study of language. Moreover, to quote Jan Woleński, one will find Twardowski at the source of the intense Polish interest in semantics (Woleński, 2009, p. 44)<sup>1</sup>—which would later extend to the Polish School of Logic. In this article, I will examine several acceptations for the words “meaning” and “reference” as they are used by philosophers of different traditions.

This paper will consider Twardowski's first contribution to philosophy. Indeed, I will solely focus on the content theory he developed in his habilitation thesis *On the Content and Object of Presentations* (Twardowski, 1894), with some references to later papers. I will begin by retracing Twardowski's steps, departing from his Brentanian roots, and to this end I will summarize the traditional conception of intentionality that stems from Brentano, in order to highlight the emergence of the content of presentations. Then, I will take an interest in Twardowski's approach to meaning to show how he incorporated the study of language in his philosophy. I will see that the Polish philosopher offers insights on meaning in a broad, almost vague, sense that is intertwined with his conception of content. This will lead us to examining this conception of meaning, more dynamic and focused on use and expression, but deeply connected to the subject. Finally, I will compare Twardowski and Frege's ideas. I will do so by comparing their respective conceptions of meaning, that is by “translating” Twardowski's insight into the Fregean lexicon.

### 1. The Brentanian Conception of Presentations

Twardowski's ideas about content are part of his original conception of intentionality, understood as the relationship between a conscious subject and the world. This relationship is mental in nature: one cannot comprehend anything in the world without first constructing a mental presentation of it. This conception of intentionality stems from Franz Brentano, whose teaching and mentorship served as foundations for Twardowski's ideas; he attended Brentano's lectures, and the Austrian philosopher was his unofficial PhD advisor.<sup>2</sup> The philosophical

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<sup>1</sup> Additionally, Maria van der Schaar titled her book on Twardowski *A Grammar for Philosophy* (2016).

<sup>2</sup> His official PhD advisor was Robert Zimmerman, but for administrative reasons only (Huemer, 2019).

kinship, then, is no surprise. Twardowski began his habilitation thesis, *On the Content and Objects of Presentations*, by quoting Brentano: “It is one of the best positions of psychology, hardly contested by anyone, that every mental phenomenon intends an immanent object” (Twardowski, 1894, p. 1). But this acknowledgment of the tradition serves as a way to emancipation: the rest of his habilitation thesis is an original proposition about the content and the object of presentations. To better understand the originality of Twardowski’s ideas, let us briefly consider Brentano’s intentionality. More precisely, I will only consider Brentano’s first conception of intentionality. There were changes in Brentano’s position over the years,<sup>3</sup> but I focus on what was his standard conception when Twardowski wrote his habilitation thesis. Intentionality, or in Brentano’s own words *intentional inexistence*, or *directionality*, is developed in the first edition of *Psychology from an Empirical Standpoint* (Brentano, 1874). The following quotation is the most famous passage:

Every mental phenomenon [*Phänomen*] is characterised by what the Scholastics of the Middle Ages called the intentional (or mental) inexistence [*Inexistenz*] of an object [*Gegenstandes*], and what we might call, though not wholly unambiguously, reference to content [*die Beziehung auf einen Inhalt*], direction toward an object [*Objekt*] (which is not to be understood here as meaning a thing [*Realität*]), or immanent objectivity [*immanente Gegenständlichkeit*]. (Brentano, 1874, pp. 124–125)

The fundamental property of psychic phenomena is actually double: they are directed toward something that is a specific object. The object here is what is presented before the mind. As we can see from Brentano’s use, the German possesses two words for “object”, depending on its “location”: traditionally, *Objekt* is the internal object, presented in the mind, and *Gegenstand* is the external object, which is presented. For the early Brentano, the *Objekt* is immanent, meaning it is mental by nature. This conception stems from the scholastic tradition, in which objects can only exist *in* the mind (hence the in-existence): i.e., they possess intentional existence and not real existence. For the early Brentano, the object is not in the world, it is not a *Realität*, it is in the conscious mind. That is the case for all three kinds of psychic phenomena—presentation, judgment, and belief, i.e., for thinking in general (Smith, 1994, p. 60). It is a serious position that he will himself reject in time. Indeed, in the foreword to the aforementioned 1911 edition of *Psychology*, he will write:

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<sup>3</sup> In the years following his self-imposed exile from Austria, Brentano continued writing his *Psychology*. In 1911, he published the next part of the book under the title “Classification of Psychic Phenomena”, which comprises Chapters 5 to 9 of the Second Book, as well as Appendix I. And, in 1924, Oskar Kraus published a new version that comprised the 1974 and 1911 editions plus some other texts of his choosing.

One of the most important innovations is that I am no longer of the opinion that mental relation can have something other than a thing [*Reales*] as its object [*Objekt*]. In order to justify this new point of view, I had to explore entirely new questions, for example, I had to go into the investigations of the modes of presentations. (Brentano, 1874, p. xxiii)

Even if this change proves irrelevant for Twardowski's conception of the object of presentation—because, in 1896, he drew on Brentano's early work—it is worth mentioning it to stress the fact that Brentano's first conception of intentionality had loose ties to the real world.

As I have detailed, this early idea of intentionality is mainly a relationship between a subject and an object; nevertheless, the notion of content is present. We can summarize this with the idea that when one thinks, one must think of something. Indeed, intentionality, as a property of every mental act, implies that the object possesses an intentional existence, and, at the same time, intentionality is a reference [*Beziehung auf*] to a content, direction toward an object. Let us add that Brentano's distinction between content and direction is not always very clear.<sup>4</sup> The notion of content is not really mentioned in *Psychology*,<sup>5</sup> and more importantly, it is not as critical as it will be in the writings of Brentano's students, like Höfler, Husserl, Meinong, and Twardowski (Jacquette, 2006, p. 10; p. 29, Footnote 5; p. 77, Footnote 24). Now, there are two possible interpretations of intentionality as a reference; i.e., there are two ways of interpreting the comma in the famous passage about intentionality, and hence two ways of thinking about the relationship between reference and intentionality. We can consider the comma as a means of juxtaposing two items, which is the traditional interpretation—in this case, reference and direction are alternative formulations of the same matter. Or we can consider the comma as a mean of separating the two items, as Hamid Taieb (2017) does—in this case, a mental act is directed toward something, and it can *also* refer to it. Brentano's first conception of intentionality is relational in nature, in the sense that both parts of the equation are directly related

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<sup>4</sup> There is actually a note in the English edition of *Psychology* stating that in the famous passage, Brentano uses “content” and “object” synonymously (Brentano, 1874, p. 68, Footnote 9).

<sup>5</sup> The later editors of Brentano's *Naschlass* succeeded in erasing the notion of content from his texts (Fréchette, 2011; 2015). This is not of importance for any immediate student of Brentano, who had access to untampered texts.

to one another.<sup>6</sup> This is the foundation of the two ways of approaching reference, as Taieb supports his claim by translating the German “*Beziehung auf*” as “relation” and not “reference” (Taieb, 2017, p. 121). We must keep in mind here that, in any case, the now widely accepted conception of reference comes from the work of Gottlob Frege, and it does not make much sense to apply it to Brentano’s conception. For example, Brentano’s PhD thesis, entitled *Von der Mannigfachen Bedeutung des Seienden nach Aristoteles*, is translated into English as *On the Several Senses of Being in Aristotle*. There is no evidence that one ought to distinguish between sense and meaning, and reference and denotation, in studying the early Brentano because *Sinn* and *Bedeutung* were not (yet) used with the distinction Frege imposes on language. So we can say that his characterization of presentations as reference to a content is a way to describe the movement of the mind toward what it is thinking about.

Now that I have briefly summarized early Brentano’s take on intentionality, I will examine and assess Twardowski’s original take on his mentor’s ideas.

## 2. Twardowski’s New Intentionality

Twardowski develops his own conception of intentionality in his habilitation thesis. His main deviation from the work of Brentano is his conception of the relationship upon which intentionality is based. The conscious subject and the object remain, but he expands the domain of content.<sup>7</sup> He does so very clearly by titling his first section *Act, Content and Object of the Presentation* (Twardowski, 1894, p. 1). The order of the terms provides us with insight into the respective

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<sup>6</sup> This will change after 1905 when Brentano stops considering mental reference to be a relationship (Boccaccini, 2010, p. 13ff.). See also *The Origin of Our Knowledge of Right and Wrong*:

The common feature of everything psychological, often referred to, unfortunately, by the misleading term “consciousness”, consists in a relation that we bear to an object. The relation has been called intentional; it is a relation to something which may not be actual but which is presented as an object. (Brentano, 1889, pp. 8–9, emphasis added)

The original passage is also provided here, as Chisholm’s translation changes the structure of the sentences:

Der gemeinsame Charakterzug alles Psychischen besteht in dem, was man häufig mit einem leider sehr mißverständlichen Ausdruck Bewußtsein genannt hat, d. h. in einem Subjektischen Verhalten, in einer, wie man sie bezeichnete, intentionalen Beziehung zu etwas, was vielleicht nicht wirklich, aber doch innerlich gegenständlich gegeben ist. (Brentano, 2014, p. 16)

<sup>7</sup> In fact, Twardowski was not the first to introduce a distinction between the object and content of a presentation; similar ideas can be found in the work of Bolzano, Zimmermann, Höfler, and Kerry, but not as elaborated (Cavallin, 1997). Meinong will develop his own later (for details about Meinong’s and Höfler’s reception of Twardowski’s content, see Fréchette, 2011).

significance given to each part and on Twardowski's conception. In his words, presentation is, above all, a conscious act on the part of a subject. It is the ground upon which all other mental acts rest. Twardowski insists on the fact—which is a foreshadowing of his general conception of philosophy—that the term “presentation” is ambiguous: “the expression ‘the presented’ is in a similar fashion ambiguous [*zweideutig*] as is the expression ‘presentation’” (Twardowski, 1894, p. 2). He explains that when one talks about presentation, one can understand it as any of the following:

- (1) the act of presenting [*die Vorstellungsakte*],
- (2) the operation of presenting [*die Tätigkeit des Vorstellens*],
- (3) what is presented [*das Vorgestellte*],
- (4) the content of the presentation [*Vorstellungsinhalt*].

But there is a philological ambiguity to resolve here. This breakdown into four parts is apparent in the original German version of the text, with two parts, each with two subparts; the French translation and the Polish version of the text reflect this, but the English translation does not and omits (2).<sup>8</sup> The two parts are separated by coordinator words (respectively, *bal*/*tantôt/bqdź/sometimes*); the interpretative problem arises with the commas: are they tools for juxtaposition or for separation? The English translator, Reinhardt Grossmann, seems to think the commas are for juxtaposition, as he does not translate *die Tätigkeit des Vorstellens* at all, but only keeps *die Vorstellungsakte*. In his understanding, the operation and the act are one and the same for Twardowski. Even if one can object to the liberty he took with his omission, one has to admit he was right to do so, as Twardowski indeed uses both terms synonymously in other parts of the text.<sup>9</sup> The point here is that, for the Polish philosopher, presentation is more of an act than a relationship, because it is above all a mental act. This is a big step: with this idea, the old principle of mental phenomena is set aside to make room for activity in a very new way. This is part of the deliberate movement Twardowski initializes to modernize intentionality and render it more relevant to the practicality of life. Then, if operation and act are juxtapositions, the second part of the possible meaning of “presentation” must also be a juxtaposition, hence defining the content of a presentation with the idea of “what is presented”.

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<sup>8</sup> This is the only part of this article where I translated myself from German to English, because the English translation “lacks” a part of the German sentence it was translated from by Reinhardt Grossmann. See the differences in (Twardowski, 2017, p. 39) for German, and respectively, in (Twardowski, 1993, pp. 87-88) for French, (Twardowski, 1965, p. 4) for Polish, and (Twardowski, 1977, p. 1) for English.

<sup>9</sup> For example, compare (Twardowski, 1894, p. 16) with the original German (Twardowski, 2017, p. 50).

We can see that there is an issue here: if the content is what is presented, what about the object?<sup>10</sup> Any reader of Twardowski has to admit that the problem with his conception of the object of presentation is that he does not care for it. The object is only a means to describe the important part of the presentation accurately, i.e., the content. When describing the traditional view of intentionality, he mentions the immanent object and describes it as a mental, “more or less approximate, ‘picture’ of that real entity which exists ‘in’ us” (Twardowski, 1894, p. 2). The core idea is that the mental act is not directed toward an object anymore, but toward a content. There is a requalification of sorts; Twardowski insists that what was called “object” before is actually the content of the act of presentation. The object is no longer immanent but transcends the mind: “Everything that is presented through a presentation [...] we call an object” (Twardowski, 1894, p. 37). He builds on scholastic philosophy, as Brentano did, who stated that the object is *ens rationis*—the set of the things about which one can reason whether they exist or not—to show that this actually applies to the content. Twardowski does not intend to refute the previous theory of intentionality, and does not consider the previous theory to be wrong. Rather, he thinks that it failed to make an important distinction: the distinction between intentional object and object is actually a distinction between content and object. The Polish philosopher repurposes the immanent object into the content because only the content can be mental in nature. But note that the difference between object and content, for him, is real and not only conceptual (Twardowski, 1894, p. 27). This changes the whole conception of intentionality; in this new version, the mind is not directed toward an immanent object but it is directed toward content. Twardowski relies on the property of mental dependency to make the distinction: only content is mind-dependent, the object cannot be. Under this property, there is a more metaphysical problem at stake, that is, the problem of existence.

An old problem in philosophy is how to account for thoughts and judgments about things that are not real (Benoist, 2001; Chrudzinski, 2015; Jacquette, 2006). After the linguistic turn in philosophy, one would rephrase the problem in this way: how can I judge that *X* is true if *X* refers to something that has no counterpart in the real world? Brentano, following Bolzano and others (Brentano, 1874, p. 211), was adamant and insisted that there is no possibility of presentation for things that do not effectively exist in the real world. They cannot be the objects of any presentations; they can only be fantasies. But Twardowski holds a peculiar position here, because he defends a point of view opposed to the general landscape. And his solution to the problem of “objectless presentations”—which he calls *Die sogenannten “gegenstandslosen” Vorstellungen*, the so-called “objectless” presentations (Twardowski, 1894, pp. 18–26)—lies with the notion of content. For Twardowski, presentations of this kind do possess an object for the

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<sup>10</sup> Only simple objects are referred to here—general objects are left outside of our scope (for more details, see Twardowski, 1894, §15; van der Schaar, 2016, p. 79).

simple reason that without an object there can be no presentation at all. He does not place any limitation on the effective existence of said object:

Objects are either real or not real; they are either possible or impossible objects; they exist [*existieren*] or do not exist. What is in common to them all is that they are or that they can be the *object* (not the intentional one!) of a mental act. (Twardowski, 1894, p. 33)

Because objects of presentation can actually be anything, there has to be an anchor to the mind, and this is the content. It possesses in itself all that is needed to render presentation possible, even with impossible objects. The primary mode of existence is not real existence but *intentional* existence. Only intentionality is needed in order to produce a presentation. Whether the object we present actually exists or not, the content generated within the presentation possesses intentional existence. One could say that Twardowski was being pragmatic, or maybe a dreamer, looking for a means of accounting for moments when we think about fantasies without simply dismissing them as frivolous talk. This was a very novel stance when Twardowski proposed it because the tradition was that judgments were used to assert existence conditions: saying that *X* is blue meant first that *X* exists, then that *X* has the property of being blue. Adapted once again to our more contemporary views on linguistics, we can say that, with his dismissal, the Polish philosopher basically asked who cared if the truth conditions of sentences such as “I dreamed I saw a mermaid” and “I saw a mermaid” are different, or if, in fact, I could never be a mermaid. The question is not about truth or existence, it is about the fact that we do indeed present ourselves with objects that do not actually exist.

As clearly stated by many philosophers, Twardowski is one of the first to argue for a new kind of intentionality focusing on the content of a presentation instead of its object. The content is a real part of the presentation, not a conceptual distinction from the function of the object. It has its own conditions of existence, on an intentional level only, and it is mind-dependent. This concludes the more traditionally philosophical part of this paper. Let us now focus on the relationship between content and meaning. Twardowski was not a philosopher of language per se, but his work is built upon language analysis.

### 3. Finding Meaning in Language

I established the genealogy between Brentano and Twardowski because it was relevant to understanding the intentional theory of the latter, but it will not help us understand the relationship between content and meaning. If Brentano had, indeed, an idea of content as “referent”, it had very little to do with what is now understood as reference: I showed that he used “*Beziehung*”, not “*Bedeutung*”. Brentano seems to have had no interest in connecting intentionality and meaning, and especially not from what would nowadays considered a linguistic point of view. Maria van der Schaar noted that he distinguished logical



distinctions from grammatical ones (van der Schaar, 2016, p. 24), but that is the extent of his interest in language.

On the other hand, there is an acute linguistic interest to be found in Twardowski (Woleński, 2009). In this section, I will examine what he intends by “meaning”. His description of the distinction between object and content is supported by grammatical considerations. When he asserts that “everything which is designated [*was genannt wird*] is an object” (Twardowski, 1894, p. 34), he means that linguistic designation, broadly understood, is a way to understand what the object is; doing this, he intertwines the philosophical conception of the object with its linguistic counterpart. That is why he continues by adding that what is designated by nouns—or nominal groups, clauses, etc.—can be an object. Twardowski maintains that there is a coincidence between grammatical categories and the manner in which we make presentations. In other words, Twardowski shows that we speak in the same manner that we think,<sup>11</sup> even if it is not a perfect parallel—he prefers to talk about the connection between mental phenomena and the linguistic expressions that designate them as an analogy (Twardowski, 1894, p. 8). The Polish philosopher studies the grammatical category of nouns through the category of *categorematic signs*, one he took from Marty and the Scholastics. He offers this extended definition:

[C]ategorematic signs are linguistic means of designation [*sprachlichen Bezeichnungsmittel*] which are not solely co-significant [*nicht bloß mitbedeutend sind*] (like “of the father”, “about”, “nevertheless”, and the like), and which do not by themselves completely express a judgment (assertion), or a feeling, or a decision of the will, and the like (requesting, asking, commanding, etc.), but which are merely expression for presentations [*den Ausdruck einer Vorstellung bilden*]. Such names are “the founder of ethics” and “a son, who has insulted his father”. (Twardowski, 1894, p. 9, modified translation)

Hence, the category of *categorematic signs* does not exactly align with our current category of nouns. It is, at the same time, more restrictive—because it excludes means of designation that only have meaning within a context, and less restrictive—because it includes nominal groups or relative clauses. By bringing together nouns and *categorematic signs*, Twardowski does effectively exclude all grammatical items that are not proper means of designation of things, as opposed to, say, adjectives that could be interpreted as able to designate a concept, e.g., “red”. His goal is to circumscribe the categories that can fulfill the “task of nouns”, that is, to “arouse in the listener a certain content of a presentation” (Twardowski, 1894, p. 9, translation modified).<sup>12</sup> But he adds to the list of means of designation able to fulfill this task, ones that do not completely express

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<sup>11</sup> Maria Van der Schaar is also explicit about this (van der Schaar, 2016, p. 27).

<sup>12</sup> For an unknown reason, the translator from German to English translated “*Namen*” to “names” and not “nouns”, and doing so hides the grammatical impact Twardowski made. It is clear that Twardowski is interested in grammatical categories, hence in nouns.

a judgment, or a feeling, or a decision of the will. We can read here an evocation of Brentano's categories of mental acts: presentation, judgments, and acts of the will, feelings, and the rest.

Twardowski's interest in nouns comes from their grammatical nature, but also from the parallel he draws between language and representation—from now on, “noun” will be used here as he intended. Nouns exist for many things, among them some actually exist (cats, honey, astral bodies...) and some do not (mermaids, trickle-down economics, James Bond...). This means that nouns, as a category, are not actually bound by the existence, which can have some interesting philosophical implications for the objects the nouns designate. This leads us to a rather tricky part of Twardowski's “philosophy of language” because one can read here some suggestions about reference. Jocelyn Benoist does (Benoist, 2001, p. 77) when he stipulates that the Polish philosopher, with the nominal model of presentation I have described, carries a “referentiality requirement”. He means that presentations, like nouns, must have some referent at all times. Let us develop why this may be problematic, notably because this analogy is made upon the specific case of objectless presentations. Twardowski holds that nouns, like the objects of presentations, can designate things that simply exist or not, they can also refer to things that do not exist anymore (e.g., dodos), things that do not yet exist (e.g., the future), or even to things that just cannot exist (e.g., nothing). This last example is Twardowski's own, as he asserts that when one presents oneself with nothing, there still is a presentation; if that were not the case, thinking about nothing would amount to not thinking. Indeed, we do invent nouns and names to refer to the world or to dream; there is no law about inventing concepts and having new ideas, and thus, nouns to designate them. In the same way, our minds wander and we can think about virtually anything. Twardowski acknowledges this by stating that all presentations have objects, and by modifying what this object entails in order to adapt to the fact that we may think of things that do not exist. For him, the mode of existence of a noun is not dependent on the actual existence of the thing it designates, but only dependent on the fact that we use that word to refer to the world. Because the noun awakens a certain mental content in the listener (Twardowski, 1894, p. 9), it can provide intentional existence to the object it designates, whether they actually exist or not. Now, the delicate part is the assimilation of existence and reference. It may be better to retain the pair “meaning/existence” (with considerations of actual and intentional existence) than the pair “meaning/reference” for interpreting Twardowski's habilitation thesis. The Fregean distinction between sense and reference cannot apply here, as we mentioned it could not for Brentano. I will come back to the relationship between Twardowski and reference later in this paper.

Therefore, let us come back to the question of the meaning and how all of this affected Twardowski's position. We can sum up Twardowski's view with his assignation of three tasks to nouns: first, they reveal that the speaker is engaging in an act of presentation; second, they arouse in the listener a certain content; and third, they designate objects (Twardowski, 1894, §3). This also contributes to

what I called Twardowski's pragmatic approach. He reminds us that an act of expression is intentional in the philosophical sense of the term but also in the common sense of the term: we want to convey something to someone. This is where we find meaning. His suggestion is that the words we choose are directly linked not only to what we want to say, but also to what presentation we want to generate in others. When I say that I am happy, there is a double effect in the reception of my sentence: first, the listener will know that I have an emotional life, and second, he or she will understand what I mean because my words will evoke a similar presentation in them. This is made possible by conveying a meaning. Hence, Twardowski draws a parallel between the content of a presentation and the meaning of a noun: "*Dieser Inhalt ist es, den man unter der 'Bedeutung' eines Namens versteht*" (Twardowski 2017, p. 46). He repeats this in a footnote on the same page, with the same words. The English translator, Grossmann, uses "meaning" as Twardowski himself does when he quotes in English in this German text. Indeed, for a definition of meaning, Twardowski suggests following William Stanley Jevons in his *Principles of Science* (Jevons, 1873), and he quotes him: "Etymologically the meaning of a name is that which we are caused to think of when the name is used". This meaning, and in the same movement the content, has a purpose, which is to illicit something in the receiving person. There is a directionality here that starts in the mind of the speaker (later in the footnote, content is designated as *Seeleninhalt*) and ends in the mind of the listener. Oddly enough, there is no room for discussing self-consciousness or introspection. This semantic definition of meaning applies to mental content, and it is dependent on the person thinking and presenting it. Meaning is linguistic, as it is conveyed by language, but it is different from logical, objective meaning as we think of it now. Meaning, in Twardowski's terms, is psychological. Jevons' definitions may seem unsatisfactory to the modern reader, but it actually gives us all the information we need.

We are now able to understand why Twardowski suggests one should envision the distinction between the object and content of a presentation in a new way: the content is presented *in* the presentation, and the object is presented *by* the presentation. The fact that there is a content is equivalent to the fact that something becomes a presentation as a content. Twardowski believes that whether an object exists or not, there is a form of meaning attached to it, i.e., the presentation of this object evokes something in us when we think about it.

#### 4. Dynamics of Meaning

Twardowski's interest does not end with the fact that he maintains that presentations do have and convey some sort of psychological meaning. His conception of meaning associated with mental content is peculiar and interesting because it is dynamic and not fixed. Indeed, for the Polish philosopher, if content is the meaning of a noun, their relationship is not dictionary-like; it is rather a deforming mirror. When I express something, I try to evoke in my listener the

same thing I am thinking about, but there is always a possibility of distortion. Even if Twardowski's conception of presentation can fall prey to accusations of psychologism (Fisette, Fréchette, 2007), his conception of meaning has nothing to do with the nature of content. It rather stems from a pragmatic approach to our mental life. Let us circle back to the example of nouns he provided earlier: I am able to associate a specific meaning with "the founder of ethics" because I study philosophy and have learned that Aristotle is the founder of ethics. It so happens that this association corresponds to the truth, but not everybody will associate the same meaning that I do. I am not referring here to people possibly making mistakes, or discussing the foundation of ethics. I am referring to people that did not learn who Aristotle was, and moreover, that he founded ethics. My sister may know him from her memories of the books on my desk without associating him with ethics. But the association between this nominal group and this meaning, however true it might be, is contingent to education. The issue here is the inherently contingent dimension of presentation, to avoid saying the *subjective* or personal dimension. Not all presentations have the same stability in terms of meaning: "the sum of the number 2 and the number 5" is stable, but "my first love" is not. We say there is stability when the meaning is the same independently of the speaker. Twardowski is not ignorant of this problem and he offers ways around it by stipulating a necessity of *identity* between contents. The nature of the content one conveys with an expression when one makes other people present themselves with the same content one has [*der ihn selbst erfüllt*] is what must be identical, not the "content of the content" (Twardowski, 1894, p. 9).

This might appear unsatisfactory. The term "meaning" is used throughout, which is far from determinate. This lack of depth shows that Twardowski never intended to build a theory of language, but he did make many interesting comments on the relationship we have to language. Nevertheless, there is more to the theory.

Twardowski's content is a complex composed of constitutive parts (Twardowski, 1894, §11). He gives the example of a triangle:

[I]n the presentation of the triangle there are contained the presentations of the sides and of the plane. To be sure, it would be more precise to say: the presentation of the triangle contains material parts of a content through which three sides and the plane are presented. (Twardowski, 1894, p. 63)

It follows that his idea of meaning must also be composed of parts, and presumably the same parts. Those parts are articulated with each other. The example of the triangle is relatively easy because it is a mathematical object, whose parts are the elements of its definition. But what would be the parts of our previous example? The presentation of "the founder of ethics" would contain parts through which the (1) domain of ethics would be presented, and (2) in relation to it the idea that (3) someone was the first to structure it as a domain (not necessarily in that order). Those are not sub-significations, but parts of one signification that is my own and that happen to be correct, that is, that corresponds to the current state of understanding the history of philosophy. Each of those elements

can lead, more or less successfully, to the signification of “the founder of ethics”. As long as someone utters the expression, so the meaning exists, even if the person does not know philosophy.<sup>13</sup> Similarly, I may not know what you mean by “the last house on the left” but I can never think there is no meaning here. There can be incompleteness of meaning, as Twardowski stated when defining categorematic signs, but there is always some existence. The good part is that this existence has nothing to do with actual reality: there is meaning to “Prince Myshkin”. It may be strange to the modern reader to think that there can be parts of meanings that are relative to one person, because we take meaning to be objective. I am not arguing here that it is not, but I would like to suggest that we actually use personal meanings all the time. For example, when learning something new in a discussion with someone, we do not check encyclopedias at every occasion. We usually consider new knowledge as true if the source is reliable, even if that means that we received somewhat distorted information. This also applies when we encounter an unknown term or expression. We do not need to run to our dictionaries, because, most of the time, we can ascribe meaning based on context. More importantly, we can later modify this meaning if we realize an incorrect ascription was made. This is why it was said that meaning is dynamic according to Twardowski, because he is pragmatic about language

We can turn to a later text that supports our interpretation. In an article entitled *On the Logic of Adjectives*, he separated adjectives according to “the division of adjectives into determining, i.e., those that *determine the meaning of nouns* or noun phrases, and modifying, i.e., those that modify them” (Twardowski, 1923, p. 141). Modifying adjectives add a characteristic (positive or negative) to the content of a presentation expressed by a noun. Those modifications or replacements, he specifies, can be adding or deleting, and they can be partial or total. He takes the example of “counterfeit” modifying the meaning of the noun “bill” by deleting the content associated with legal bills and replacing it with the content associated with illegal counterfeit money. This means that modification of a noun or phrase can transform it into something that is not the original term but is still connected to it (Poli, 1993).

But Maria van der Schaar points out a weakness in Twardowski’s theory. She argues that the necessary condition for a noun to be able to evoke a content is that the mental content must be exactly the same to the one the speaker wants to convey. According to her, this restricts Twardowski’s definition of the meaning of a noun because accidental arousal of a certain content in the listener would not belong to its meaning (van der Schaar, 2016, p. 56). This may be theoretically relevant, but it is pragmatically impossible. Her condition—the need for exactly the same content in the speaker and the listener—is impossible because we can never be assured of the extent of what we convey via language at a fine level. In

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<sup>13</sup> I consider here that people utter things that they consider as meaning bearing, or at least that they choose to speak to convey meaning. I acknowledge that it may be a disputable position.

a broad sense, obviously there is adequation, otherwise there would be no possibility of communication. But in a fine and personal way,<sup>14</sup> there is room for interpretation. Moreover, there is always room for misunderstanding; this is only sufficient to reject the necessity of perfect uniformity in both contents. Moreover, Twardowski himself rejected this necessity and took a side step with his own condition of *some* content being conveyed, i.e., an identity of nature, not content. Mutual communication is possible and happens without complete identity, because one can evoke in others mental content and mental processes which are relevant and similar to those that one deals with. Barry Smith also noted this (Smith, 1994, p. 178). Content may be received but it is also interpreted, and this is effective most of the time. Twardowski does not mention this *per se*, but it is also possible that different speakers do convey the same content against their will.

It is clear that the whole question of meaning is underlined by the more profound problem of psychologism. Twardowski suffered a critique (though unpublished) by Husserl in the form of a review of his published habilitation thesis (Husserl, 1896, pp. 349–356) that focused on his theory of content, and this led him to be very careful in his future endeavors (van der Schaar, 2016). Let us now circle back to Twardowski's account of the relationship between one object and one content. Twardowski tackles this by analyzing general presentations. He refuses the common conception of this kind of presentation as a presentation of a plurality of objects, in part because he conceives presentation as unification. But he argues that there must be a special relationship between the content and the object that makes a given pair inseparable: this object belongs to that content, and that content corresponds to this particular object (Twardowski, 1984, §12). I already stated that he considers that content and meaning are related in the sense that a content does always have meaning, even if partial. He also maintains that a difference between objects and contents lies in the fact that the first possess actual existence, and the second intentional existence. If an object does not actually exist, I can still provide a lesser form of existence when I think about it, and hence, when I ascribe meaning to it. Fundamentally, what makes the pair—any pair—inseparable here is the fact that a conscious subject renders a binding presentation. The relationship is mental in nature, whether it is between object and content, or between content and meaning. Without this requirement, it is more difficult to allow for any dynamic.

In fact, the question of the nature of meaning and its relationship to objects is important for Twardowski, probably because of his own upbringing and his own life. As a scholar of his time, he was trained extensively in Greek and Latin; we also know that he read English and he seemed proficient in French (he translated some of his work himself). As a Polish man from a cultured family living in Vienna, he used both German and Polish every day, and as a Polish man in charge of teaching in his own country, he favored Polish over German in aca-

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<sup>14</sup> As in a sort of coloring of meaning, or a relation to one's own history, not in the Wittgensteinian sense of privacy.

demia. The fact remains: he lived, spoke, and probably thought in at least two languages with two different semantic roots. The problem of meaning, as a whole, was probably a very real and very present one for him. Let us read a long footnote in a later text, *Actions and Products* (1912), that is enlightening:

It should be noted that the term “to signify” [*znaczyć*]<sup>15</sup> is itself ambiguous. When we say that some expression signifies something, it is our way of saying that it has some meaning. The term “to signify” so understood corresponds to the Latin *significare*, and the German *bedeuten*. Instead of saying that some verbal expression [...] signifies something, we may not only say that it *has* some meaning, but also that it *contains* some meaning, that some meaning *is linked with it*, that some meaning *inheres* in it, that it *expresses* some meaning. On the other hand, we have something else in mind when we use the phrase “to designate [*znaczyć*] trees, sheep”, etc. To the term *znaczyć* employed in this way corresponds to the Latin *denotare* and the German *bezeichnen*. (Twardowski, 1912, p. 123, Footnote 50)

In this footnote, we can clearly see the interest Twardowski had in signification, language, and languages. Here again he links meaning and signification to the German verb “*bedeuten*”, as he used it in *On the Content and Object of Presentations* (Twardowski, 1894). But the definition he provides for meaning still seems circular: there is meaning when some expression signifies something. The relation to content lies in the fact that he specifies that the meaning of an expression is contained by it—it is inside it. With this last consideration, we can say that, for Twardowski, meaning is what we are thinking about conveying when we express the presentations we are making.

When he wrote this text, it had been a decade since Frege had written his famous *Sense and Reference* (*Über Sinn und Bedeutung*; Frege, 1892), and this last quotation does not fail to evoke the work of the German logician. In the last part of this article, I will finally address the elephant in the (philosophical) room: the parallel between Twardowski’s theory and Frege’s theory of sense and reference.

### 5. Overview of the Difference Between Twardowski’s and Frege’s Approaches

As far as we know, Twardowski was not aware of Frege’s work, even if *Sense and Reference* had already been written when he developed his first theory of content.<sup>16</sup> Indeed, Frege became popular in Poland between 1910 and 1920 (Woleński, 2009, p. 45). Moreover, Twardowski never mentions Frege in earlier texts. But, as it has become apparent throughout this paper, there are links between the two academics. I will start by examining possible sources through which Twardowski

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<sup>15</sup> This is an exact copy of the text; the foreign terms are provided and discussed by the author himself.

<sup>16</sup> Jens Cavallin suggests that there may be evidence to the contrary in “unpublished work probably written by Twardowski” (Cavallin, 1997, p. 146).

would have been able to have contact with Frege's work, however tenuous. I will then try to establish a parallel between both of their conceptions of meaning.

One can establish an initial, remote tie between Frege and Twardowski thanks to Benno Kerry, whose work was well-known to the Polish philosopher. Jens Cavallin explains that Kerry offered some insights about content regarding objectless presentations before, and that he did so in a polemic with Frege's doctrine (Cavallin, 1997). Kerry criticized Frege for confusing the object and content of presentation, both in his *Foundations of Arithmetic* and *Conceptual Notation and Related Articles* [*Begriffsschrift*], to the point there was an academic feud between them (Frege, 1892; Kerry, 1885, pp. 249–307). But this tie has to be nuanced for at least two reasons. First, it is entirely possible that Twardowski was not aware of Kerry's critique because, as noted by Cavallin (Cavallin, 1997, p. 24, Footnote 29), he primarily referred to the second article by Kerry in Volume X of *Vierteljahrsschrift für wissenschaftliche Philosophie* [Quarterly Journal for Scientific Philosophy and Sociology] (Kerry, 1886, pp. 419–467) whereas the critique appears in volume XI (Kerry, 1887, pp. 249–307). Second, and more importantly for our purposes here, Kerry died in 1889, three years prior to Frege's article on sense and reference. The other link between Twardowski and Frege may come from Edmund Husserl. Indeed, Husserl had been in contact with Frege who reviewed his *Philosophy of Arithmetic* (Husserl, 1891) in 1894 (Frege, 1894), and this contact would shape his approach to psychologism (McIntyre, 1987). But once again, it is a remote connection because there is little relation between Twardowski and Husserl. This tie is even more delicate because I mentioned earlier that Husserl wrote a review of Twardowski's habilitation thesis that contains a critique that one could call Fregean (Husserl, 1896) but it was actually never published during Twardowski's life (Cavallin, 1997; van der Schaar, 2016). Those two links show us that the relationship between Twardowski and Frege is a construction, or more precisely, a reconstruction. This bridge has been crossed by many commentators, but to different extents. Maria van der Schaar, Jerzy Bobryk, Jan Woleński, and Barry Smith all mention Frege without developing a proper comparison; Jens Cavallin discusses both but in relation to Husserl; the French philosopher Jocelyn Benoist goes as far as arguing for an anti-Fregeanism (before his time) in Twardowski (Benoist, 2001, p. 98). Hence, the necessity of further comparing both theories. Finally, both Twardowski and Frege have drawn inspiration from Mill's theory of names, either to build onto it as Twardowski does (Twardowski, 1894, p. 9) or to criticize it as Frege does (Cavallin, 1997, p. 41).

Now, it was noted earlier that there are close relationships between presentation and linguistic expression. In a presentation, objects are presented by the presentation and content is presented in the presentation. The object possesses actual existence (or not), and the content possesses intentional existence. Furthermore, nouns reveal that the speaker is presenting to herself, evoke a certain content in the listener, and designate objects. The link is rendered clearer with the assertion that "it is this content which is the 'meaning' of a noun"



(Twardowski, 1894, p. 9). Hence, for Twardowski, the important semantic pair seems to be designation/meaning [*Bezeichnung/Bedeutung*]. Concerning presentations and meaning, the German logician wrote:

The referent [*Bedeutung*] and sense [*Sinn*] of a sign [*Zeichens*] are to be distinguished from the associated conception [*verknüpfte Vorstellung*]. If the referent of a sign is an object perceivable by the senses, my conception of it is an internal image [*inneres Bild*]. (Frege, 1892, p. 212)

Before drawing the parallels between the two conceptions of meaning, let us delimitate their respective domains of application. I mentioned that Twardowski's theory applies to what he designates nouns [*Namen*], but are really the category of categorematical signs, which are nouns that are not solely co-significant. Frege's theory applies to what he designates proper names [*Eigennamen*]. By this, he means proper names "whose referent is thus a definite object [*bestimmter Gegenstand*] (this word taken in the widest range)" (Frege, 1948, p. 210), but he also intends "the designation of a single object [that] can also consist of several words or other signs". Let us, then, make a simplified version of Frege's theory of meaning. For the German logician, *Bedeutung* is the reference of a name. It is the actual object it refers to. The *Sinn* is the sense expressed by the name; it is what makes it intelligible. For example, the name "Vienna" has a sense and this sense has a city as its reference. By the same account, "the capital of Austria" also has a sense and the references are the same. Names always possess a sense but they can lack reference, because reference is related to existence and there is only actual existence for Frege. "Odysseus" is a name that possesses sense because it is a well-known character of Greek mythology, but it has no reference because it does not refer to an actual person. There is no actual object to which the name corresponds. The same sense may attach to different expressions because there exist different languages (Odysseus is called *Ulysse* in French). For whole sentences, the sense is the thought expressed by the sentence, and the reference is the truth value. That is why, as in the case of proper names, some sentences have sense but no reference: they are intelligible but cannot be true or false (e.g., the present king of France is bald).<sup>17</sup>

This notion of sense is a problem for Twardowski's general theory—i.e., without taking into account objectless presentations—because he needs a solid relationship between the mental level and the grammatical level. It is clearly expressed by Cavallin (1997, p. 115): "there is no adequate description of a presentation only as a psychic event taking place in someone's mind or head, or as the content of this event". But we have to keep in mind that this would be a problem if and only if Twardowski were to make a distinction between sense and reference. Frege aims to construct a theory of signification for logic. All his considerations are linguistic, meaning they belong to the external realm of language. Twardowski is far from forsaking the linguistic domain, but he originally

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<sup>17</sup> I realize this may be questioned. For discussion, see (Evans, 1982).

writes about mental acts. Let us take a moment to develop a comparison of both approaches to see sense in which they are incommensurate. Because he does not introduce a distinction between sense and reference, we have to translate what this notion of sense would be for the Polish philosopher. Unsurprisingly, we have to circle back to the different degree of existence of objects and content, i.e., respectively, actual existence and intentional existence. I mentioned that, according to Twardowski, there are no objectless presentations. If the object of a presentation does not actually exist, a lesser form of existence is provided by the content. So when Frege argues for the necessity of sense, Twardowski argues for the necessity of content. To properly compare both stances, let us come back to Twardowski's lexicon, with special attention paid to the formulation: for Frege there *is* meaning, and for Twardowski content *has* meaning. Here I use meaning in a broader sense, to stay at the same descriptive level as Twardowski; for Frege, we would roughly identify meaning with sense. The previous requirements can be repeated: on the one hand, an object can be inexistant, but there can be some expression that designates it nonetheless, and, on the other hand, an object can be inexistant in actuality, but there can still be some form of existence attached to it through the content we create when we talk about it (or when we present ourselves with it). Even if both conceptions may seem very similar, they do not support the same ideas and they do not have the same underlying hypothesis.

Nevertheless, one can find a moment when the Polish philosopher suggests something that resembles Frege's ideas: when he discusses equivalent (or mutual) presentations [*Wechselvorstellungen*], i.e., presentations that possess the same extension [*Umfang*] but a different content (Twardowski, 1894, §6). In his presentation, he gives an account that is similar to Frege's but he considers it a special case: mutual presentation is when two presentations have the same referent but different senses. For example, "the city located at the site of the Roman Juvavum" and "the birthplace of Mozart" both refer to Salzburg. According to his lexical use, Twardowski writes that they designate, or name, the same thing but have different meanings (Twardowski, 1894, p. 29). We can observe that he does not differentiate between sense and reference but between designation and meaning. But there is a problem here for Twardowski because he holds that, usually, a given content belongs to one specific object only. He suggests a resolution of the problem by stating that equivalent presentations are presentations *in* which there are different contents and *through* which the same object is presented (Twardowski, 1894, p. 29). The difference between both presentations lies with their constitutive parts: as parts, the presentation of Juvavum possesses the idea of the Roman Empire or the presentation of an antique city, etc. And the presentation of the birthplace of Mozart possesses, as parts, the idea of the composer, of music, etc. That is why the presentations do not share the same content although they refer to the same object. It is a pleasing solution for a problem unknown to Twardowski: referential opacity. I can know that I went to Salzburg in 2017 and visited the house in which Mozart was born, and not know that I went to the site of Juvavum, and inversely, depending on the constitutive parts

of the content of my presentation of Salzburg. Presentation is a mental act that can be subdivided into two movements. This is apparent when Twardowski uses the metaphor of painting. When the painter paints, he paints with a brush on canvas, and he paints a landscape. One seemingly discrete action has two parts. Both the painting and the landscape are painted. The adjective “painted” can be either modifying or determining. We can say that “painted” applied to the painting is determining because it determines the constitution of the painting (it is not a drawing, paint was used). On the other hand, “painted” is modifying for the landscape because the painted landscape is not a landscape, it has been made a painting (Twardowski, 1894, p. 16).

I have shown that both theories do indeed have parallels in their content, but they are still significant differences between them. Overall, let us keep in mind two main differences:

**The definition of existence:** Fregean existence is actual existence; he does not concern himself with metaphysical considerations, whereas Twardowskian existence can be either actual or intentional existence. That is why, for both philosophers, a sentence like “Macbeth was cursed” entails different things because Macbeth is a character from a play. For Frege, there is sense in this sentence, but no reference for the name Macbeth—and no truth value for the whole sentence. For Twardowski, truth values are not something of importance, as they can only be mobilized with judgments, and there is a content for the presentation of Macbeth. The presentation of Macbeth as a non-existent object leads to the same kind of content, so the same kind of meaning, as if it was an existent object. The presence of meaning is not dependent on the actual existence of the object. Perhaps an interesting difference between both philosophers’ approaches could be found in a situation where reality is mistaken for fiction: “Lady Diana is the funniest” if I only know her as a character of the series *The Crown* and I talk to someone who only knows the real Lady Diana, or inversely.

**The original aim of each philosopher:** Frege did intend to construct a theory of meaning in order to formalize language with logic. Twardowski did not intend to construct a theory of meaning. As I previously noted, the connection between the two is a reconstruction on our part. Twardowski’s theory emerged parallelly from his study of the relationship between presentations and language. For this reason, the charity one can be tempted to offer either philosopher must be different. Nevertheless, Twardowski’s approach will model that of the Polish School of logic (Woleński, 2009).

## 6. Conclusion

I started this paper with the naive question: our meanings have contents, but do our contents have meanings? The formulation was important because it pre-figured the difficulty we faced all along, that is, the difficulty of describing and

uniting things that are on different levels. The first part of the question relates to philosophy of language, the second part to philosophy of mind. Our original intention was to elaborate on Twardowski's conception of the content of a presentation, to illustrate how it is a pivotal concept in philosophy at the border of mind and language. The Polish philosopher suggests that content possess several functions, and some of them are related to his theory of meaning:

- Content is the content of an act of presentation: a third component of the intentional relation that mediates between the object and the subject;
- Content is that toward which the act is directed—Twardowski removes this function from the object;
- Content conveys the meaning of a noun or a name that is used to designate the object, i.e., what is illicit when a noun is used.

To this I add that content is dynamic because it updates with any new presentation, whereas the object remains the same. From his standpoint, distant from ideal theoretical meaning and closer to the practical use of language, Twardowski highlights a variation of denoting: the expression. Meaning does not stop with a word's evocation but is dynamically embedded in actions and reactions. But there is a defect in the theory, because the term itself could be defined more precisely. The Polish philosopher is not at the same fine descriptive level as Frege, who modeled our current conception of philosophy of language. Hence, Twardowski does not distinguish between sense and reference. But there are similarities between the two approaches, and I have tried to examine some of them. For Twardowski, the important distinction is elsewhere. In the text to which I have restricted ourselves, he wavers between two important pairs: existence and meaning, and designation and meaning.

I conclude here our modest contribution to the analysis of the relationship between Twardowski's conceptions of content and meaning in his habilitation thesis. But we could take it further by integrating later works. In fact, there is a seemingly harmless footnote in *Actions and Products* (Twardowski, 1912, p. 114) that invites further research, in which he specifies that in this later text, he redesigns what he had stated in *On the Content and Object* about content:

In my book *On the Content and Object of Presentations*, I referred to the function of representing as an "act", and to the product of the representing as the "content" of the representation [*Vorstellungsakt, Vorstellungsinhalt*]. [...] Thus, what I referred to as the content of a representation in the above cited work corresponds most accurately to what here appears as the product of the [act of] representing (grammarians sometimes refer to the direct object of the internal complement that corresponds to the product as the direct object of the content). (Twardowski, 1912, p. 114)<sup>18</sup>

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<sup>18</sup> The translator adds a note where he explains that he chose to render *Vorstellung* as "representation" (Twardowski, 1999, p. 114). Note that this is a footnote in the English

This is critical because *Actions and Products* offers numerous insights about semantics and meaning—and the text is still studied on this matter today (Richard, 2022). But, as far as I know, there is no work that develops at length the continuity between early and late Twardowski despite precious insights by many commentators (Bobyryk, 1989; Miskiewicz, 2017a, 2017b; van der Schaar, 2006; 2016; 2022).

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text that is also present in the Polish version (Twardowski, 1965, p. 228), but it is integrated into §18 in the German version (Twardowski, 2017, p. 173).

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THOMAS HODGSON\*

## THE ACT-TYPE THEORY OF PROPOSITIONS AS A THEORY OF COGNITIVE DISTINCTNESS<sup>1</sup>

**SUMMARY:** Soames and others have proposed that propositions are types of acts of predication. Soames has extended the act-type theory by proposing a distinction between direct and mediate predication. He does this in order to distinguish between the propositions expressed by sentences containing complex singular terms and those expressed by sentences containing proper names which denote the objects that those complex singular terms denote. In particular, he uses his extension to account for the cognitive distinctness of such propositions. I argue that Soames' extension of the act-type theory is not the best way to do so. I propose an alternative version of the act-type theory, which makes the distinctions that Soames wants to make without Soames' extension.

**KEYWORDS:** propositional content, act-type theories of propositions, structured propositions, predication.

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\* University of Gdańsk, Institute of Philosophy. Shanxi University, School of Philosophy. E-mail: [hello@twshodgson.net](mailto:hello@twshodgson.net). ORCID: 0000-0001-5776-8887.

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## 1. Introduction

There are good reasons to believe in propositions, one of which is that our best theories of language make use of them. The best reason not to believe in propositions is that it is mysterious what they are. One way to dispel this worry is to develop a theory of what propositions are, thereby solving this foundational problem. A promising proposal is that propositions are types of acts of predication. Soames' theory of what he calls "cognitive propositions" is a prominent example of this kind of *act-type theory of propositions* (Soames, 2015). Soames presents his theory as both a solution to the foundational problem and as offering resources to make distinctions between propositions that other theories lack. I will make an objection to Soames' theory which targets the resources used to make the distinctions. I will also suggest an alternative way to develop the act-type theory which makes the same distinctions. I will rely on an argument for an alternative way to develop the act-type theory which is interesting independently of the question of distinguishing between propositions. Hanks is the other main proponent of an act-type theory of propositions (Hanks, 2015). I focus on an objection to Soames' version of the theory, but I will note connections to Hanks' when they are relevant (for a survey of arguments for propositions, see King, Soames, Speaks, 2014, pt. 1; for a survey of the act-type theory, see Hodgson, 2021).

I distinguish between a *theory of content* and a *theory of expression*. A theory of content is a theory of what contents, i.e., propositions, are. A theory of expression is a theory of which propositions are expressed by particular sentences. I will use claims about the best way to develop a theory of expression to motivate claims about the best theory of content. The conclusions I draw apply to act-type theories in general, not just to Soames' theory.

In Section 2, I describe the features of the act-type theory that are important for my argument. In Section 3, I describe the distinctions between propositions that Soames wants to make. In Section 4, I describe the extension to the act-type theory that Soames uses to make those distinctions. In Section 5, I describe and motivate a version of the act-type theory which I will compare with Soames'. In Section 6, I argue against Soames' way of making the distinctions between propositions that he wants to make. In Section 7, I show that the theory from Section 5 can make the distinctions between propositions that Soames wants to make. In Section 8, I apply the theory to reports about the meanings of expressions, which Soames also uses to motivate his version of the act-type theory.

## 2. Cognitive Propositions

Soames has written extensively about his theory. I will describe the theory as it is presented in Soames (2015, Chapter 2), which I take to be his considered view. I will also make use of Soames' presentation in King, Soames, and Speaks (2014, Chapter 6). The central idea of Soames' theory is that a proposition is an act of predication. The proposition *that Mary is tall* is the act of predicating the property *tall* of Mary. More specifically, it is that type of act, rather than any of

the individual tokens. Soames says that anyone who performs tokens of that act type, which I will represent as “**predicating tall of Mary**”, represents Mary as being tall. So, in an extended sense, the type represents Mary as being tall. From this it follows that the act type is true if and only if Mary is tall. This gives an account of what propositions are and explains why they are true or false. This is a solution to the foundational problem. I agree with Soames and Hanks that this solution is more promising than that of any other theory.

Solving the foundational problem counts in favor of the act-type theory. Further support can be given by noting that the act-type theory gives a better account of the roles that propositions play in our theories. I will now note two, which both Hanks and Soames appeal to. They will be important to my argument, because they impose constraints on the act-type theory.

The first role is that, according to many theories, propositions are the objects of attitudes, e.g., belief. This raises another foundational problem: why should belief be thought of as a relation to an abstract object, and what kind of relation is belief? Both Hanks and Soames say that this is a problem for other theories of propositions (Hanks, 2015, Chapter 1; Soames 2015, Chapter 2).

Soames gives the following account of believing a proposition, e.g., *that B is red*:

To *entertain* a proposition is *not*, as Frege or the early Russell would have you believe, to think of it in a special way; it is to perform it. This is the attitude on which other propositional attitudes are based. To *judge* that *B* is red is [to] perform the predication in an affirmative manner, which involves accepting it as a basis for possible action. To affirm or accept that *B* is red is not to predicate any property of the act, or to make *it* an object of cognition, but for one’s performance of it to involve forming, or activating already formed, dispositions to act, both cognitively and behaviorally, toward *B* in ways conditioned by one’s attitudes toward red things. In short, to *judge* that *B* is red is for one’s predicating redness of *B* to involve one’s forming or activating certain dispositions. To *believe* that *B* is red is (very roughly) to be disposed to judge that it is. (Soames, 2015, p. 18)

According to Soames’ theory, the relation between a believer and a proposition holds partly because the believer is disposed to perform that proposition. This solves the foundational question about relational theories of belief, and it could be extended to other attitudes. For the purposes of my discussion, the important thing about Soames’ theory is one of its consequences: necessarily, anyone who believes a proposition is disposed to perform it.<sup>2</sup>

A *theory of meaning* for a language is a theory which says, for each expression of the language, what the meaning of that expression is. The second role for the act-type theory of expression is to be a theory of meaning. Both Soames and

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<sup>2</sup> Hanks gives a different account, but his account shares with Soames’ the central idea about the relation between a believer and a proposition believed (Hanks, 2015, Chapter 7). Hanks’ theory does not distinguish judging from entertaining. He also says that, while judging and being disposed to judge are sufficient for belief, they are not necessary. This is because acting as if one is so disposed is also sufficient (Hanks, 2015, p. 165).

Hanks say that it is an advantage of the act-type theory that its theory of expression can be a theory of meaning, in the sense just described, and that this is an improvement over traditional theories of propositions (Hanks, 2017; Soames, 2015, Chapter 1). Both Hanks and Soames make this claim in response to Davidson's objection to theories of meaning which take propositions to be the meanings of sentences (Davidson, 1967).<sup>3</sup>

These claims about belief and theories of meaning are optional: someone could propose the act-type theory as a solution to the foundational problem and not make these additional claims. If they are made, these claims bring with them some commitments. These will be important to my argument later. The account of the objects of belief brings with it a commitment to psychological plausibility. If believing  $P$  entails being disposed to predicate  $F$  of  $o$ , someone who defends that claim about belief is committed to defending the claim that anybody who believes  $P$  is disposed to predicate  $F$  of  $o$ . And similarly for any other cognitive acts required to perform  $P$ . The claim about theories of meaning imposes two constraints on a theory of propositions. The first is on the theory of expression: it must be a theory that can be a theory of meaning. The second is on the theory of content: it must be compatible with a theory of expression that can play that role.

### 3. Representational Identity

Different theories of content say that different propositions exist. These theories can be tested by considering whether they make enough distinctions between propositions. This can be done by finding pairs of sentences which, our best judgement suggests, express different propositions and noting that some theory would not allow for the existence of suitable propositions. There are two ways to carry out this test. The *truth test* considers a pair of sentences  $S_1$  and  $S_2$  and observes that it is possible that  $S_1$  is true and  $S_2$  is false. The conclusion is then drawn that  $S_1$  and  $S_2$  have different contents. The *belief test* considers a pair of sentences  $S_1$  and  $S_2$  embedded in *belief reports* of the form " $A$  believes that  $S$ ". If it is possible that such a report embedding  $S_1$  is true and one embedding  $S_2$  is false, this is evidence that it is possible to believe the content of  $S_1$  and not to believe the content of  $S_2$ . From this, it follows that the contents of  $S_1$  and  $S_2$  are different.

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<sup>3</sup> Davidson was skeptical about meanings as a useful part of theories of language. He preferred to think of a theory of meaning as a theory of truth. For a development of that idea, see Larson and Segal (1995). For a summary of the debate between propositional and non-propositional theories of meaning, see King, Soames, and Speaks (2014, Chapter 2). Both Hanks and Soames use the term "theory of meaning", and are happy to identify the contents of expressions with their meanings. This identification of meaning and content is controversial. Soames discusses Cartwright's objection to the claim that the meaning of a sentence is the proposition that it expresses (Cartwright, 1962; King, Soames, Speaks, 2014, pp. 240–241; Soames, 2015, pp. 26–27). I will not address this controversy, and I use the term "content" rather than "meaning" partly to avoid it.

Both tests provide a sufficient condition for difference of content. They do not provide necessary conditions. For example, the truth test does not tell us that two sentences that are true in all the same circumstances express the same proposition, which is something that many theories of propositions, including Soames', are designed to avoid. I also note that both tests rely on substantial claims. For example, the belief test relies on the claim that a belief report expresses the proposition that the subject of the report stands in the belief relation to the content of the embedded sentence. And both tests rely on the assumption that judgements about the possible truth or falsity of sentences are good evidence about the possible truth or falsity of their contents. These assumptions might be challenged, but I will not do so.

I will apply the belief test to one particular kind of example considered by Soames: complex singular terms. One of Soames' examples of complex singular terms is the expressions "6 cubed", "14 squared", and "2 + 2" (Soames, 2015, pp. 36–38). The others are "Fregean definite descriptions", i.e., definite descriptions understood as singular terms (Soames, 2015, p. 37). As Soames notes, it is commonly suggested that definite descriptions in English are Russellian, rather than Fregean, i.e., that they are quantifiers (Soames, 2015, p. 37). However, Soames proceeds as if definite descriptions are complex singular terms in order to explain his theory of complex singular terms (for a discussion of the Russellian and Fregean approaches, see Hawthorne, Manley, 2012, Chapter 5; for a textbook presentation of the Fregean approach, see Heim, Kratzer, 1997, pp. 73–76).

I note an important consequence of treating the expressions as complex singular terms. It is a background assumption of my discussion that sentences express propositions and that propositions have truth conditions. Substitution of coreferring singular terms, whether simple or complex, does not affect the truth conditions of the proposition expressed, unless those terms occur outside extensional contexts. This claim about truth conditions follows from the standard claim that the truth or falsity of a proposition depends on whether or not some object has some property (or some objects stand in some relation). This claim about truth conditions follows from the standard claim that the truth or falsity of a proposition depends on whether or not some object has some property (or some objects stand in some relation). This is, of course, compatible with the claim that sentences that differ by substituting singular terms express different propositions, because distinct propositions might have the same truth conditions.<sup>4</sup>

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<sup>4</sup> I note here a possible source of confusion. Suppose we are interested in the truth conditions of a sentence. One natural thought is that a sentence is true if and only if its (actual) content is, and its truth conditions are the same as the proposition that it actually expresses. But some sentences express different propositions in different contexts. The truth conditions of a sentence might alternatively be understood as whether the proposition that would be expressed by that sentence in a context is true at that context. The different ways of understanding the truth conditions of a sentence make a difference when comparing a simple singular term, e.g., a name, and a complex singular term, e.g., a Fregean definite description. According to the second way of understanding truth conditions,

- (1) 6 cubed is greater than 14 squared.
- (2) 216 is greater than 196.

It seems that (1) and (2) have different contents, because it seems that it is possible to believe, e.g., *that 216 is greater than 196* and not believe *that 6 cubed is greater than 14 squared*. This is because it seems that the following pair of belief reports can differ in truth value.<sup>5</sup>

- (3) John believes that 6 cubed is greater than 14 squared.
- (4) John believes that 216 is greater than 196.

The same point can be made about the following example:<sup>6</sup>

- (5) The chief of police is tall.
- (6) Mary is tall.
- (7) John believes that the chief of police is tall.
- (8) John believes that Mary is tall.

It is a problem for a theory if it cannot say that (1), (2), (5), and (6) express distinct propositions. On this point, Soames compares his theory to the neo-Russellian theory of content, which says that propositions are complexes of objects and properties (King, 2019b, Section 3.1). This is the kind of theory that Soames previously defended (Soames, 2002). These complexes can be represented as tuples of objects and properties, e.g.:

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sentences that differ only in the substitution of coreferring singular terms might have different truth conditions. My claim in the text is about the first way of understanding truth conditions, i.e., the way that identifies them with the truth conditions of the proposition actually expressed by a sentence.

<sup>5</sup> Soames uses these examples. Soames does not appeal to the belief test here, but it is a helpful way to see why we should want to distinguish the contents of these sentences. Soames also does not put the point using example sentences, although he does do that for other examples, and, again, it is helpful to do so.

<sup>6</sup> I take the example of “Mary”/“the chief of police” from King, Soames, and Speaks (2014, p. 101). Soames there discusses the distinction between “Bill is looking for Mary” and “Bill is looking for the chief of police”. I am using belief reports to discuss a different point. Soames also discusses “Mary believes that Russell tried to prove (the proposition) that arithmetic is reducible to logic”/“Mary believes that Russell tried to prove logicism” in the context of theories which take “logicism” to be a proper name for *that arithmetic is reducible to logic* (Soames, 2015, pp. 40–41). Soames connects his discussion to Richard (1993) and Soames (2007); Soames also discusses names for propositions in his (1989), which Richard is responding to. The belief test would also suggest that *Russell tried to prove logicism* and *Russell tried to prove that arithmetic is reducible to logic* are distinct.

- ⟨Mary, *tall*⟩,
- ⟨⟨216, 196⟩, *greater*⟩.

With only these propositions, the neo-Russellian theory cannot distinguish between the contents of (1), (2), (5), and (6). The same problem will arise for the act-type theory if it only allows for the following propositions:

- **predicating *tall* of Mary**
- **predicating *greater* of 216 and 196**

To solve this problem, Soames introduces a distinction between *representational* and *cognitive* identity. Propositions represent objects as having properties. If two propositions represent the same object as having the same property, then they are representationally identical. Propositions are cognitively identical if and only if they are the same act (type); otherwise, they are cognitively distinct (Soames, 2015, pp. 23–24). According to the neo-Russellian theory, a proposition is composed of an object that is represented as having some property, and the property that it is represented as having (or, some objects that are represented as standing in some relation). It follows that representationally identical propositions are identical. Soames claims that the act-type theory can solve the problem by positing cognitively distinct propositions to be the contents of (1), (2), (5), and (6). I describe Soames' version of that solution in Section 4.<sup>7</sup>

#### 4. Mediate Predication

In order to solve the problem presented in Section 3, Soames extends his theory. The first part of Soames' extended theory is the distinction between representational identity and cognitive identity described in Section 3. The second part is a distinction between different sorts of predication. Soames defines *direct* and *mediate* predication as follows:<sup>8</sup>

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<sup>7</sup> Hanks also uses his theory to make distinctions between propositions. Hanks makes different distinctions than Soames and in a different way (Hanks, 2015, Chapter 5). One important difference is that Hanks' theory distinguishes between the propositions *that Cornwell is a novelist* and *that Le Carré is a novelist*, even though Cornwell is Le Carré. Hanks' theory is therefore more Fregean than Soames', which is more Russellian, as these terms are often used when discussing the contents of names. The arguments for the distinctions that Soames wants to make could also be used to motivate the distinction that Hanks makes. I will not try to answer the question of whether that distinction ought to be made.

<sup>8</sup> Soames also defines *indirect* predication as follows:

Instances of the schema *A indirectly predicates P of T* (where “*P*” is replaced by a term standing for a property *P\** and “*T*” is replaced by a complex singular term) express the claim that the agent mediately predicates *P\** of the propositional content of “*T*”. (Soames, 2015, p. 36)

**Soames' Direct Predication:** "To *directly predicate* a property  $P$  of  $x$  is to have  $x$  in mind as the thing represented as having  $P$ " (Soames, 2015, p. 36).

**Soames' Mediate Predication:** "To *mediately predicate*  $P$  of the complex  $f$ -plus- $y$  is to aim to (indirectly) represent whatever, if anything, it determines (the value of  $f$  at  $y$ ) as having  $P$ " (Soames, 2015, p. 36).

Furthermore, in his theory of definite descriptions, Soames makes use of a function,  $\iota$ : "the  $\iota$ -function maps its argument function  $g$  onto the unique object to which  $g$  assigns a truth, if there is one, and otherwise is undefined" (Soames, 2015, p. 37). The function which is the argument for  $\iota$  is a *propositional function*, i.e., a function from objects to propositions; Soames says this more explicitly in King, Soames, and Speaks' (2014, p. 100).<sup>9</sup> For "6 cubed" and "14 squared", Soames' theory uses functions from numbers to numbers, i.e.,  $\lambda x.x^3$  and  $\lambda x.x^2$ .

These additions to the theory can now be used to make the following response to the problem. The content of (6) is **directly predicating tall of Mary**. The content of (5) is **mediately predicating tall of  $\iota$ -plus- $g$** . Similarly, the content of (2) is **directly predicating greater of 216 and 196**. The content of (1) is **mediately predicating greater of  $\lambda x.x^3$ -plus-6 and  $\lambda x.x^2$ -plus-14** (Soames, 2015, p. 36).

The result of making these claims about the contents of (1), (2), (5), and (6) is that the propositions expressed are cognitively distinct. This is an improvement on the neo-Russellian theory, which lacked the resources to make such distinctions.<sup>10</sup>

## 5. Simultaneous and Stepwise Predication

I will now introduce a complication for Soames' theory, which will be part of my objection to it. The connection between this complication, the theory that I will present in this Section, and the main argument of this paper will be made clear in Sections 6 and 7.

Consider the contents of sentences such as (9):

(9) John loves Mary.

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Soames also says that someone who mediately predicates of a complex thereby indirectly predicates of what that complex determines (Soames, 2015, p. 36).

<sup>9</sup> There, Soames uses " $f_{\text{the}}$ " instead of " $\iota$ ". Soames' proposal is similar to Heim and Kratzer's denotation for "the", and the "2nd view" described by Hawthorne and Manley (Hawthorne, Manley, 2012, pp. 183–184; Heim, Kratzer, 1997, p. 75). The difference is that Heim and Kratzer, and Hawthorne and Manley, take the argument function to be a function from objects to truth values.

<sup>10</sup> Some of Soames' discussion suggests that the contents of these sentences are cognitively distinct and representationally identical. However, it seems that his considered view is that the difference between direct and mediate predication is also a representational difference. In any case, the important point is that the contents are cognitively distinct.



One obvious proposal is that the content of (9) is **predicating loves of John and Mary**. This is not the only possibility. Another is that the content of (9) is **predicating loves Mary of John**. I label the first *simultaneous predication* and the second *stepwise predication*.

In King, Soames, and Speaks' book (2014, Chapter 6), Soames proposes stepwise predication:<sup>11</sup>

When an  $n$ -place predicate is paired with  $n$  arguments—some of which may be Millian and some non-Millian—we must think of the predication as proceeding in stages. This technique, familiar from Montague, treats the proposition expressed by a sentence of the form

[(\*)]  $A$  loves  $B$

as arising first by combining the two-place relation *loves* with the content/referent of the term replacing “ $B$ ”, and then predicating the resulting one-place property of the content/referent of the term “ $A$ ”. When “ $B$ ” is replaced by a Millian singular term, the content and referent of which is  $x$ , the resulting one-place property is *loving  $x$* , which may then be predicated directly, or indirectly, of the referent or content of the term that replaces “ $A$ ”, depending on whether that term is Millian or non-Millian. (King, Soames, Speaks, 2014, p. 123)

However, in Soames (2015), he does not explicitly endorse stepwise predication. Furthermore, Soames' discussion there of complex singular terms suggests that he accepts simultaneous predication; for example, he says that the relation *greater than* is predicated of a pair of numbers when discussing the content of (1) (Soames, 2015, p. 36).

There is a good reason to accept stepwise predication, as I will now argue, whether or not Soames does so. I will present a simple theory of expression. I claim that it is a good theory, and it avoids a problem, which I will describe, that arises for an alternative theory of expression proposed by Hanks. The theory entails stepwise predication. So, if we accept the theory, we must also accept stepwise predication. The theory is the only good theory of expression that I know of. From this I conclude that we should accept the theory of expression, at least provisionally, and, therefore, stepwise predication.

One of the things that we want from a theory of expression is an account of how the contents of sentences, and other complex expressions, are determined by the contents of the simple expressions which make them up. A good theory should tell us two things, given a sentence with a particular structure and an assignment of contents to the simple expressions in that sentence. Firstly, what the contents of the complex expressions in that sentence are. Secondly, the content of the sentence itself.

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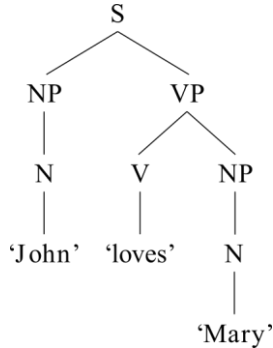
<sup>11</sup> Soames cites Montague (1973) for the technique described. Soames' terminology here is slightly different from that in (Soames, 2015). Here he uses “indirect predication” for what he later calls “mediate predication”. Soames uses “Millian” for expressions such as proper names to distinguish them from “Fregean” complex singular terms.

I will now sketch a theory of the sort that we want. For concreteness, I take the sentence structure of (9) from the standard textbook Heim and Kratzer (1997, p. 26) (Figure 1). The philosophical point that I want to make is compatible with other theories about the structure of sentences. The only assumption required is that the structures of sentences are *binary branching*: each node has at most two daughters.<sup>12</sup>

The theory must assign contents to “John”, “loves”, “Mary”, “loves Mary”, and “John loves Mary”. One way to do this is to say that the contents of “John” and “Mary” are **referring to John** and **referring to Mary**, respectively. I abbreviate these acts of reference as “**John**”, and “**Mary**”. Then, to say that the content of “loves” is the act of expressing *loves*. I represent this as “**1-loves-2**”, using numerals to mark the “slots” in *loves* for a lover, 1, and beloved, 2.<sup>13</sup>

**Figure 1**

*Phrase structure for “John loves Mary”*



This proposal accounts for simple expressions. It can be extended to complex expressions by saying that if two expressions form a complex expression, then the content of that complex expression is a function of the contents of those simple expressions. If the contents of the simple expressions are an act of referring to an object and an act of expressing a property with an arity of greater than one, then the content of the complex expression is the act of expressing the property that results from “filling” one of the slots in the expressed property with the referred-to object. The theory should say which slot is filled. To get the right result for the content of “loves Mary”, the “beloved” slot should be filled, rather

<sup>12</sup> This assumption is defended, in the context of theories of propositions, by Collins (2011, Chapters 5–7).

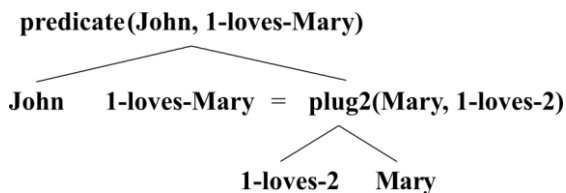
<sup>13</sup> My theory says that all contents are acts. Someone might ask, as did a referee for this paper, whether there is a viable alternative theory which combines the claim that the contents of sentences are acts with the claim that the contents of other expressions are not acts. I will not try to explore this option and defend my assumption that all contents are acts, except to say that a unified theory of content is appealing.

than the “lover” slot. On the assumption that 2 is the “beloved” slot, I write this as: **plug2(Mary, 1-loves-2)**. The act **plug2** is the act of filling the slot marked with “2” in a relation with an object referred to; **plug1** is the act of filling the slot marked with “1”. When someone performs **plug2(Mary, 1-loves-2)** they express the property *loves Mary* which is the result of filling the “beloved” slot in the relation *loves* with Mary.<sup>14</sup>

If the contents of the simple expressions are an act of referring to an object and expressing a one-place property, then the content of the complex expression is the act of predicating the property expressed of the object referred to. I write this as: **predicate(John, 1-loves-Mary)**. I then represent the whole complex act, which is the content of (9), as Figure 2. This is the act of referring to Mary, expressing *loves*, expressing *loves Mary*, and predicating *loves Mary* of John.

**Figure 2**

*The proposition that John loves Mary*



This theory of expression entails stepwise predication. So, if we accept this theory of expression, we should accept stepwise predication. Someone who wants to reject stepwise predication must offer an equally good theory of expression which does not entail it.

One important consequence of the theory of expression I have proposed is that sentences with different structures will have different contents. This is a consequence of some but not all theories which take propositions to be structured. It is, for example, a consequence of King’s version of the neo-Russellian theory (King, 2007; King, Soames, Speaks, 2014, Chapter 4). This has been criticized, for example, by Collins, and King has responded to the criticism (Collins, 2007; 2014; King, 2013; 2019a). I will not defend this consequence of my view here. My justification is that it has been discussed elsewhere, and that it is not relevant to the points I am making in this paper.

As well as being a good theory, my theory of expression avoids a problem that arises for Hanks’ version of the act-type theory. Consider (9) and (10).

(10) Mary loves John.

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<sup>14</sup> I take the “plug” terminology from King (2019b, Section 3.3).

If we assume simultaneous predication, as Hanks does, there are two relevant propositions that might be the contents of (9) and (10).

- A. **predicating *loves of John and Mary*** (which is true if and only if John loves Mary).
- B. **predicating *loves of Mary and John*** (which is true if and only if Mary loves John).

A and B are distinct propositions. The question is which of A and B is the content of (9), and which is the content of (10)? I will now describe Hanks' theory of expression and explain why his theory does not answer that question.

According to Hanks, the grammatical mood of a declarative sentence, such as (6), contributes the act of predication, and the subject and predicate contribute acts of reference and expression. Hanks proposes his theory in response to Davidson's skepticism about theories of meaning which say that propositions are the meanings of sentences. Davidson's objection, as described by Hanks, is that knowing a theory of expression which assigns propositions to sentences for a language such as English would not be sufficient for knowing English. Hanks' response is that knowledge of his theory of expression would be sufficient, and that this is a reason to accept his version of the act-type theory (Hanks, 2017, pp. 244–252).

As Hanks notes, Davidson's criticism is about sentences such as (6). Hanks therefore does not extend his idea to sentences such as (9), except to say that he discusses them in Hanks' (2015). There he proposes a theory of content rather than a theory of expression: he describes propositions which could be the contents of such sentences, but does not propose a theory which says which proposition is the content of which sentence.

Hanks' proposal is that the mood of (6) and the contents of its parts determine its content. This should apply to (9) too. But the mood of (9) and the contents of its parts do not distinguish between A and B. Both A and B are acts of predicating the content of "loves" of the contents of "John" and "Mary". Furthermore, (10) has the same mood, and parts with the same contents. So, the theory cannot tell us which of A and B is the content of which sentence. The question does not arise for (6) because, as Hanks says: "The rule does not need to say anything more about how these types are composed, because there is one and only one possible way of combining [**predicate**], [**Mary**], and [**1-tall**] into a composite type" (Hanks, 2017, p. 247).<sup>15</sup> But, as Hanks notes, there are many ways to combine supersets of those types (Hanks, 2017, p. 247).

The fact about Hanks' theory of expression that I have just noted leads to the following problem. As I said in Section 2, Hanks and Soames both say that a theory of expression should be a theory of meaning. The claim is that someone who knows such a theory of expression knows which proposition is expressed by each sentence of the language. The problem is that someone might know Hanks'

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<sup>15</sup> I have changed both Hanks' example and his terminology to fit mine.

theory of expression for English and not know which proposition is the content of, e.g., (9). Or, to put the point another way, someone who knows Hanks' theory of expression for English knows which proposition is expressed by only a subset of the sentences of English, i.e., those where there is only one way to combine the contents of the simple expressions. So, Hanks' theory of expression cannot be a theory of meaning for English, because such a theory must tell someone who knows it the content of every sentence of English. The same point could be made for other natural languages, if they also have sentences such that there is more than one way to combine the contents of their simple expressions.

The theory of expression I proposed does not have this problem. This is because it follows from the theory and the structure of (9) that the content of "Mary" first combines with "loves", and in what way they combine. The theory tells us that the content of (9) is the proposition represented by Figure 2. This proposition is distinct from both A and B, and has the same truth conditions as A. Even though (10) has constituents with the same contents as those of (9), the theory entails that its content is a particular different proposition, which is distinct from both A and B, and has the same truth conditions as B.

It is important to distinguish the problem for the theory of expression from a similar sounding objection to some theories of content. An objection to a theory of content would be that it cannot distinguish between propositions with the same constituents, because it cannot make sense of the difference of the order of predication in the two propositions. If so, such a theory cannot say that there are two different propositions, *that Mary loves John* and *that John loves Mary*, even though it seems that there are. My objection is not that one. I grant that there are distinct propositions corresponding to the different "orders", and that our notation can distinguish between them, as I did with A and B.<sup>16</sup>

Accepting stepwise predication requires a modification of Soames' claims about the contents of (1) and (2). The content of (2) will be **directly predicating greater than 196 of 216**. The content of (1) will be **mediately predicating greater than whatever is the value of  $\lambda x.x^2$  at 14 of  $\lambda x.x^3$ -plus-6**. Soames suggests this modification when he describes reduction, immediately after the passage quoted above:<sup>17</sup>

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<sup>16</sup> My notation is different from Hanks'; his notation is also sufficient. Hanks describes the difference between A and B as a difference of what is "targeted for the [lover] role" and what is "targeted for the [beloved] role" (Hanks, 2015, p. 85). Ordering problems have been raised for some theories of propositions, including the act-type theory (Collins, 2018; Ostertag, 2013; 2019). I note that stepwise predication avoids them, although I do not rely on that in my argument. I also note that the objection I make is not a version of the Benacerraf problem applied to the act-type theory (Benacerraf, 1965; Moore, 1999). That is a problem of having two candidate objects for the reduction of a proposition, which is not the case with A and B.

<sup>17</sup> In the terminology of Soames (2015), "indirect reduction" would presumably be more naturally called "mediate reduction". I have replaced " $f_{the}$ " with " $t$ " to match the terminology in Soames (2015). In the quoted passage Soames says that the contents of

When “*B*” is replaced by a Millian singular term the content and referent of which is *x*, the resulting one-place property is *loving x*, which may then be predicated directly, or indirectly, of the referent or content of the term that replaces “*A*”, depending on whether that term is Millian or non-Millian. When “*B*” is replaced by a non-Millian singular term—e.g., something the content of which is a complex consisting [of] [*t*] combined with an argument *g*—the resulting one-place property is *loving whomever is the value of [t] at g*—which may, of course, also be predicated directly, or indirectly, of the referent or content of the term that replaces “*A*”. Thus the operation, call it “reduction”, that maps an *n*-place relation plus an argument to the relevant *n* – 1 place relation subdivides into direct and indirect reduction, on analogy with direct and indirect predication. (King, Soames, Speaks, 2014, pp. 123–124)

### 6. Against Mediate Predication and Mediate Reduction

I will now argue that Soames’ theory of mediate predication, described in Section 4, fails to make the distinctions between propositions, described in Section 3, that he wants it to make. I have in mind the kind of distinction discussed in Section 3. I assume stepwise predication, which I argued for in Section 5.

My objection is to Soames’ solution to the problem of distinguishing the contents of (5) and (6). Soames’ proposal is that the content of (6) is **directly predicating *tall of Mary of John***. And that the content of (5) is **mediately predicating *tall of t-plus-g***. According to Soames’ theory, the cognitive difference is because of the difference between mediate and direct predication.

The problem is that this solution does not generalize. Consider (9), from Section 5, and (11):

(11) John loves the chief of police.

According to Soames’ theory, assuming stepwise predication as Soames describes it in the passage quoted in Section 5, the content of (9) is **directly predicating *loves Mary of John***. And, the content of (11) is **directly predicating *loves whomever is the value of t at g of John*** (where *g* is the propositional function that maps things to the proposition that they have the property *chief of police*). The difference between direct and mediate predication plays no role in the cognitive distinctness of these propositions, because in both cases the predication is direct. The predication must be direct, in both cases, because mediate predication is only defined when the target is a complex, such as *t-plus-g*, and not when the target is an ordinary object, such as John.

If the distinction between direct and mediate predication does not explain the difference between the contents of (9) and (11), it must be explained by a differ-

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expressions such as “John”, “loves”, and “6 cubed” are objects, properties, and functions, rather than acts directed at such things. I have been using the term differently: the contents of these expressions are acts. Soames also uses this terminology in other places (Soames, 2015, p. 21). In any case, the different terminology does not affect my point.

ence between the property *loves Mary* and the property *loves whomever is the value of  $\iota$  at  $g$* . The question is what the latter property is. Båve has argued that Soames has no account of what the property is (Båve, 2021, Section 1). If that is right, then Soames' theory does not make the distinctions that he wants to make.

A natural reply would be to give an account of what the property is. I do not know whether Soames would want to make that reply, or what account he would give. I will explore one possible account, and argue that it fails for reasons that plausibly extend to other similar accounts. Take any relation  $R$ . Let  $R^+$  be the relation that something stands in to the complex  $f$ -plus- $y$  if and only if it stands in  $R$  to the value of  $f$  at  $y$ . So, John stands in *loves* to Mary if and only if John stands in *loves+* to  $\iota$ -plus- $g$ . Reducing *loves+* with  $\iota$ -plus- $g$  results in the property *loves+  $\iota$ -plus- $g$* . This can be taken as the result of mediate reduction of *loves* and  $\iota$ -plus- $g$ . This property is then predicated of John, and this act of predication is the content of (11). The proposition is **directly predicating *loves+  $\iota$ -plus- $g$  of John***. This is an example of what I call the *alternative property response*, and I label this instance of it the *loves+ response*.

For any alternative property response to be successful, the alternative property must satisfy the following conditions:

1. It is psychologically plausible that anybody who believes *that John loves the chief of police* (directly) predicates the alternative property of John.
2. Necessarily, everything which has the alternative property also has *loves Mary* (and vice versa); otherwise (9) and (11) will express propositions which do not have the same truth conditions.

It is hard to find a property which meets these conditions. I will show the difficulties by explaining why the *loves+* response does not meet the second condition, and arguably does not meet the first condition.

Consider the following claim: necessarily, anybody who believes a proposition is disposed to perform it. As I said in Section 2, Soames accepts that claim as part of his account of what makes propositions the objects of belief. If the *loves+* response is correct, and the claim is true, then anybody who believes *that John loves the chief of police* is disposed to predicate *loves+  $\iota$ -plus- $g$*  of John. The claim that anyone who believes *that John loves the chief of police* is disposed to perform acts involving *loves+* and  $\iota$ -plus- $g$  is surprising. It might be objected that it is not plausible that all of those who believe the proposition are disposed to perform such acts of predication. This objection is not conclusive, for the following reason. In general, it is hard to be sure that someone is not predicating a particular property, and even harder to be sure that they are not disposed to. One reason for this is that not all acts of predicating are conscious or intentional (Soames, 2015, p. 21). So, neither introspection nor the reports of believers count against the claim that those who believe the proposition predicate the property or that they are disposed to.

One argument in support of the objection is the following. Predicating the alternative property requires a certain degree of cognitive sophistication. And someone who lacks the cognitive sophistication to do something is not disposed to do it. But someone who lacks that degree of cognitive sophistication can believe the proposition. So, someone can believe the proposition without being disposed to predicate the alternative property. The conclusion of the argument is that the proposition cannot be identical to the predication of the alternative property. This is a form of argument that Soames uses when he suggests that negations should not be thought of as predications of *not being true* of propositions (Soames, 2015, pp. 30–31).

This argument turns on the claim that the degree of cognitive sophistication required to predicate *loves+  $\iota$ -plus-g* is greater than that required to believe *that John loves the chief of police*. It does seem plausible that someone can believe the proposition without being able to predicate the alternative property. However, it is hard to conclusively establish the required claim, which is that believing the proposition requires degree of sophistication  $m$ , that predicating the alternative property requires degree of sophistication  $n$ , that  $m$  is strictly less than  $n$ , and some people have a degree of sophistication greater than or equal to  $m$  and strictly less than  $n$ . It is not even obvious how to measure cognitive sophistication, either of thinkers or acts, although I grant Soames that there is such a thing. So, the supporting argument is also suggestive, but inconclusive.<sup>18</sup>

Based on the preceding discussion, I conclude that it is hard to turn the fact that the *loves+* response is surprising into a conclusive objection. However, I note that the fact that the *loves+* response is so surprising is a reason to doubt it. Because the response makes a surprising claim, it would be better if a positive case could be made for it, rather than noting that it is hard to make a case against it. Furthermore, the same reasons that make it difficult to make a conclusive objection will also make it difficult to find direct evidence for the *loves+* response.

The other objection to the *loves+* response is that the second condition is not met. Consider a possible world  $w$  such that, in  $w$ , John loves only Mary, but Mary does not have the property *chief of police*. If  $w$  were actual, John would not have *loves+  $\iota$ -plus-g*. However, John would have *loves Mary*. One consequence of this is that the propositions expressed by (9) and (11) will not have the same truth conditions. As I said in Section 3, this is not an acceptable consequence for a theory which treats definite descriptions as complex singular terms.<sup>19</sup>

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<sup>18</sup> For Soames' discussion of negation, it is plausible that predicating a property such as *not being true* of a proposition does require a degree of cognitive sophistication that is not required for believing a negation. That being said, the point that it is hard to establish that can be made in response to that argument too.

<sup>19</sup> One natural reply is to propose the following *loves++ response*: *loves++* is a three-place relation between a person, a complex, and a world. The relation *loves++* relates John,  *$\iota$ -plus-g*, and  $w$  if and only if John loves the value of  *$\iota$ -plus-g* at  $w$ . The world is fixed by the world in which the predicate is used. This proposal satisfies condition 2. However, it fails to satisfy condition 1. This is because it has the very implausible conse-



I conclude from my discussion of the alternative property response that it is not easy to find a suitable alternative property. This suggests that it is difficult to develop Soames' theory of mediate predication and mediate reduction so that it solves the problems that it is intended to solve. Mediate predication and mediate reduction are proposed by Soames as a way to make certain distinctions. If they do not make the required distinctions, they should be rejected.

### 7. An Alternative Solution

In this Section, I propose an alternative theory of the contents of the sentences I have been using as examples, i.e., (1), (2), (5), (6), (9), and (11), from Sections 5 and 6. The theory extends the theory I proposed in Section 5. The theory makes the distinctions between propositions that Soames wants to make and which I agree should be made. The theory does not make use of mediate predication or mediate reduction. The point I use the theory to make is that neither mediate predication nor mediate reduction are necessary to make the required distinctions.

I propose that definite descriptions should be treated in the following way. The act performed with "the" is represented by "**THE**" and is the act of expressing  $\iota$ . When the act of expressing a function from propositional functions to objects combines with the act of referring to a property the following act is performed. First, I say that each property is *associated* with a propositional function: this is the function that maps each object to the proposition that the object has that property. Second, the act performed is the act of referring to the object that is the value of the function, e.g.,  $\iota$ , when applied to the propositional function associated with the property.<sup>20</sup>

Using (11) as an example, **THE** combines with **1-chief of police**. The property *chief of police* is associated with the propositional function  $g$ . The act performed is referring to the object that  $\iota$  maps  $g$  to, which is Mary. The proposition expressed by (9) (Figure 2) is not the same as the proposition expressed by (11) (Figure 3). The same act of reference, **Mary**, is performed as part of both. They are

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quence that, necessarily, anyone who believes that John loves Mary predicates a property of John which involves the actual world. See Soames (2002, pp. 43–49) for a discussion of a related theory, where he makes an analogous objection. This is an example of an attempt to amend the loves+ response in a way that leads to further problems with meeting the two conditions.

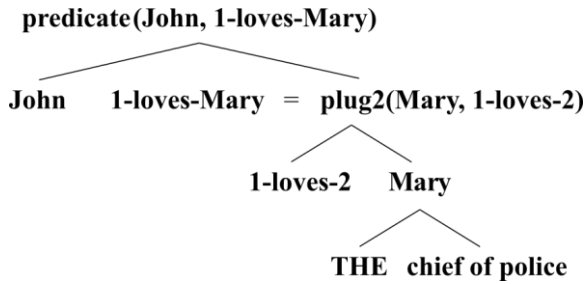
<sup>20</sup> Soames refers to  $\iota$  as both a function from type  $e$ ,  $t$  functions to objects and as a function from propositional functions, i.e., functions from objects to propositions, to objects. He suggests that the latter is equivalent to thinking of it as a function from properties to objects. It would be simpler to present the view if the arguments for  $\iota$  were properties, not propositional functions. These two ways of thinking are interchangeable, but I have chosen to follow Soames' presentation of the view. I make the simplifying assumption that acts of reference are individuated by the object referred to, and on the strength of that assumption I write "**Mary**" for the act of reference performed with both "Mary" and "the chief of police".

cognitively distinct, because in one, but not the other, **THE** and **chief of police** are also performed. This proposal also distinguishes the contents of (5) and (6).

In order to satisfy Soames' requirements for the act-type theory, the theory must be extended to cover other examples of complex singular terms. I will present another example with (1) and (2), which will illustrate that the proposal generalizes. I posit two new acts, **CUBE** and **SQUARE**, which are the acts of expressing the cubing and squaring functions, respectively. In this case, a simpler rule is required: an act of expressing a function from objects to objects and an act of referring to an object result in an act of referring to the value of the function when its argument is the referred to object. The propositions represented in Figures 4 and 5 are the cognitively distinct contents of (1) and (2).

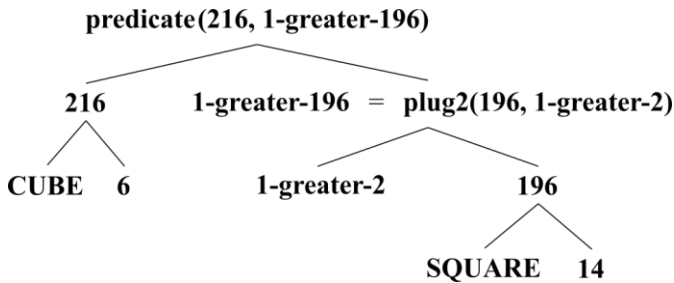
**Figure 3**

*The proposition that John loves the chief of police*



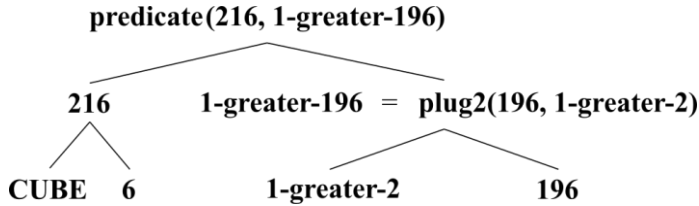
**Figure 4**

*The proposition that 6 cubed is greater than 14 squared*



**Figure 5**

*The proposition that 216 is greater than 196*



### 8. Meaning Reports

I will now address a separate but related point. Soames might reject the theory proposed in Section 7 on the basis that it does not allow for a response to the following argument against the possibility of complex singular terms. Soames says that this argument is an important motivation for his version of the act-type theory, on the basis that only his theory can block the argument. Soames presents the argument as follows (Soames, 2015, pp. 37–39). Let “M” be a name for the meaning of “the first line of Gray’s Elegy”, which, as this expression is a definite description, will be a complex. Now consider the meaning reports (12) and (13).<sup>21</sup>

(12) “The first line of Gray’s Elegy” means M.

(13) “The first line of Gray’s Elegy” means the first line of Gray’s Elegy.

According to Soames, (12) is true and (13) is false. So, according to the truth test described in Section 3, their contents must be different. Soames says that, according to a neo-Russellian theory of propositions combined with the claim that complex singular terms contribute their meanings to propositions, both express the same neo-Russellian proposition:

⟨⟨“the first line of Gray’s Elegy”, M⟩, means⟩

Soames’ theory avoids this problem by making the following distinction (Soames, 2015, p. 39). The proposition expressed by (12) is an act of direct pred-

<sup>21</sup> These are Soames’ examples 5b and 5c (Soames, 2015, p. 37). Soames’ example refers to an argument that Russell makes with an example from Gray’s “Elegy Written in a Country Churchyard” (Gray, 2022; Russell, 1905, p. 486). It is not easy to understand Russell’s argument. Soames refers to Salmon’s reconstruction (Salmon, 2005; Soames, 2015, p. 37). Salmon says, of Russell, that “the presentation is garbled and confused, almost to the point of being altogether inscrutable and incomprehensible” (Salmon, 2005, p. 1069). I make no claim about Russell’s argument, and restrict my point to Soames’ argument based on it.

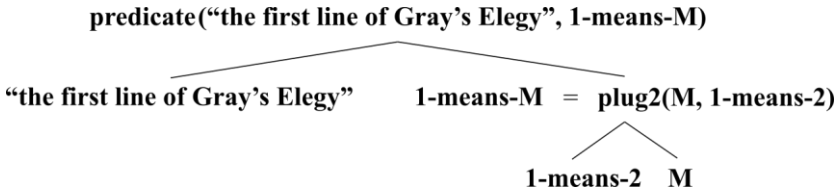
ication targeting M. The proposition expressed by (13) is an act of mediate predication targeting M. So, the two propositions are cognitively distinct.

I propose an alternative response to the problem Soames discusses, without a distinction between direct and mediate predication. I first note that, according to Soames, the meaning of an expression can be identified with its content. According to the act-type theory of content, contents are acts like the ones described in this paper. This idea can be applied to the Gray's Elegy examples. The proposition expressed by (12), Figure 6, entails that the expression "the first line of Gray's Elegy" stands in the meaning relation to the act type M which is the meaning of "the first line of Gray's Elegy". Let "G" name the first line of Gray's Elegy, which is the expression "the curfew tolls the knell of parting day". M is a complex act of referring to G, which is the unique bearer of the property *first line of Gray's Elegy*. This proposition is true.

The proposition expressed by (13), Figure 7, entails that the expression "the first line of Gray's Elegy" stands in the meaning relation to G. This proposition is false, because the meanings of expressions are acts, not other expressions. According to my theory, the contents of (12) and (13) are cognitively distinct. I conclude from this that my version of that act-type theory can make the distinction between the contents of (12) and (13) that Soames wants to make, without a distinction between direct and mediate predication.

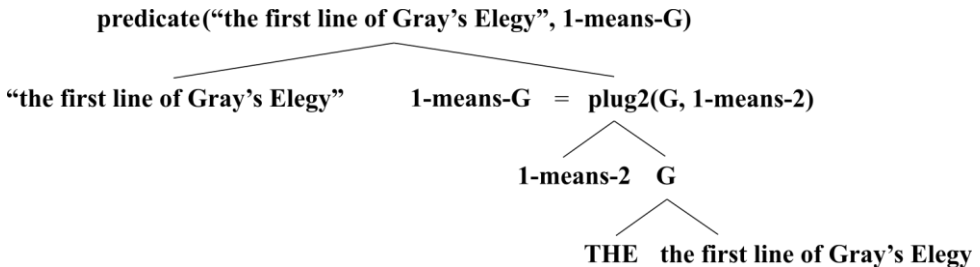
### Figure 6

*The proposition that "the first line of Gray's Elegy" means M*



### Figure 7

*The proposition that "the first line of Gray's Elegy" means the first line of Gray's Elegy*



Furthermore, my theory gives a result that both seems right, and is the one that Soames wants, for a related example (Soames, 2014, Chapter 8). Following Soames, let “MeM” denote the meaning of *e*. Now consider (14) and (15).<sup>22</sup>

(14) The first line of Gray’s elegy is a sentence.

(15) Mthe first line of Gray’s ElegyM is a sentence.

The theory that I propose entails that (14) expresses a true proposition: G is a sentence. And it entails that (15) expresses a false proposition: the meaning of “the first line of Gray’s Elegy” is a complex act of referring to G, not a sentence. I conclude that my theory of expression can make the distinctions that Soames wants to make between the contents of (12), (13), (14), and (15). This avoids the objection that my theory cannot make the distinctions that Soames’ theory is intended to make.

## 9. Conclusion

Soames proposes the act-type theory of propositions as an answer to the foundational problem of what propositions are. He extends his theory, by adding mediate predication and mediate reduction, in order to distinguish between some pairs of propositions that should be distinguished. I have argued that my alternative version of the act-type theory can make the required distinctions between propositions, without the addition of mediate predication and mediate reduction. This is a reason to accept my version of the act-type theory.

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<sup>22</sup> Examples 22a and 22b are from Soames (2014, p. 352). I have removed hyphens from (15). This example is like some of Russell’s (1905, p. 486).

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JULIANA FACCIO LIMA \*

## ON SEMANTIC CONTENT, BELIEF-CONTENT AND BELIEF ASCRIPTION<sup>1</sup>

**SUMMARY:** It is no surprise to anyone familiar with Fregean and Millian Theories that they struggle to explain the intuitive truth-value of sentences with proper names in modal and cognitive (such as belief) contexts, respectively. In this paper, I suggest that we can avoid the problems these theories face while at the same time preserving important intuitions by drawing a sharp distinction between semantic content (truth-conditions) and cognitive content (the content of cognitive attitudes), and by fixing the scope of Fregean and Millian theories to cognitive and semantic content, respectively. An immediate worry for this type of hybrid account is to explain the contribution of cognitive contents to the truth-conditions of attitude ascriptions. If they are different contents and the cognitive content is not part of the semantics, how can the truth-value of belief ascriptions be sensitive to cognitive content? If the semantic content follows Millianism, how can belief ascriptions that are otherwise identical but have different co-referring names have different truth-values? To answer these questions, I use Predelli's (2005) semantic framework and argue that the truth-value of belief ascriptions is relativized not only to a world but also to a point of evaluation used to interpret the world. It is the point of evaluation that brings the cognitive content back to semantics and explains away the contradiction.

**KEYWORDS:** attitude ascriptions, belief attributions, proper names, cognitive significance.

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\* Azim Premji University. E-mail: juliana.lima@apu.edu.in. ORCID: 0000-0001-7842-6229.

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Clark Kent: \*sets glasses on kitchen table\*

Lois Lane: Where did our table go?

### 1. The Tension

It is no surprise to anyone familiar with the debate on the meaning of proper names that there is a tension between our linguistic intuitions, on the one hand, and Millian and Fregean theories, on the other. Millian theories (or Millianism) hold that the semantic content of a proper name is only its referent. They explain well our intuitions about the truth-value of simple sentences, such as (1) “Eric Blair was born in Motihari”. Whether (1) is true or false seems to depend only on whether Eric Blair has the property of being born in Motihari, which is what they hold. They also explain well our intuitions about the modal profile of those sentences. In accordance with our intuitions, Millianism holds that (1) is false in a world where Eric Blair was not born in Motihari, even if, in that world, there is someone who has accomplished all the things that he is famous for in the actual world and was born in Motihari.

When it comes to account for the intuitive truth-value of beliefs ascription (and other cognitive attitudes), Millian theories seem to fall apart. We can suppose, without apparent contradiction, that (2) “Lois believes that Eric Blair was born in Motihari” is true but that (3) “Lois believes that George Orwell was born in Motihari” is false, even though Eric Blair is George Orwell. However, if Millianism is correct, “Eric Blair” and “George Orwell” have the same semantic content—because they co-refer—which entails that (2) and (3) should have the same semantic content and truth-value, contrary to our intuitions.

Interestingly, the opposite is true of Fregean theories.<sup>2</sup> They hold that the semantic content of a proper name is a mode of presentation or way of thinking of the referent of the name and that co-referring names, like “Eric Blair” and “George Orwell”, can have different modes of presentation. This allows them to distinguish the semantic content of (2) and (3) and, consequently, explain our intuitions about their truth-value.

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<sup>2</sup> A word of caution: It is hard to talk about Fregean Theories in general without making some theoretical choices that will inevitably exclude some of its versions, sometimes even Frege’s own theory. For the sake of simplicity, I will consider a simple and, what I take to be somewhat intuitive, version of Fregean Theories restricted to simple sentences and belief sentences where there is, at most, one attitude verb. It should be noted, however, that this will not pose a problem because my considerations about the inadequacy of Fregean Theories are general—against its spirit, so to speak—and not about any specific way of cashing out parts of the theory.

The problem for Fregean Theories arises when accounting for the truth-value of simple sentences like (1). According to them, (1) expresses a content like the son of Charles Blair was born in Motihari, which is true if, and only if, the object that satisfies the description the son of Charles Blair also has the property of being born in Motihari. This contradicts our initial intuitions that the truth-value of (1) depends solely on whether Eric Blair has the property of being born in Motihari, because now he also needs to have the property of being the son of Charles Blair.

While one might think that such a departure from our intuitions can be brushed off as a small trade-off required for a simple explanation of belief sentences, when we look at the modal profile of (1)—which gives rise to versions of arguments called “Modal Arguments”—it is evident that it is a bigger problem. Fregean Theories hold that (1) is true if, and only if, whoever is the son of Charles Blair was also born in Motihari. In the actual world, (1) is true—Eric Blair is both the only son of Charles Blair and born in Motihari. But in a world where he is neither of those things and John Blair is, (1) is surprisingly true, since he is both the only son of Charles Blair and born in Motihari.<sup>3</sup>

Millians and Fregeans are very much aware of these and other challenges their theories face. There is a vast literature on the topic and it is impractical to survey all of it. I am generally dissatisfied with the solutions proposed by Millians because they either posit a suspicious three-place relation in terms of which the belief-relation is analyzed (Perry, 1977; 1979), invoke questionable pragmatic principles to explain the intuitive truth-values of belief sentences (see Salmon, 1986 for such a view and Braun, 1998; 2002 for a criticism), or deny the transparency of belief contents (if a person believes that  $p$  and is aware of her belief, then she knows what the content of her belief is). The solutions proposed by Fregeans will inevitably add something to the semantic content of a name, and this move just ignores the intuition about the contribution of names to the truth-conditions.

None of these considerations are knock-down objections. They are a motivation to examine the debate from a different perspective. Instead of seeing Fregean and Millian theories as competing theories, I want to explore a hybrid view that brings them together in harmony, which is a natural perspective given that Millian and Fregean theories seem to explain well different sets of non-overlapping intuitions. The resulting theory would have to draw a sharp distinction between the semantic and cognitive content of a name. The semantic content is the meaning of a name and gives its contribution to the truth-conditions of a sentence. This content is as Millianism holds: the referent of the name (if there is any). The cognitive content is the content towards which a person bears

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<sup>3</sup> In fact, can recreate generate such counterexamples with virtually any sentence of the form  $\lceil \Phi \alpha \rceil$ , such that “ $\Phi$ ” ranges over predicates and “ $\alpha$ ” over names. Notable exceptions are naturally expressions which are associated with rigid descriptions, like “two” and the even prime number greater than 1. Though, if I am right about the underlying problem that the Modal Argument reveals—namely that (1) is intuitively about Eric Blair and not about whoever is the son of Charles Blair—even these cases are contrary to our intuitions.

a cognitive attitude, a mode of presentation. In alignment with Fregean theories, we can understand modes of presentation as some sort of description, a cluster of descriptions, or a set of information (such as a mental file; Recanati, 2012).

In this new unified theory, the name “Eric Blair” means Eric Blair himself, and (1) is true iff Eric Blair is born in Motihari, and its cognitive content is the son of Charles Blair. However, sameness of semantic content does not entail sameness of cognitive content. Thus, even though “George Orwell” has the same semantic content as “Eric Blair”, its cognitive content can be different, such as the author of 1984. This explains why (2) can be true and (3) false: because Lois bears an attitude towards the son of Charles Blair was born in Motihari but not towards the author of 1984 was born in Motihari. A view roughly along these lines has been developed by Recanati (2012).

Ideally, such a unified theory should work. But, unfortunately, the real world is far from ideal and two immediate and closely related problems arise. Since the semantic content is in accordance with Millianism, (2) and (3) have the same semantic content. But (a) how can they have the same semantic content and different truth-values? Furthermore, if the truth-conditions of (2) do not include the cognitive content of “Eric Blair”, (b) how is the truth-value of (2) sensitive to a content which is not part of its truth-conditions?

Anyone who wants to defend such a hybrid view needs to address these questions even before offering a theory of what modes of presentations are. This is what I will do in this paper. I will use the semantic framework developed by Predelli (2005) to address these two problems.

Predelli is primarily concerned with explaining how different utterances of the same sentence can express the same semantic content but have different truth-values depending on the context in which they are uttered. While the case at hand is slightly different, because we are considering utterances of different sentences, namely, (2) and (3), the core of the problem is the same: how can sentences with the same semantic content have different truth-values? Predelli has also used his framework to answer (a). But there are many differences between the resulting theories given that Predelli subscribes to Millianism for both semantic and cognitive content while I do not.<sup>4</sup>

As for the structure of the paper, I begin by explaining Predelli’s view in Section 2. In Sections 3 and 4, I expand it to the problem at hand. Then, in Section 5, I use this framework to explain other puzzles about belief. Lastly, in Section 6, I consider some objections.

## 2. Green Leaves and Hexagonal Countries

Consider a world  $w^*$  where all leaves have been painted green (the case is discussed in Predelli, 2005; 2009). Suppose that you are talking to your friend Marie, who is taking a photography course. Her assignment for the week is to

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<sup>4</sup> See Section 4 for an explanation of the differences.

take pictures of green objects. She is wondering what to photograph, and you utter (4) “The leaves are green”. Intuitively, (4) is true. Now, suppose your other friend, Bill, is taking a biology course and has to get samples of some green plants. If you utter (4), it is now false. It seems that we have a contradiction: different utterances of (4) in  $w^*$  have different truth-values. How do we explain this? Is (4) true or false in  $w^*$ ?

A potential explanation is to accept the intuitive truth-value of the utterances at face value and assume that the predicate “to be green” changed its meaning from one context to another. This would explain away the contradiction because different utterances of (4) express different semantic contents. However, this solution is less than ideal. It treats “to be green” as a context sensitive expression—an expression whose semantic content may vary according to the context—which does not seem to be the case.

Another way to analyze the case is to hold that our intuitions about the truth-value of (4) are mistaken: both utterances must have the same truth value, and we are incorrect in judging the truth-value of (4) when talking with either Bill or Marie. This solution is also less than ideal because if Marie submits pictures of the painted leaves, she will be fulfilling the assignment, indicating that the leaves must be green. However, if Bill submits pictures of the same painted leaves, he will clearly not fulfill the assignment, suggesting that the leaves must not be green—if they were, why would not he be meeting the requirements?

Predelli offers a different and very interesting explanation of the intuitive difference in the truth-value of two utterances of (4). He takes our intuitions at face-value and argues that the utterances express the same semantic content but are evaluated against different circumstances of evaluation. Since both utterances are evaluated against the same world, he adds a new element to the circumstances of evaluation to distinguish them, what he calls a point of evaluation.

A point of evaluation is a perspective we take to interpret the world (what Predelli calls “wordly conditions”). According to Predelli,  $w^*$ , by itself, does not determine whether the leaves are green or not, or, more generally, whether an object is in the extension of a predicate. We need to interpret the world to determine whether the leaves are green. And this interpretation depends on a point of view, or a perspective. From the point of view that what is important is that objects look green, the leaves are green in  $w^*$ . But from the point of view that what is important is that leaves are green due to the presence of chlorophyll, the leaves are not green in  $w^*$ . What I am calling “point of view” is a point of evaluation. The result of interpreting a world from a point of evaluation, that is, deciding whether an object is in the extension of a predicate, is called a “state of affairs”. Ultimately, utterances of sentences are evaluated against an interpretation of a world from a point of evaluation.

With this, Predelli can explain the intuitive truth-value of different utterances of (4). When talking with Marie, the purpose is to assess the color of objects in  $w^*$  from the perspective of their appearances, because the conversation is about finding objects for her photography assignment. For such a purpose, appearing

green (point of evaluation  $m$ ) in  $w^*$  count as being green. This means that the leaves are green from this point of evaluation, and (4) is true with respect to  $w^*$  and  $m$ . On the other hand, in the conversation with Bill, appearances are not enough for leaves in  $w^*$  to count as green. For his assignment, Bill needs objects that appear green because of chlorophyll (point of evaluation  $b$ ). From this point of evaluation, the leaves are not green, which means that (4) is false with respect to  $w^*$  and  $b$ .

The initial contradiction between the two utterances of (4) goes away because each utterance is evaluated against different parameters: in the conversation with Marie, (4) is true with respect to world  $w^*$  and point of evaluation  $m$ ; in the conversation with Bill, it is false with respect to the same world  $w^*$  but point of evaluation  $b$ .

The underlying claim in Predelli's framework is that we do not evaluate sentences against some given organization of objects in the world (worldly condition). Rather, we interpret (or cut) the world from a point of evaluation and then evaluate sentences against the resulting interpretation (state of affairs). Which point of evaluation should be used to interpret the world and evaluate an utterance will depend on certain elements of the context of the utterance. In the case of green leaves, it depends on the purpose of the assignment. But in other conversations, it will be something else.

Predelli is not the only nor the first philosopher to suggest that the truthvalue of sentences depends on some point of evaluation. Austin (1962, p. 142) makes a similar point, though he does not develop it in as much detail as Predelli. He says that (5) "France is hexagonal" is true when uttered in a conversation with a general, but false in a conversation with a geographer. Furthermore, the difference in the truth-value is due to a change in the purpose of the conversation. Predelli's semantic framework explains this case very nicely. World  $w@$  is interpreted from two different points of evaluations. In the conversation with the general, we interpret  $w@$  from a point of evaluation  $g$  in which countries with a general shape when looked at on a map counts as hexagonal. So, (5) is true in with respect to  $w@$  and  $g$ . But in the conversation with the geographer, we interpret world from a point of evaluation  $o$  in which we look at the shape of a country more closely, and its general shape is not enough for it to count as hexagonal. So, (5) is false with respect to  $w@$  and  $o$ .

Of course it can be debated whether Predelli's proposal is the best solution to the green leaves problem. But it shows how utterances of a sentence with the same semantic content can have different truth-values in the same world without contradiction. If this framework can be successfully extended to belief sentences, which I will try to do in the next sections, it can open up a path for a different and interesting way of solving puzzles about beliefs. We will be able to explain how (2) and (3) have different truth-values even though they express the same semantic content in a way that preserves the intuitions presented in Section 1. To do that, I first need to talk about the metaphysics of belief content to get clear on what a worlds and points of evaluation are in the case of beliefs.

### 3. Metaphysics of Belief Content

In Section 1, I said that the content of beliefs (cognitive contents) can be a description, set of descriptions, mental files, and so on. For the sake of simplicity, I will take them to be a description of an object. But, as it will become clear, my account of the truth-conditions of belief ascriptions is compatible with different ways of cashing out modes of presentation.

Consider a classical so-called “Frege’s Puzzle” case. Suppose that Eric Blair and Lois are very close childhood friends both from Motihari. Lois has read some books by Eric Blair under his pen name “George Orwell” and has even seen some pictures of him on book covers. However, she does not recognize the man in the pictures as her friend from Motihari whose father was Charles Blair. She thinks that the person called “George Orwell” was born somewhere in England. Here, Lois believes that Eric Blair was born in Motihari when thinking of him as *the son of Charles Blair* but not when thinking of him as *the author of 1984*. This together with the assumption that the cognitive contents are descriptions (modes of presentation) entails that Lois has a belief attitude towards the belief content *the son of Charles Blair was born in Motihari* but not towards *the author of 1984 was born in Motihari*.

The figure below represents Lois’s mental life. «SON, BORN IN MOTIHARI»<sup>5</sup> stands for the cognitive content *the son of Charles Blair was born in Motihari*, and «SON, BORN IN MOTIHARI», for *the author of 1984 was born in Motihari*. Cognitive contents inside Lois’s belief box<sup>6</sup> are contents she believes. Contents outside her belief box are the ones she does not believe.

**Figure 1**



Figure 1 represents how the world is according to the hybrid view under consideration. Call it world  $w$ . Now, we can raise the question: is (2) true or false? Does Lois believe that Eric Blair was born in Motihari? In other words, is Lois in the extension of the predicate “to believe that Eric Blair was born in Motihari”?<sup>7</sup>

<sup>5</sup> ««BORN IN MOTIHARI»» stands for the cognitive content of the predicate “to be born in Motihari”, whatever it is. In this paper, I will not discuss issues pertaining to predicates, though what I say about names should apply to them and other linguistic expressions.

<sup>6</sup> The concept of belief box is usually used in the analysis of belief according to the language of thought hypothesis, in which a belief is a physical representation of a content in the brain. Here, I am using “belief box” as a metaphor merely as a pedagogical aid.

<sup>7</sup> For the sake of making the comparison between the case of green leaves and Lois’ case, I will treat “to believe that  $p$ ” in “ $s$  believes that  $p$ ” as a unary predicate like “to be

Using Predelli's framework, it depends on how we interpret  $w$ , just like in the case of green leaves.

Given certain reasonable assumptions about Lois's cognitive life, it is plausible to suppose that she associates the mode of presentation «SON» with the name "Eric Blair", by which I mean that, when she hears the name "Eric Blair", the cognitive content «SON» comes to her mind (in Recanati's terms, the mental file named "Eric Blair" is activated), and she will think of Eric Blair as *the son of Charles Blair*. As a result, «SON, BORN IN MOTIHARI» is the mode of presentation she associates with (1). Thus, if we look at Figure 1 and interpret it from the point of evaluation of *the mode of presentation of "Eric Blair" for Lois* (point of evaluation  $e'$ ), she believes that Eric Blair was born in Motihari, that is, she is in the extension of the predicate "to believe that Eric Blair was born in Motihari". From perspective  $e'$ , to have «SON, BORN IN MOTIHARI» in one's belief box counts as believing that Eric Blair was born in Motihari (similarly to how from point of evaluation  $m$  appearances are enough for leaves to be green in  $w^*$ ).

But Lois does not believe that Eric Blair was born in Motihari from all points of evaluation. Assuming, as we have, that Lois does not know that "Eric Blair" and "George Orwell" co-refer, we can suppose that she associates the mode of presentation «AUTHOR» with the name "George Orwell" and «AUTHOR, BORN IN MOTIHARI» with (6) "George Orwell was born in Motihari". If now we interpret  $w$  from the point of evaluation of *the mode of presentation of "George Orwell"* (point of evaluation  $e''$ ), the result is that she does not believe that Eric Blair was born in Motihari, that is, she is not in the extension of "to believe that Eric Blair was born in Motihari" (similar to how in  $b$  leaves appearing green does not count as being green). From this perspective  $e''$ , having «SON, BORN IN MOTIHARI» inside Lois's belief box does not count as believing that Eric Blair was born in Motihari.

The contrast between points of evaluation  $e'$  and  $e''$  is similar to the contrast between  $m$  and  $b$ : they lay out different criteria for an object (leaves and Lois) to be in the extension of a predicate ("to be green" and "to believe that Eric Blair was born in Motihari") given how the world is.

In the next section, I will use this account of the metaphysics of belief together with Predelli's semantic framework to address the questions raised in Section 1: (a) how can (2) and (3) have the same semantic content but different truthvalues? and (b) how is the truth-value of (2) sensitive to a content which is not part of its truth-conditions?

#### 4. Belief Ascriptions

Consider an utterance of the sentence (2) "Lois believes that Eric Blair was born in Motihari". According to the semantic account I endorse, it is true iff Lois

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green". But my analysis would also apply if we treat "to believe" as two place relational predicate between  $p$  and *that*  $p$ , as it is commonly done.



believes that Eric Blair was born in Motihari, that is to say, iff Lois is in the extension of “to believe that Eric Blair was born in Motihari”. Does Figure 1 make (2) true or false? In other words, does Lois believe that Eric Blair was born in Motihari in  $w$ ? Just like with (4) “The leaves are green”, it depends not only on how  $w$  is but also on the point of evaluation considered.

As I explained in the last section, from point of evaluation  $e'$  (the mode of presentation Lois associates with “Eric Blair”), Lois believes that Eric Blair was born in Motihari. Therefore, when (2) is evaluated with respect to  $w$  and  $e'$ , it is true. On the other hand, from point of evaluation  $e''$ , Lois does not believe that Eric Blair was born in Motihari. From  $e''$ , Lois having «SON, BORN IN MOTIHARI» in her belief box is not enough to count as believing that Eric Blair was born in Motihari. Thus, (2) is false with respect to  $w$  and  $e''$ . This might sound strange at first, but I will explain how this reflects an intuition we have shortly.

Similarly for (3) “Lois believes that George Orwell was born in Motihari”. It is true iff Lois believes that Eric Blair was born in Motihari, just like (2) because “Eric Blair” and “George Orwell” have the same semantic content. Interpreting  $w$  from  $e'$ , she does. So (3) is true in  $w$  and  $e'$ . Interpreting  $w$  from  $e''$ , she does not. So, (3) is false in  $w$  and  $e''$ .

Since (2) (and [3]) can have different truth-values depending on which point of evaluation it is evaluated against, in order to determine whether a *specific* utterance of (2) is true in the context it was uttered, we need to know which point of evaluation is the appropriated one for that context. As Predelli explains, elements of the context determine the point of evaluation. In the case of green leaves, the *purpose of the assignment* determined the point of evaluation. In your conversation with Marie, the purpose was to talk about objects which are green for her photography assignment.

Adopting this idea to the case at hand, in contexts in which we are using Lois’s mental life to raise objections against Millianism, the purpose is to highlight the fact that Lois has different ways of thinking about Eric Blair: one that she associates with the name “Eric Blair” and another with “George Orwell”. We invoke these different perspectives by using different names, as in (2) and (3). In this way, (2) is to be evaluated with respect to the mode of presentation Lois associates with “Eric Blair”, and (3) with respect to the mode of presentation she associates with “George Orwell”. Here, the name in the sentences determines the correct point of evaluation. Thus, an utterance of (2) in such a context is true iff Lois has the property of believing that Eric Blair was born in Motihari in  $w$  by means of the mode of presentation she associates with “Eric Blair”, that is, from point of evaluation  $e'$ . With respect to this point of evaluation ( $e'$ ) and world  $w$  represented by Figure 1, Lois believes that Eric Blair was born in Motihari. Likewise, an utterance of (3) in the same context is true iff Lois has the property of believing that Eric Blair was born in Motihari in  $w$ , by means of the mode of presentation she associates with “George Orwell”, that is, from point of evaluation  $e''$ . This is because different names are used to highlight different mode of

presentation Lois has of Eric Blair. From this point of evaluation, she does not believe that Eric Blair was born in Motihari in  $w$ .

In both cases, cues from the context suggest what the relevant point of evaluation is. In the case of green leaves, we do not need to assume that at any point of the conversation Marie or anyone said that she needs to photograph objects that look green. Anyone with some basic knowledge will assume or infer from knowing what the assignment is that you are talking about leaves that look green. In the same way, in the Lois's case, we do not need to assume that anyone has explicitly said that Lois believes that Eric Blair was born in Motihari *by means of the mode of presentation she associates with the name "Eric Blair"*. Anyone who knows the background story (even the most hardcore Millians) will understand that she associates different modes of presentation with the names "Eric Blair" and "George Orwell", and that using one particular name suggests that it is a specific mode of presentation that we are talking about.

A consequence of putting together the proposed hybrid view and Predelli's framework is that (2) "Lois believes that *Eric Blair* was born in Motihari" and (3) "Lois believes that *George Orwell* was born in Motihari" have the same truth-conditions. They are true (false) with respect to the circumstances of evaluation, that is, with respect to the same world and point of evaluation. This means that (3) is also true with respect to  $e'$ , and (2) is false with respect to  $e'$ . This is a desirable consequence because in the hybrid view the semantic content determines the truth-conditions and, since this is given by Millianism, it should entail that (2) and (3) have the same truth-conditions. It might sound counterintuitive at first because it is not obvious whether there are contexts in which we should evaluate (3) taking it to consideration the mode of presentation Lois associates with "Eric Blair", and not with "George Orwell". However, a closer look reveals that there are such contexts. For instance, suppose we are making a list and counting how many people Lois believes were born in Motihari and how many she does not. Suppose further that we know that Eric Blair is George Orwell. We begin by considering whether she believes that Eric Blair was born in Motihari. We conclude that she does. Then we wonder whether she believes that George Orwell was born in Motihari, which is to wonder whether (3) is true. We cannot say that she does not, or else we will count the same person twice, one in each side of list. So, we conclude that she does because she has «SON, BORN IN MOTIHARI» in her belief box. This is a context in which (3) is evaluated against a circumstance of evaluation which takes as the point of evaluation any mode of presentation of Eric Blair for Lois ( $p'''$ ). So, (3) is true in this context because «SON, BORN IN MOTIHARI» is in Lois' belief box.

One might be tempted to immediately point out that my proposal entails a contradiction. We now have different utterances of (3) with the same semantic content but different truth-values when evaluated with respect to the same world, which usually entails a contradiction.

But this objection can be quickly dismissed once we notice that it is just like the case of green leaves. And the answer here is the same: there is no contradic-

tion because different utterances of (3) are evaluated with respect to different circumstances of evaluation. Whereas an utterance of (3) in a discussion about Millianism is evaluated against a world  $w$  and point of evaluation  $e$ ” (the mode of presentation Lois associates with “George Orwell”), an utterance of (3) in the counting case is evaluated against world  $w$  but a different point of evaluation  $e$ ” (any mode of presentation Lois has about Eric Blair).

In Section 2, I explained that the general idea of relativizing the truth-value of sentences to more than just a world and time is not new. However, there I talked about only simple sentences that do not ascribe beliefs or any other cognitive attitudes. But philosophers have suggested the same for belief ascriptions too. Wallace and Mason, in their criticism of Burge’s famous argument for social externalism based on the “arthritis” example, argue that Burge’s argument depends on there being a simple yes/no answer to the question “Does an agent  $A$  believe that  $p$ ?”, which is rarely, if ever, the case.

It is worth reminding ourselves that frequently, when we report someone’s beliefs, we do so in response to a question of the form, “Does the person believe that  $p$ , or not?”. That is, frequently, the question to which we are responding is focused on the person’s stance toward a topic and not toward a specific sentence. When this is so, our response frequently takes the form of a narrative in which belief sentences—in the philosopher’s sense, sentences of the form “ $x$  believes that  $p$ ”—are embedded with other sentences, some of which may not even be explicitly psychological in character, but which set a scene, describe a context, or provide relevant background. Judging from the surface of our practice, *the narrative surrounding belief sentences frequently is not mere embellishment but is integral to conveying what we wish to convey about the person’s outlook*. For if someone were to press us, saying, “That long story is all very well, but what I want to know is: does  $x$  believe that  $p$  or not: yes or no?”, we often would reject the question. (Wallace, Mason, pp. 182, my emphasis)

I take it that to reject the question “Does an agent  $A$  believe that  $p$  or not?” entails, among other things, that belief sentences are not true or false without considering them in a context—“the narrative surrounding belief sentences”.<sup>8</sup> One way of cashing out this idea is that we cannot just take the semantic content of a belief ascription and compare it with the world to check whether the ascription is true or false.<sup>9</sup> We need to know what the ascription is uttered for, the purpose or the intention behind it, so then we interpret the world from that perspective and are in a position to tell whether the ascription is true or false. Just like the world

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<sup>8</sup> I do not mean to suggest that my semantic apparatus correctly captures Wallace and Mason’s idea. My point is just to show that there is an intuitive pull to the idea that “ $A$  believes that  $p$ ” is true or false not only with respect to a world and time, but also to some other element.

<sup>9</sup> Though we can define a notion of true (false) simpliciter as true in the point of evaluation of the context in the world of the context, as Predelli (2005, p. 22) does.

by itself cannot determine whether the leaves are green, it also cannot determine whether Lois has the property of believing that Eric Blair was born in Motihari.

Predelli himself has used his semantic framework to solve the apparent contradiction between the truth-value of (2) and (3) in Millian theories (Predelli, 2005, Chapter 5), and it is worth pausing here to understand the differences between our views. His example supposes that Tom does not know that the names “Bush” and “Dubya” refer to the same person, the former president of the United States. Tom is disposed to sincerely assent to “Bush is the president” but not to “Dubya is the president”. Predelli, then, considers two scenarios:

[O]n some occasions, Tom’s ignorance of these names’ co-referentiality seems to matter when reporting on his beliefs. For instance, I may explain Tom’s indifference to your exclamation of “There goes Dubya” by commenting: “He does not know that Dubya is the President” [*scenario A*]. [...] in other settings, Tom’s attitudes towards Bush’s appellations seem irrelevant. So, if you and I are accustomed to referring to Bush as “Dubya”, I may well comment on Tom’s view of the President as a conservative by telling you “Tom thinks that all Presidents are conservative, and he knows that Dubya is one of them” [*scenario B*]. (Predelli, 2005, pp. 168–169)

In scenario A, Predelli says, an utterance of (7) “Tom believes that Bush is the president” seems true, but an utterance of (8) “Tom believes that Dubya is the president” seems false. On the other hand, in scenario B, an utterance of (8) seems true. The contradiction appears both in scenario A between (7) and (8) and between the different utterances of (8) in each scenario.

According to him, the difference in the truth-value of sentences that have the same semantic content and truth-conditions is due to the fact that each scenario has different thresholds to ascribe Tom the belief <BUSH, PRESIDENCY>, such that it stands for the *semantic* content of “Bush is the president” according to Millianism. In the first scenario, what is relevant “[...] is whether Tom is positively inclined towards the claim that Bush is the President when that claim is presented to him by means of appropriate linguistic devices”. On the other hand, in the second scenario, “[...] what matters is roughly whether Tom is among those who assent to “Bush is the President”, or who sincerely utter “He is the President” when pointing at the man in the Oval Office”. This explanation is incompatible with my metaphysics of belief because, in my view, we do not find the semantic content of “Bush is the president” in a person’s belief box.

While I do not have a knock-down objection against Predelli’s view, my reason to reject it is that it does not preserve the intuitions, which, as stated at the beginning of the paper, was one of my aims. It is true that Predelli’s view can accommodate the difference in the intuitive truth-value of (2) and (3). But it does not accommodate the intuition that it is due to the different modes of presentation she has to think about Eric Blair. My view preserves this intuition by accepting that these are the contents in belief boxes and adjusting Predelli’s semantic framework as I have done. We do have to stop thinking of Fregean theories as

semantic theories and, instead, think of them as theories about belief contents or things we find in a person's belief box, as Recanati (2012) has proposed. In a way, we can understand my view as a new way of thinking about the truth-conditions of belief ascriptions for theories like Recanati's. In fact, my proposal should work even with theories in which what I am calling cognitive content is taken to be something syntactic, such as Fodor's (2008) and Sainsbury and Tye's (2012).

Before moving on to other puzzles to see how powerful my proposal is, I want to explicitly answer the questions in Section 1. The first is: (a) how can (2) and (3) have the same semantic content but different truth-values? The answer is that they have different truth-values when uttered in contexts in which they are evaluated against the same world but different points of evaluation. The answer to the second—(b) how is the truth-value of (2) sensitive to a content which is not part of the truth-conditions?—is that points of evaluation point to the relevant cognitive content and make the connection between cognitive and semantic content. At some points of evaluation, to have the property of believing that Eric Blair is born in Motihari is to have a specific cognitive content in one's belief box. At others, it is to have some other cognitive content.

## 5. Other Puzzles

Kripke (2011) has introduced two cases to the discussion about belief contents: London/Londres and Paderewski. The first goes roughly like this: Suppose that Pierre, who only speaks French, learned the name "Londres" by seeing a picture of a nice neighborhood in London and formed the belief that London is pretty. He later moves to an ugly neighborhood in London, without speaking English, and learns that the name of the city he lives in is "London". When considering the belief that London is pretty, he concludes that he does not believe it. Two puzzling questions can be raised: after Pierre learns the name "London", does he believe that London is pretty? And, is (9) "Pierre believes that London is pretty" true?

The Paderewski case goes roughly like this. Suppose Marie first met Paderewski in a music hall after attending one of his concerts and formed the belief that Paderewski is a great musician. After some time, Marie was introduced to Paderewski again at a political rally. She did not recognize Paderewski as the man she had met in the music hall. When considering the belief that Paderewski is a great musician, she concludes, perhaps unwarrantedly, that she does not believe it. Similar puzzling questions can be raised: after the second encounter, does Marie believe that Paderewski is a great musician? And, is (10) "Marie believes that Paderewski is a great musician" true?

Focusing on the Paderewski case, and beginning with the second question, the case is puzzling because, on the one hand, evaluating (10) *after* the second encounter but keeping in mind the first encounter, (10) seems true. On the other hand, if we focus on the second encounter, we want to say that (10) is false. The puzzle is that our intuitions support the contradictory conclusion that (10) is both

true and false. Similarly, to London/Londres case. We seem to have reasons to say “yes” and “no” to both questions.

According to my proposed view, this is an easy puzzle to solve because it is just like the case of green leaves: two utterances of the same sentence expressing the same semantic content but with different truth-values. First, (10) is true or false with respect to a world  $w$  and point of evaluation  $p$ . Given the description of the case, this is how  $w$  is like. It is indisputable that Marie has two modes of presentation of Paderewski, just like Lois has two modes of presentation of Eric Blair. Let us say they are *the guy at the music hall*, represented by «MUSIC HALL», and *the guy at the political rally*, represented by «POLITICAL RALLY». The relevant complete cognitive contents here are «MUSIC HALL, GREAT MUSICIAN» and «POLITICAL RALLY, GREAT MUSICIAN». Based on the description of the case, only the former is inside Marie’s belief box—this is the world. Second, when we consider (10) keeping in mind the first encounter, we evaluate from the point of evaluation “the mode of presentation of (11) ‘Paderewski is a great musician’ for Marie in the first encounter” ( $d'$ ). Interpreting the world  $w$  from  $d'$ , Marie believes that Paderewski is a great musician because Marie has the relevant cognitive content in her belief box, namely, «MUSIC HALL, GREAT MUSICIAN». So, (10) is true in  $w$  and  $d'$ .

On the other hand, when we consider (10) keeping in mind the second encounter, we evaluate it from the same world but a different point of evaluation, namely, “the mode of presentation of (12) for Marie in the second encounter” ( $d''$ ). (10) is false in  $w$  and  $d''$ . The interpretation of  $w$  from  $d''$  yields a state of affairs in which Marie does not believe that Paderewski is a great musician because she does not have the relevant cognitive content, «POLITICAL RALLY, GREAT MUSICIAN», in her belief box. A similar explanation is available for London/Londres case.

My proposal, then, dissolves Kripke’s puzzle. It explains that (10) can be true and false because they get their truth-value with respect to different points of evaluations.

As for the first question, about whether Pierre believes that London is pretty and Marie believes that Paderewski is a great musician full-stop, it is ill-formed in my view. As Wallace and Mason pointed, it is the kind of question ordinary people reject unless it is supplemented by a point of evaluation (“a narrative surrounding belief sentences”).

At this point, it is fair to ask what went wrong with Kripke’s argument based on London/Londres and Paderewski cases. Without going too much into the details of the argument, Kripke concludes that Marie has contradictory beliefs from the fact that she assents to (12) “Paderewski is a great musician” and to (13) “Paderewski is not a great musician” and the *Disquotation Principle*: “If a normal English speaker, on reflection, sincerely assents to ‘ $p$ ’, then he believes that  $p$ ” (Kripke, 2011, p. 137). While it is true that Marie believes that Paderewski is a great musician and also that Paderewski is not a great musician, in my view it does not follow that she has contradictory beliefs in the sense of having

a content and its negation in her belief box. Marie believes that Paderewski is a great musician when the world is interpreted from a point of evaluation where the relevant cognitive content is «MUSICAL HALL, GREAT MUSICIAN». She believes that Paderewski is not a great musician when the world is interpreted from a point of evaluation where the relevant cognitive content is «POLITICAL RALLY, NOT-GREAT MUSICIAN».<sup>10</sup> So the problem is with Disquotation but not because it is false. In my view, Disquotation is true. But it does not give the content of the belief (world) as Kripke and many others have assumed. It gives the state of affairs, the result of interpreting a world from a point of evaluation, that makes the sentence true. But different interpreted worlds (wordly conditions) can result in the same state of affairs. We can see this easily in the case of green leaves. We can get the state of affairs that the leaves are green from  $w^*$ , in which the leaves are *painted* green, and point of evaluation  $m$ , or from a different world,  $w^{**}$ , in which the leaves are green *because of chlorophyll*, and point of evaluation  $b$ . Similarly, the state of affairs that Marie believes that Paderewski is a great musician can be obtained with a pair of world and point of evaluation such that in the world the belief content in Marie's belief box is not the semantic content of (12) but rather «MUSICAL HALL, GREAT MUSICIAN».

## 6. Possible Concerns

*Concern 1:* In my view, that-clauses in belief sentences do not refer to beliefcontent. So, how can I explain the validity of arguments such as: (P1) Lois believes that Eric Blair was born in Motihari; (P2) Marie believes that Eric Blair was born in Motihari; therefore, (C) there is something that Lois and Marie believe? In particular, how do we make sense of the conclusion? It is easy to understand how the conclusion can be true, and how it follows from the premises, because, if (P1) and (P2) are true, Lois and Marie have beliefs with the same content which is the semantic content of "Eric Blair was born in Motihari". But if that is not the case, as in my proposed view, how can they be said to believe the same thing?

*Reply 1:* To understand how (C) can be true, we need to understand how (14) "Lois and Marie believe that Eric Blair was born in Motihari" can be true. Let me suppose the worst-case scenario for me, one that Lois and Marie have completely different cognitive contents in their belief box. Let us say, as we have supposed, that Lois has the cognitive content «SON, BORN IN MOTIHARI» in her belief box, and Marie that has «AUTHOR, BORN IN MOTIHARI» in her belief box—this is the worldly conditions.<sup>11</sup>

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<sup>10</sup> Following Sosa's (1996, p. 380) presentation of the puzzle, the step with a question mark is the problem.

<sup>11</sup> For the sake of simplicity, suppose that they do not have any other beliefs about Eric Blair in their belief boxes.

As with any belief sentence, (14) gets a truth-value relative to a point of evaluation. It is true if, and only if, Lois believe that Eric Blair was born in Motihari and Marie believes that Eric Blair was born in Motihari. (14) is false in  $e'$ —the mode of presentation Lois associates with (1) “Eric Blair was born in Motihari”. The state of affairs  $e'$  yields is one in which the left conjunct is true but the right is false. As explained, in  $e'$ , it is only by having «SON, BORN IN MOTIHARI» in one’s belief box that one counts as believing that Eric Blair was born in Motihari. Lois has it in her belief box, but Marie does not. For similar reasons, (14) is also false in a point of evaluation that considers the mode of presentation Marie associated with (1), assuming Marie associates «AUTHOR, BORN IN MOTIHARI» with (1).

A point of evaluation in which (14) is true has to be less specific. An example is  $e''$ : a mode of presentation the subject associates with (1). With  $e''$  we get a state of affairs in which both Lois and Marie believe that Eric Blair was born in Motihari. In this point of evaluation, Lois having «SON, BORN IN MOTIHARI» in her belief box counts as believing that Eric Blair was born in Motihari because that is the cognitive content she associates with (1). Similarly, Marie having «AUTHOR, BORN IN MOTIHARI» counts as believing that Eric Blair was born in Motihari because that is the cognitive content Marie associates with (1). Thus, (C) is true in  $e''$ .

As for the validity of the argument, in my view, validity is relativized to points of evaluation, just like the truth-value of sentences: an argument is valid with respect to  $e$  (a world  $w$ , and, perhaps, a time  $t$ ) if, and only if, it is impossible for the premises to be true and the conclusion false with respect to  $e$  ( $w$ , and  $t$ ). The argument given in the objection turns out to be valid because at least one of the premises will be false with respect to points of evaluations where the conclusion is false: in  $e'$ , (C) is false, but so is (P2); in  $e''$  (C) is false, but so is (P1). In general, whenever (C) is false, it means that either Lois or Marie do not have the relevant cognitive contents in their respective belief boxes. But for this reason, at least one of the premises will also be false.

Readers not convinced of my explanation are probably not convinced that there is no simple yes/no answer to the question “Does  $A$  believe that  $p$ ?”. Once one is convinced of it, and that the truth-value of belief sentences is relative to points of evaluation, it naturally follows that relations that depend on them will be relative to points of evaluation as well.

*Concern 2:* One might argue that my solution to the problem of the truthvalue of belief ascriptions is ad hoc because for each case I offer an explanation of its truth-value carefully crafted in a way to avoid problems in that case.

*Reply 2:* It is true that the explanation of the truth-value of belief sentences is particularist in the sense explained. But it hardly means that it is ad hoc. Conversational contexts are different from each other. If a specific feature of contexts is relevant for the truth-conditions of a sentence, then different utterances of even the same sentence might have different truth-conditions.



*Concern 3:* My proposed account of the difference between the truth-value of (2) and (3) is very Fregean in spirit. It relies, among other things, on differences in modes of presentation and in some sort of shift of the relevant content in belief contexts. In simple sentences like (1) “Eric Blair was born in Motihari” modes of presentations are not relevant to determine its truth-value. But they are relevant in belief sentences like (2) “Lois believes Eric Blair was born in Motihari”. So, would not my view have the problems similar to the problems Fregean Theories have in virtue of appealing to context shifting?

*Reply 3:* It is impractical to survey all objections to Fregean accounts regarding context shifting. I will address what I take to be the most pressing objection: the unlearnability of language as raised by Davidson (1991).<sup>12</sup>

Roughly, Davidson argues that it is an important feature of language that, if someone knows the semantic content of (1) “Eric Blair was born in Motihari”, she also knows the semantic contribution of “Eric Blair” and “to be born in Motihari” in (2), and (15) “Marie believes that Lois believes that Eric Blair was born in Motihari”. However, Davidson’s objection goes, this is incompatible with Fregean Theories. According to them, whenever an attitude verb, like “to believe”, is introduced in a sentence, it forces a shift in the semantic content of the expressions in the that-clause. Thus, “Eric Blair” and “to be born in Motihari” have different semantic contents in (1), (2) and (15). Consequently, in Fregean Theories, someone could know the semantic content of (1) without knowing the semantic content of “Eric Blair” and “to be born in Motihari” in (2) and (15). Thus, Fregean Theories cannot be correct.

The problem raised by Davidson, however, does not arise in my view. The meaning of “Eric Blair” in (1), (2) and (15) is the same, namely, its referent. The content that may change is the cognitive content one associates with a sentence. But they are not involved when learning a new language in the way proposed by the objection.

*Concern 4:* There are notorious problems with theories that, like mine, deny that semantic content is cognitive content in the context of explaining linguistic communication.<sup>13</sup> Often times they do not describe a clear relation between se-

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<sup>12</sup> Kripke (2008) has also offered a related argument. He argues that even a Fregean theory that suggests that “Eric Blair” has different meanings in (1) and (2) has problems. Very briefly, according to Kripke, if this was an accurate description of natural language, then someone who is learning a language would first learn the meaning of names (and basic expressions in general) in simple sentences, and then move on to their meaning in belief sentences, which is clearly absurd.

<sup>13</sup> Dummett (1981; 1991), (some interpretations of) Evans (1979; 1982), Lewis (1980), and Stanley (2002) argue that utterances of sentences that express *different* semantic contents can, in some contexts, express (assert) the *same* assertoric content. Cappelen and Lepore (2005) and Soames (2009, Chapter 10) argue that there is a plurality of contents that (an utterance of) a sentence may assert. He even argues that sometimes an utter-

semantic content and cognitive content (assuming cognitive content is what is communicated), which either means that semantic content is irrelevant to account for linguistic communication, or, the very least, raises additional challenges.

*Reply 4:* Semantic content can be relevant for communication even if it is not the content communicated. For instance, in an account where semantic content together with other contextual elements determines a suitable cognitive content, semantic content plays a fundamental role without being the cognitive content. Thus, giving up the identification of semantic content with cognitive content does not mean that semantic content is irrelevant for communication (Soames, 2009, p. 260).

As for whether accounts that deny the identity of semantic and cognitive content have additional challenges to overcome, it will depend on how particular accounts of the relation between semantic and cognitive content compare to accounts that endorse it. There is not much I can say in a couple of sentences to settle this question, but it is important to keep in mind that the possibility that the identity is false has been raised by philosophers precisely because theories that endorse it cannot explain some common linguistic interactions (see Footnote 13 of the current paper). So it is far from clear that the fact that accounts that deny the identity of semantic and cognitive content have problems means that we should, instead, embrace the claim that semantic and cognitive content are identical contents.

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DANIEL SKIBRA \*

## DESIRE CONTENTS AND TEMPORAL ADVERBS<sup>1</sup>

**SUMMARY:** In this paper, I endorse and discuss “desire temporalism”—the view that desire contents are temporal. Though it makes a claim limited to desire contents, it is considerably stronger than *standard* temporalism (at least, when it comes to desires), which is simply the view that *there are* temporal contents. Having introduced desire temporalism, I focus on a potential objection to it. The objection proceeds from the plausible observation that desire ascriptions with certain kinds of temporal adverbials can serve as counterexamples to desire temporalism. This is so if temporal adverbials denote times

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\* University of Konstanz, Zukunftscolleg. E-mail: DanielSkibra@gmail.com. ORCID: 0000-0002-7348-3678.

<sup>1</sup> This paper was a long time in development. Spurred on by some comments I received in a helpful referee report on (Skibra, 2021; thanks to this anonymous referee), I prepared an abstract to present some initial thoughts about this topic for the 3rd Context, Content, and Communication conference in Warsaw. The pandemic intervened, the conference was postponed, and I thought about this not one bit in the meantime. When CCC3 was rescheduled in person, it renewed the opportunity to revisit the topic. I am grateful for the opportunity, and thank Lukas Lewerentz, Alex Kocurek, Victor Verdejo, Olga Poller, and Susanna Melkonian-Altshuler for discussion in Warsaw. A suggestion that I submit to the present special issue provided the impetus to write up the results, and my thinking evolved again over the course of writing. Subsequent discussions of the draft with Thomas Müller, Verena Wagner, and Daniela Schuster (in Thomas Müller’s colloquium), with David Rey, Rafael Gutiérrez, and an audience at the Philosophy and Generative Grammar 2 Workshop, and with Todor Koev, Michael Glanzberg, and Hadil Karawani helped things along. Thanks finally to Tadeusz Ciecierski, Paweł Grabarczyk, Maciej Sendłak, and Dominik Dziejdzic for their efforts in putting this issue together (and their patience with me), and to two helpful referees for comments on the submission, which instigated some good changes. Work on this project was completed at the Zukunftscolleg at the University of Konstanz, and funded as part of the Excellence Strategy of the German Federal and State Governments.

which correspond to the time indications in the ascribed attitude content. I respond to this objection by arguing that these temporal adverbials do not play such a role—instead of corresponding to time indications in the desire content, we can see them as contributing to the circumstance of evaluation relative to which the content is assessed. This would allow desire temporalism to evade the objection. Looking for a way to implement this idea, I consider Brogaard's (2012) composite tense operators as a promising avenue to explore, but opt instead for an approach to tense more popular in formal semantics, according to which tenses are temporal pronouns. In the final section of the paper, I show how this pronominal theory of tense can be pressed into service of just such a claim as advanced earlier, so we have a way of evading the challenge posed by these time-denoting temporal adverbials.

**KEYWORDS:** attitudes, content, tense, temporalism, eternalism, operators, temporal pronouns, desire ascriptions.

## 1. Introduction

This paper is about attitude content, and about our talk about our attitudes. More specifically, it is about desire content, and its relation to talk about the attitudes. As far as desire content goes, I describe and endorse a view I call desire temporalism—the thesis that desire contents are temporal. Although the moniker I use here is novel, the view itself is not; it has precursors throughout the literature. In describing the view, I will not offer a full-throated defense of it so much as showcase some reasons to hold it.

The central aim of the paper is to defend desire temporalism from a particular kind of objection. The objection is fairly simple, and interfaces with our talk about attitudes. It is this: there are perfectly appropriate, acceptable, and seemingly true desire ascriptions that contain what appear to be time-denoting temporal adverbials. A reasonable assumption is that the truth conditions of such attitude ascriptions describe a content with a time indication—namely that time denoted by the adverbial. How could this be, if desire contents are temporally neutral? Does this not refute desire temporalism?

I answer this last question in the negative, by rejecting the assumption on which the question is based. These temporal adverbials can indeed denote times, without the denoted times describing time indications that are part of the subject's attitude content. What do they do, then? I argue that they modify circumstances of evaluation relative to which the content is evaluated, and in the paper canvas some suggestions congenial with this proposal. There are complications, though, having to do with the interpretation of tenses and temporal adverbials in natural language. In particular, it is been argued that tenses in natural language are best modeled as pronouns introducing time variables into the Logical Form of the clause. At first blush, this promises to allow an easy account of temporal adverbials. Moreover, it is also been argued that this pronominal view of tense

leaves little room for temporalism. If this is right, then it becomes difficult to see how the proposal about circumstances of evaluation can be squared with the pronominal theory of tense.

In light of this complication, I then show how the pronominal theory of tense actually does not rule out this proposal. Instead, when properly understood, the pronominal theory of tense provides resources to accommodate it. The local aim of the paper, therefore, is to show how desire temporalism is defended from this objection within the framework of the pronominal theory of tense. There is a broader aim of the paper as well, which is to show that forms of temporalism about attitude content are quite consistent with dominant theories of tense in formal semantics, contra what is often argued. Language, it would seem, provides resources to describe and communicate about this kind of content, even if semantic content—the output of compositional semantics for natural language sentences in context—turns out to be eternal.

The paper is organized as follows. Sections 2 and 3 introduce desire temporalism, rehearse some reasons to accept the thesis, and compare it to standard versions of temporalism in the literature. Section 4 introduces the challenge posed by temporal adverbials, and Section 5 introduces the idea to have temporal adverbials modify circumstances of evaluation. I attempt to flesh out the proposal through a discussion of Borggaard's (2012; 2022) notion of composite tense operators in Section 6, but raise some skeptical worries about these in Section 7. Section 8 provides an interim summary and is followed by an explanation of the pronominal theory of tense in Sections 9 and 10, focusing on some agenda-defining issues for the framework. Section 11 introduces the theory of the temporal *de re* (Abusch, 1997), one of the main accounts of how the pronominal theory of tense deals with the aforementioned issues. It is with the temporal *de re* that I find the machinery congenial to my claim about adverbials modifying circumstances of evaluation. Section 12 addresses some loose ends concerning the application of the temporal *de re* to the desire ascriptions we were concerned with. Section 13 recaps and concludes.

## 2. Desire Content is Temporal

In this section, I will summarize some arguments that the contents of desires are temporal. Let us start by clarifying this claim and some relevant terminology. By saying they are temporal, I mean that desire contents do not specify a time indication as part of their content, and the evaluation of desire contents requires the provision of a time relative to which it can be evaluated. There are other ways of characterizing temporal contents; I prefer this way for reasons I will make clear over the course of this section. This makes desire content look a lot like what temporalists call a temporal proposition, so for convenience sake I will sometimes refer to the temporal contents of desires as temporal propositions.

However, there are important differences between desire temporalism and the kind of claim typically associated with temporalists.<sup>2</sup>

By “content”, I mean a form of mental content; the states that a subject’s intentional states are about or directed towards. I will assume that these contents are representational and that something like propositions do a good (or good enough) job representing them.<sup>3</sup> Presumably other things can have content, too, like illocutionary acts like assertion, etc., and perhaps even the very meanings of declarative sentences (relative to a context).<sup>4</sup> Sometimes, these other kinds of content will become salient in the paper and I will have something to say about them, but when so I will make clear which kind of content I am talking about. To the extent possible, I intend on being non-committal about the nature of content. So not only will not I have much to say about the metaphysics of propositions, but I also will not assume this or that technical definition of content (e.g., the one advocated in Kaplan, 1977).

Furthermore, I will be pretty general about what I mean by desire. I will not distinguish between desires and wishes, for example, and I mean something similar about to what Davidson (1963) intends when he identifies a general sense of desire as a “pro-attitude”. Important for my purposes is that desiring is a psychological attitude with mental content, that we can talk about what satisfies the content of this mental state, and that we can rationalize agents’ behavior in part by appealing to this mental state. I take all of this to be fairly uncontroversial in the main—standard, even.

Lastly, it is worth stating that it is not the goal of this section to convince the reader that desire contents are temporal. Rather, it is to give a partial inventory of reasons to think that they are. Having rehearsed these reasons, I will simply treat the matter as given for the rest of the paper. This is not to suggest that the literature has reached a consensus on this point, but going quickly over this material will allow us to get to the main point of the paper, which I think has independent interest even if one remains unconvinced about desire temporalism.

Without further ado, here are three ways to reach the conclusion that desire contents are temporal.

## 2.1. Satisfaction Variability

The first reason to think desire contents are temporal is based on the simple observation that they are satisfaction variable—whether a desire is satisfied var-

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<sup>2</sup> Put this caveat aside for now; it will be addressed later (cf. Section 3). For the notion of temporalism I have in mind, cf. the summary in Richard’s (1981).

<sup>3</sup> So I will have little to say here about well-known problems in the literature on propositional attitudes pertaining to the likes of Frege problems and such.

<sup>4</sup> I am being cagey about this point because there is a growing literature in philosophy of language which argues against identifying the meanings of sentences, as theorized about in semantics, with the objects of attitudes and illocutionary acts (cf. Rabern, 2012; Yalcin, 2014 for examples of such work).



ies across time. The significance of this observation comes into relief when comparing desires to their attitudinal kin, beliefs. Whether a belief is true or false depends on whether the content of that belief is true or false. By contrast, desires are not true or false, but that does not stop us from being able to give a parallel treatment of desires, based on evaluating the attitude's content. The key is to generalize the notion of a truth-condition to a more inclusive notion—that of a satisfaction condition—and to distinguish the manner in which belief and desire content relates to these satisfaction conditions. This is where direction of fit comes into play. An item of belief content is satisfied by “fitting” the world, where the content fits the world just in case it accurately represents the world. Desire content does not aim to fit the world, but still offers up a representation—a representation of the world were it to satisfy the particular desire the subject has. The fitting is then something the world would have to do (usually at the behest of the subject) in response to the desire. Were the world to “fit” this representation, the desire content would be satisfied, as would the desire, much as the truth of the belief content makes the belief true.<sup>5</sup>

The satisfaction variability of desire content is already suggested by the above remarks in nascent form. As I write these lines, the sky is overcast and dark clouds loom overhead. Consider my belief that it is cloudy. Its content is true, as per my description of the circumstances. Whether or not the content of this belief can change its truth value over time, depending on whether or not it is cloudy at different times, is a vexed question. Aristotle seemed to think that it could, as did the Stoics, but something of a consensus emerges in the philosophy of language in the 20<sup>th</sup> Century that propositions, and by extension, the objects of belief, do not change their truth value across time. In order for this to be the case, the time of my tokening of the belief, *t*, becomes part of the content of the belief, making the content *that it is cloudy at t*. This is a content that does not change its truth value across time; it is true or false eternally.

Of course, the discussion above rehearses the contours of the so-called temporalism/eternalism debate. Even though I plan on evoking this debate at some length, I here avoid commitment about whether belief contents are temporal or eternal. But notice that what is a vexed question for belief contents is a fairly trivial affair for desire contents. Whereas we could quibble about whether a belief's truth changes over time, it is uncontroversial that whether a desire is satisfied changes over time, depending on whether the content of the desire is satisfied at that time. Consider an agent's successful endeavor to satisfy their desire—like my own desire to listen to David Bowie's *Diamond Dogs* album. When I first develop the desire, it is not satisfied (insofar as its content is not satisfied). Then I undertake certain actions which result in *Diamond Dogs* playing in my vicinity,

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<sup>5</sup> The fact that this allows us to give a parallel treatment of attitudes like belief and desire is an advantage of direction-of-fit-talk. This notion of direction of fit comes from a suggestive example in Anscombe's (1957), and is construed in the manner described here by the likes of Platts (1979), Searle (1983), Smith (1994); although, cf. (Frost, 2014) for criticisms of this way of interpreting Anscombe.

and the desire is now satisfied—precisely when the content becomes satisfied. This kind of satisfaction variability indicates desire contents' temporal neutrality.

I can now say why I prefer to characterize desire temporalism in terms of a lack of a time indication, as opposed to another popular way of characterizing it—in terms of the ability to change truth values across times. I think that truth and satisfaction-variability is better seen as a symptom of temporalism than a characterization of it. If an item of content is true (or satisfied) when evaluated at one time, false (or unsatisfied) when evaluated at another, a good explanation of this fact is that the content lacks a time indication.<sup>6</sup>

This choice is not entirely innocent, perhaps. After all, some putative contents are truth- or satisfaction-invariant with respect to time simply because of what they are about. What should we say about these? For example, the content *that*  $2 + 2 = 4$  is true whether evaluated at  $t$  or at  $t'$ , for any  $t, t'$ . Some people will want to say that such contents are eternal because they do not change truth value at different times. There is nothing wrong with setting up the terminology like this (particularly if your interest is in setting up a language free of context sensitivity). But, by contrast, I prefer to say that eternal sentences are those with a time indication. This does not mean we need to say that the content *that*  $2 + 2 = 4$  has some specific time indication (like, Tuesday, March 26th, for example). It could have a time indication that involves quantification over all times and be eternal in virtue of this. My preferred way of characterizing temporalism leaves open the possibility that we can have desiderative attitudes towards such contents—one can want  $2 + 2$  to be 4, for example. This is still consistent with desire temporalism, as long as this particular content does not contain a time indication. The take-away of this subsection is just this: truth and satisfaction-variability are an indication that a particular content is temporal. For beliefs, the matter is controversial. Not so for desires; we expect them to be satisfaction variable.<sup>7</sup>

## 2.2. Stampe's Insight

The next reason is closely related to the previous one, but its difference in emphasis causes me to discuss it separately. The point is articulated in work by Dennis Stampe (so I call it “Stampe's Insight”), but William Lycan has also emphasized the point as well in more recent work. Stampe, in his (1986), puts the point as follows:

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<sup>6</sup> Recall that one method of eternalizing sentences (cf. Quine, 1960, Chapter 6) involves explicitly inserting time indications.

<sup>7</sup> The discussion of the last two paragraphs is just clarificatory. I do not think setting up these distinctions solves any difficult problems. Attitudes towards mathematical contents pose challenges for most theories of the attitudes, and in making the stipulations I do here, I do not thereby mean to imply that we will not need an additional account (e.g., like the one in Cresswell, 1985) to deal with them. I owe Thomas Müller, Verena Wagner, and an anonymous referee thanks for encouraging me to address some of these points more explicitly.

Suppose we have a tennis match set for tomorrow. I want to win and I think I will. These states of mind have the same content: my winning the match. But there is a difference: if my belief that I will win is going to turn out to have been true, then it will have been true—true, that is, even now, before the first point is played. (My belief that I will win, if it should be true, will not come to be true when I win). My desire to win, however, if it is to be satisfied, will come to be satisfied only when I win—that is, only at match point; only my having won will satisfy that desire. So even if I will win, my desire to win is not now satisfied; but my belief that I will win is true now if I am going to win, and my having won will not make it true (will not make it true, that is, that I will win). (Stampe, 1986, pp. 153–154)

What Stampe gets at with these remarks is that the satisfaction conditions of belief and of desire work in different ways. Assuming it is true, from one's temporal location, that one will win the match, then one's belief that one will win is already thereby satisfied in the relevant sense (since satisfaction for beliefs is just truth). If one desires to win, the current truth of this future winning is not material in quite the same way. That is, the truth of the content that one will win does not satisfy the desire. What satisfies one's desire is one's winning; the desire is satisfied when one wins.<sup>8</sup>

Is there any point of significance we can extrapolate from this observation? Lycan, in his (2012) brings the relevant point into even clearer relief when he says this:

Dennis Stampe has argued (1986, pp. 153–154) that a desire is not satisfied until its content proposition actually comes true. I now desire to be invited back to Victoria University of Wellington, for a fifth term-long visit. Suppose it is (in fact) true that in 2015 I will be invited back to Vic. Then my content proposition is true, but my desire is not yet satisfied. Someone might think that this is really only a psychological fact, in that I cannot be said to be satisfied on the point so long as I do not yet know that I will be invited. But Stampe's claim is stronger, in each of two ways: (i) It is still the desire itself that is not satisfied, not just me and my feelings, and (ii) even if I do come to know that I will be invited and so am happy, the desire itself will still not have been satisfied until I actually get the invitation;

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<sup>8</sup> There is considerable complexity that this discussion glosses over in assuming that the future contingent *that one will win* can be true. Proponents of the open future can reasonably complain that future contingents are neither true nor false, though they may become true or false. Such a point would suggest something like satisfaction variability even for belief. I acknowledge that this discussion sidesteps this complexity, but I think it is warranted since Stampe's point distinguishing belief from desire is still apposite. When talking about beliefs about the future, we might be forced adopt an apparatus of truth value gaps or indeterminate truth values or what-have-you. But talk about desires does not require this apparatus; the corresponding desires are just un/satisfied full stop. This difference supports Stampe's contention that beliefs' and desires' satisfaction conditions work differently, even if we acknowledge this complication about beliefs about the future that Stampe otherwise ignores.

the present-tense truth of the content proposition is at least necessary for satisfaction. (Lycan, 2012, pp. 203–204)

What is illuminating in Lycan’s explanation here is his pointing out that the satisfaction of the desire is only affected by what he calls the “present-tense truth” of the content. Assuming it were true that Lycan would be invited back to Victoria University, this is not the thing that satisfies the desire. It is when the invitation comes to pass that the desire is satisfied, as I have pointed out above. Lycan’s claim about the “present tense truth” of the desire content being necessary for its satisfaction amounts to pointing out that we need to provide a particular time to evaluate the content. When we provide the present time as a point of evaluation, and the content is evaluated as true at this time, the desire is then satisfied. But needing to provide a time for the evaluation of the content simply is the property of being temporal.

This being said, Stampe’s and Lycan’s point here does not simply recapitulate the observation about satisfaction variability from the previous section. In saying that the “present tense truth” of the satisfaction conditions are necessary for the satisfaction of a desire, they make stronger claim. Not only do we find desires with satisfaction conditions that vary across time, as the previous subsection pointed out, but desires need to have this property. It is easier to see this point if you consider a simple case of intentional action, like my cuing up Diamond Dogs in response to my desire to listen to this David Bowie album. The satisfaction conditions of my desire need to be able to change (from unsatisfied to satisfied), otherwise my behavior will not be explicable in terms of my beliefs and desires at all. If my desire to listen to this album were (eternally) un/satisfied, then my endeavoring to get arrange the world in such a way that the desire is satisfied would look like a compulsion; effortful activity without any point, more like Quinn’s (1994) radioman or Anscombe’s (1957) collector of saucers of mud than a rational agent. If it were satisfied (and eternally so), my behavior would be superfluous when it comes to my desires, and so unintelligible as an effort to accomplish anything.<sup>9</sup>

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<sup>9</sup> Interestingly, I would draw a further conclusion that Stampe apparently does not draw: that the content of beliefs and desires are different. Notice, in the quote above, that Stampe denies that the belief and desire are different in content. But they are—the belief contains a time indication as part of the content whereas the desire does not, and Stampe himself provides an explanation that this is so (cf. Skibra, 2021). I take it Stampe misses this because the difference in content was immaterial to his ultimate goal in the paper. He wanted to provide an explanation of the difference between belief and desire, and the nature of the content of the attitude would not provide the basis for an explanation. This point can be true even if there is difference between the aforementioned belief and desire content, despite Stampe’s remark to the contrary.

### 2.3. The Modified Richard Argument

When discussing satisfaction variability, I said I would remain neutral on whether belief content was eternal or temporal. I also pointed out that the trajectory of the literature in 20<sup>th</sup> Century analytic philosophy has not remained neutral on that question. In the last decades of the century, the focal point for these discussions was a series of papers by Mark Richard (1981; 1982), which argued that evidence weighed heavily in favor of the eternalist construal of belief content. The idea is that, in our thought and talk, we seem to be able to quantify over and anaphorically refer to belief contents, and when we do, they seem to be eternal.<sup>10</sup> Richard produces a number of examples to show that temporal propositions cannot work as the contents of our beliefs. A typical example involves an inference like the following:

- (1)
  - a. Josef believed that Clinton was president.<sup>11</sup>
  - b. Josef still believes everything he once believed. Therefore:
  - c. Josef believes that Clinton is president.
- (2)
  - a. Josef believed that Clinton was president.
  - b. Josef still believes that. Therefore:
  - c. Josef believes that Clinton is president.

The problem is that these inferences are manifestly invalid. However, on a temporalist construal of propositions, they would be perfectly valid, and their manifest invalidity (or our unwillingness to assent to the conclusion on the basis of the premises) is difficult to explain. By contrast, if propositions are construed eternally, the inferences are both straight-forwardly invalid, and our unwillingness to draw these inferences is explainable on this basis. Richard's conclusion, also drawn by a number of philosophers of language subsequently (cf., e.g., Salmon, 1986; Soames, 2011) is that the evidence here suggests that belief contents are eternal, not temporal. Call this "the Richard Argument".

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<sup>10</sup> Certain features of this argument will not concern us. The debate has its origins in Kaplan's logic for demonstratives. In his (1977), Kaplan defines a theoretical notion of (semantic) content as a function from indices to extensions. Because Kaplan's logic contains temporal operators, the index contains a time parameter, and content is therefore temporally neutral. Kaplan also identifies his content with what-is-said in roughly the Gricean sense. Richard's intervention is to argue that this Kaplanian notion of semantic content cannot be the intuitive notion of content that aligns with what-is-said and with belief content.

<sup>11</sup> Alas, most readers of this paper will have lived through two Clinton U.S. presidential candidates—Bill and Hillary—so the attitude ascriptions here may strike one as ambiguous. Imagine Josef to be nostalgic for the 1990's, so the Clinton referred to in all these examples is Bill.

But now look what happens when you run one of the Richard inferences with a desire ascription.

- (3) a. Leni wanted Clinton to be president.
- b. Leni still wants everything she used to want. Therefore:
- c. Leni wants Clinton to be president.
- (4) a. Leni wanted Clinton to be president.
- b. Leni still wants that. Therefore:
- c. Leni wants Clinton to be president.

As a first observation, the inferences in (3) and (4) are absolutely fine. But if the reasoning in the Richard Argument is apt concerning the temporal properties of belief contents, then parity of reasoning suggests that because the inferences in (3) and (4) are fine, this provides a measure of empirical confirmation to the claim that desire contents are temporal. Call this the Modified Richard Argument.

There is much more to be said about these examples, how they compare, and what conclusions should be drawn from them. I will not undertake that here (but see Skibra, 2021). What matters for the present purposes is that if the comments in the earlier part of the section are on track, we would expect to find precisely this pattern of inferences with desire ascriptions. The Modified Richard Argument provides at least *prima facie* empirical confirmation of the claim advanced earlier.

The reasons canvassed above do not exhaust the reasons for thinking desire contents are temporal, but they are a good starting point. As I indicated earlier, from here on out, I will just suppose desire temporalism. If you are not yet convinced, it is not the point of this section to do so.

### **3. Standard Temporalism and Desire Temporalism**

To reiterate, desire temporalism is a strong claim. Although it gets some measure of empirical confirmation via the Modified Richard Argument, it hinges on a conceptual claim about the way satisfaction conditions for desires work, both as a means of semantic evaluation and as a condition on their use in rationalizing behavior. The upshot of the foregoing discussion is that we need desire contents to be temporally neutral in a fairly strong way, and the way we need them to be makes them different from belief contents, even when they both concern the same event or event-type.

It is worth emphasizing that the claim being advanced here is a good deal stronger than the standard temporalist claim. Temporalists often advance the more modest existential claim that some attitudes admit of temporal contents. This in turn suggests the existence of temporal propositions to serve as these contents. Eternalists, on the contrary, claim that no contents are temporal, so propositions as a class of object are eternal. If the claim about desire contents were in keeping with the standard temporalist claim, it would simply be that there

are some temporal desire contents. But, again, the claim is that desire contents as a class are temporal. This is a universal rather than an existential claim. To distinguish it from the standard temporalist claim, I will call it “desire temporalism”.

Desire temporalism entails standard temporalism, but in a trivial and rather uninteresting way (assuming, that is, that there are desire contents at all); if all desire contents are temporal, then surely there are temporal contents. But desire temporalism has little to say about the contents of other attitudes, like belief, for example. It is entirely possible, as far as anything I have said goes, for desire temporalism to be true, but for belief contents to be eternal. It is for this reason that I have said earlier I would remain neutral on the temporal status of belief contents, though the possibility of temporal belief contents will come up later in the paper.

#### 4. The Challenge of Temporal Adverbs

Given the strength of desire temporalism, it is tempting to challenge it—can we not obtain a counter-example somehow? Sure, the examples about Stampe’s wanting to win the tennis match, my wanting to listen to Diamond Dogs, and Leni’s believing/wanting Clinton to be president seemed plausible, maybe even compelling, but perhaps those examples are not fully representative of the range of desire contents and just happened to fit the proposed generalization pretty easily. Perhaps a different set of examples, or the same examples set up differently, could yield a counter-example. Armed with such a counter-example, it would remain to show where Stampe’s Insight goes wrong. But, if we could point to an eternal desire content, desire temporalism would then (at best) collapse into the standard, existential temporalist claim. There would be nothing distinctive about desire temporalism.

Perhaps desire temporalism is lent superficial plausibility by the fact that, in English, the attitude verb *want* takes infinitival complements. It would be premature to base desire temporalism on this observation, though. It would presuppose without argument that an absence of tense morphology in a clause corresponds to the lack a time indication in the resulting content, and would have little to say about languages where desire verbs take finite complements.<sup>12</sup> Thankfully, the considerations in favor of desire temporalism do not hinge on this observation, but given the strength of the thesis, one might look to desire ascriptions for a way to fashion a counterexample to the thesis.

You do not have to look for a long time for potential candidates, in fact. Regardless of the tense morphology in the complements of desire ascriptions, it is easy to come up with desire ascriptions containing expressions that seem to denote times—namely certain kinds of temporal adverbials, as with the examples in (5):

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<sup>12</sup> There are languages where desire verbs can take finite complements, but in these cases the complement typically appears in the subjunctive mood.

- (5) a. Jill wants to have the money by tomorrow.  
 b. Jill wants to go swimming next week.  
 c. Jill wants Joe to win the election on election day.  
 d. Jill wants to attend the concert on July 31, 2023 at 8:30 in the evening.

Might not any of these desire ascriptions describe a content that contains a time indication? And if any of them does, does not that fact undermine the claim that desire contents are temporal? We do not need to assume that desire ascriptions are transparent windows into an ascriber's desire content for this worry to get a purchase on us.<sup>13</sup> The point merely concerns whether these expressions denote times and whether there is evidence that the time thus denoted indicates a time in the attitude content. I want to acknowledge that there are *prima facie* reasons to think this is in fact the case.

**Absolute position adverbials.** Consider an adverbial like *on July 31, 2023 at 18:30 in the evening* as in (5d). In Musan's (2002) taxonomy, such adverbials are absolute, position adverbs: they locate the position of temporal entities and specify them in a way that is not relativized to the context of utterance. Without going into detail about how this works just yet, it seems reasonable to suppose that absolute position adverbials add a time (the one they denote) to the semantic value of the sentence they occur in. If this is the case, we could suppose that they do this in the complements of attitude verbs as well. So, if these kinds of desire ascriptions are not horribly misleading as to the content they ascribe to the attitude holder, (5d) plausibly describes desire content that contains a temporal indication corresponding to the time denoted by the position adverbial, and the language of attitude reports provides a plausible counter-example to desire temporalism.

**Indexical adverbials.** Putting aside absolute adverbials, let us turn to relational adverbials, like *next week* or *by tomorrow*. If these expressions denote times, they do so in virtue of their relation to a contextually specified time. *Next week*, for example, indicates some time in a span of time that is 7 days from now; *by tomorrow* indicates some time before the time at which the day following the present day starts. This glosses over considerable detail—in particular about the fine-grained quantificational structure implicit in many temporal adverbials. For example, if I say that it rained last week, then this existentially locates an event of raining in an interval located a week prior to the present moment. (The truth conditions do not require it to be raining at every moment in that interval). Other adverbs have universal quantificational force, as does the durative adverbial for

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<sup>13</sup> We know there are difficulties with the idea that the complements of desire verbs transparently describe desire contents (cf., e.g., Fara, 2013; Grant, Phillips-Brown, 2020 on this point). The point about a temporal indication in the content is orthogonal to these other issues, I think.



*two days* in “It rained for two days”, where the truth conditions call for the raining event to occupy the entire span of the interval. I will largely abstract away from such details, even though they are important for a semantic account of temporal adverbs (though cf., e.g., Musan, 2002 for details).

We can make a finer grained distinction between these relational adverbs. Some of them, like *tomorrow*, seem like that have just as much claim to being grouped with paradigmatic indexicals as do the likes of *I*, *here*, and *now*. Assuming a Kaplanian semantics for such indexicals as in Kaplan’s (1977), these expressions have a kind of meaning (“character”) which is a function from contexts to its content. This means that the content of “I”, for example, will vary with different contexts; it denotes the agent of the context, whatever that context is. Given the context, though, this content does not shift under other intensional operators. Likewise, “here” and “now” denote the location and the time of the context, respectively. If “tomorrow” is also an indexical (denoting the time the day after the time of the content), this time is part of the content. On Kaplan’s picture, then, temporal indexicals supply times to the content of the expression. Assuming this happens in desire ascriptions, we would have another instance of a desire ascription that militates against desire temporalism.

**Reflections on temporalism/eternalism.** Harking back to the temporalism/eternalism debate, we can point out that temporalists have typically denied, while eternalists have affirmed, that the proposition expressed by (6a) is temporally specific. An eternalist will tend to make the case that the semantic content of (6a) contains a time indication of the moment of its tokening as part of the content—we can think of tense morphology as providing this time indication, if we are so inclined. On this eternalist conception, (6a) is equivalent to (6b), where the adverbial *now* specifies the time explicitly. While temporalists deny that (6a) has a time indication as part of the content, they are happy to admit that (6b) does, in virtue of the explicit temporal adverbial.<sup>14</sup> Here, again, a temporalist will remind us that their claim is an existential one, so they are not bothered if some sentences denote eternal contents: (6b) can be eternal, so long as they do not have to admit that (6a) is eternal.

- (6) a. It is raining.  
 b. It is raining now.

How this applies to our current question should be fairly obvious. Some temporal adverbials seem to denote times, and they do so in a way that even a standard temporalist would acknowledge affects the proposition expressed by the sen-

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<sup>14</sup> The debate is characterized like this in Brogaard’s (2012, Chapter 2). A temporalist like Prior seems to have had a more complicated view of the role of *now* and temporal adverbials (cf. Prior, 1968). But for now I just want to point out that some prominent temporalists themselves accept that temporal adverbials provide time indications to content.

tence. This is so for the examples of unembedded matrix sentences like those in (6). But if they express the same kind of proposition when embedded under attitude verbs, like we see in (5), then we have reason to think that the attitude ascription describes a relation between the ascriber and a proposition with a time indication after all. If *now* provides a time indication to the proposition expressed by the sentence, would not we expect the same of other temporal adverbials with an indexical semantics?

**Expression adjustment.** Frege (1956) gives us another reason to think that time indications are part of the content in a famous passage from *Der Gedanke* where he says,

If someone wants to say the same today as he expressed yesterday using the word “today”, he must replace this word with “yesterday”. Although the thought is the same its verbal expression must be different so that the sense, which would otherwise be affected by the differing times of utterance, is re-adjusted. (1956, p. 296)

The point he makes in this passage is that when a time indication is part of the proposition one expresses or entertains, one will have to adjust the means by which one expresses the time indication at different times.

Having to adjust an expression when the context changes is just what we would expect from the behavior of other indexicals. If I were to communicate the proposition you express by uttering “I am hungry”, I would have to utter “She is hungry”, in communicating the proposition I uttered yesterday. Having to adjust the expression in that manner seems like evidence that the time indication is part of the proposition. At least, this much is suggested by Frege’s remark that the adjustment allows one to express the same proposition. Frege famously held that propositions were necessarily eternal, as these are the primary bearers of truth and falsity, and truth was of necessity a monadic property.<sup>15</sup> We see the same need for expression adjustment when we embed sentences with relational temporal adverbials under attitude verbs like *want*, as shown in (7).

- (7)    a. John wants it to rain.  
       b. John wants it to rain next week.  
       c. John wanted it to rain last week.

Suppose John has a tennis match scheduled against Dennis Stampe, and he is dreading the outcome, since he is almost certain to be crushed. He is hoping for a rainy day so the match is canceled. The desire ascription in (7a) seems reasonable and true in such circumstances. If the dreaded match is next week, we may

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<sup>15</sup> Frege’s insistence may be the source of the preference for eternalism that emerged in the 20<sup>th</sup> Century (for a reconstruction and evaluation of Frege’s arguments on the matter, cf. Carruthers, 1984).

even offer the ascription in (7b), specifying the time at which John wants the rain to come. If two weeks then pass and we are again describing this same desire, we may opt for (7c) making just the kind of adjustments Frege suggests.

In the face of these kinds of considerations, it may seem that (7a) describes a desire with temporal content, much as I argued earlier in the paper, but that (7b) and (7c) indeed describe desires whose content includes a time indication provided by the temporal adverbial, and so is not temporal.

Moreover, we might even leverage this observation to undercut one bit of evidence in favor of desire temporalism cited before. Recall the Modified Richard Argument from Section 2.3, repeated here as (8).

- (8) a. Leni wanted Clinton to be president.
- b. Leni still wants that. Therefore:
- c. Leni wants Clinton to be president.

The point of this example was that the inference in (8) sounded fine, even if the belief-variant of it sounded terrible. If the inference in the belief-variant is bad because the ascribed belief content is eternal, then we can take the fact that (8) is a fine inference as evidence that the ascribed desire content is temporal. This point still stands. But note that adding adverbials complicates this simple picture.

Consider John again, and his dread in facing Stampe in the upcoming tennis match. Now consider the variation on the Modified Richard Argument in (9).

- (9) a. John wanted it to rain in two weeks.
- b. John still wants that. Therefore:
- c. John wants it to rain in two weeks.

Suppose the following. The John/Stampe match is scheduled a week from today. John confessed his desire for it to rain to you last week, and you know he has not had a change of heart. The inference in (9) sounds bad, given the interpretation supported by these circumstances. What would actually sound like a good inference is for (9) is the following conclusion.

- (9) c'. John wants it to rain in a week.

So, we are forced to acknowledge that Frege's point about expression adjustment can be brought to bear on the Modified Richard Argument in a way that undercuts part of our support for desire temporalism.

Having raised these considerations, we can put the objection to desire temporalism like this. At least some temporal adverbials denote times. There are true desire ascriptions with temporal adverbials. The times denoted by these temporal adverbials correspond to the time indications in the content ascribed to the atti-

tude holder in the desire ascription. So, there are desire contents with time indications, and desire temporalism is wrong.

If this objection is sound, then we would have some explaining to do. One might find the following conciliatory position tempting: maybe the most the considerations from Section 2 will support is something like standard temporalism. Some desire contents are temporal and some are eternal. This would allow us to save what seemed on the right track about the satisfaction variability of desire and explain the initial data provided by the Modified Richard Argument. But the conciliatory position would still refute desire temporalism. And we would still need to explain where the reasoning about Stampe's Insight goes wrong.

### 5. Adverbs and Circumstances of Evaluation

In the rest of the paper, I will defend desire temporalism from the objection presented in the last section. I develop this defense by means of a two-pronged approach, first discussing attitude content and then the semantics of tense. On the first prong, I will do so by denying that the times denoted by the temporal adverbials correspond to time indications in the content of the desire. I will argue, instead, that we can understand them as doing something else—as contributing to the circumstance of evaluation relative to which the content is assessed. When this is taken into account, we find desire temporalism unscathed.

How to argue that temporal adverbials do not contribute time indications to desire contents? The proposal I advance in response to the challenge posed by temporal adverbials is quite similar to the one proposed in a footnote in (Skibra, 2021). There I claimed that such examples as found in (7):

[P]ose a problem for [desire temporalism] insofar as it seems to us that the temporal adjunct specifies a time as part of the desire's content. But here is another possibility—the time indicated by the adjunct is not actually part of the desire's content. It serves a different role in relating the content of the attitude to a time. Instead of contributing to the content, what the temporal adjunct does is circumscribe candidate times at which that content might be satisfied. (Skibra, 2021, p. 296)

The suggestion is not developed any further, so it might be difficult to get a grasp on what exactly was being proposed there.

As I see it, the idea is that content is what we evaluate as being true or false (or satisfied or unsatisfied, as the case may be). To draw upon Kaplan's account (1977), content is evaluated against a circumstance of evaluation. In the simplest case, where the item of content in question is an eternal proposition, content is neutral with respect to a world parameter (indeed, this is why we can represent [eternal] propositions as sets of possible worlds). To evaluate this kind of content, we simply provide a world relative to which the we can determine a truth value. If we consider the attitude of belief, what it means for one's belief to be true is for the content to be evaluated as true at the possible world where the belief takes place. Desire temporalism requires that we assess desire contents relative to a cir-

cumstance of evaluation that consists of (at least) a world and a time. What the proposal above suggests is that the temporal adverbials we see in desire ascriptions do not specify a time indication in the attitude content, but instead describe a constraint on the temporal coordinate of circumstance of evaluation.<sup>16</sup> For example, if we say that *John wants it to rain next week*, we ascribe to John the (temporal) desire content that it rain, and we constrain the putative satisfaction conditions to a time occurring within the interval *next week*.

This is, so far, still quite vague. But it turns out that the proposal I am offering here looks a bit like what Brogaard (2012; 2022) has defended in recent work under the description of “composite tense operators”. Because of this, it is worth looking at Brogaard’s proposal in some detail, both to flesh out the current proposal, but also to point out ways in which what I am suggesting ultimately differs from Brogaard’s proposal.

This brings me to the second prong of the approach. I will need to address the worry that the explanation I offer of what temporal adverbials are in fact doing in desire ascriptions presupposes a semantics of tense that is at odds with the dominant line of research which treats tenses as pronouns. Such a worry is emblematic of a position in the philosophy of language (cf., e.g., King, 2003; 2007; Stanley, 2007) which takes the pronominal view of tense as decisively favoring eternalism over temporalism across the board.<sup>17</sup> If this is right, one could maintain desire temporalism only at the cost of admitting a strong disconnect between attitude contents and the means of talking about them in language. To counter this line of argument, I will not take any issue with the pronominal view of tense. In fact, after discussing Brogaard’s operator-based proposal, I take on the pronominal theory of tense anyway. But I will argue that, contra what is often supposed in the philosophy of language, the pronominal view of tense actually supports the picture I am advocating. Still, there will be parallels between Brogaard’s proposal and the one advanced here.

## 6. Composite Tense Operators

In numerous works, Berit Brogaard has defended (standard) temporalism against the kinds of objections and challenges that have caused philosophers to prefer eternalism (Brogaard, 2012; 2022). A particularly salient objection, and Brogaard’s response to it, will be the focus of this section of the paper. It is salient in part because it also deals with temporal adverbials, and their interaction

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<sup>16</sup> This kind of “circumstance dependence” has figured in the work of Recanati (2004; 2007).

<sup>17</sup> Cf.:

Most philosophers of language, and even many linguists, still accept that modals are operators of some kind (and so worlds are features of circumstances of evaluation). But, [...] most linguists hold [...] that tenses are not operators, and times are part of semantic content, rather than being features of circumstances of evaluation. (Stanley, 2007, Chapter 7)

with tense operators. Part of Brogaard's angle is an advocacy for an operator theory of tense, according to which natural language tenses are like the operators of tense logic (cf. Prior, 1968)—an approach adopted in the early papers by Montague (1974) and by Kaplan (1977). According to this approach, which I will only sketch briefly, past tense and future tense are schematized as in the (b) sentences in examples (10) and (11) with past (*P*) and future (*F*) operators (glossed “It has been the case that...” and “It will be the case that...”, respectively). These operators operate on tenseless sentences, so that the (b)-sentences yield the truth conditions in the metalanguage interpretations in (c).<sup>18</sup>

- (10) a. John ate an apple.  
 b. *P*[John eat an apple].  
 c. There is a time *t'* preceding the time of evaluation *t* such that *John eat an apple* (*t'*) = 1.
- (11) a. John will eat an apple.  
 b. *F*[John eat an apple].  
 c. There is a time *t'* following the time of evaluation *t* such that *John eat an apple* (*t'*) = 1.

A key challenge for the operator view is made plain in King's (2003; 2007) discussion of an example from Dowty's (1982). The operator view apparently gives the wrong truth conditions for nested temporal operators; in particular, for sentences containing both tense operators and operators for temporal adverbs. Consider (12):

- (12) Yesterday, John turned off the store.

If we were to render the past tense in (12) as *P* and treat the adverb *yesterday* as an operator, *Y*, there are two scope possibilities these operators could take with respect to the clause they operate on, given in (14a) and (13a).<sup>19</sup>

- (13) a. *Y*[*P*[John turn off the stove]].  
 b. (13a) is true at evaluation time *t* iff there is a time *t'* included in the day before *t*, such that there is a *t''* before *t'* such that *John turn off the stove* (*t''*) = 1.

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<sup>18</sup> In sketching this theory, I omit talk of models for tense logics almost entirely. In doing so, I will not address the kinds of questions that occupy many tense logicians. But those issues are mostly orthogonal to the objection we will be discussing.

<sup>19</sup> Take *Y* $\phi$  to be true just in case  $\phi$  is true when evaluated at *t'*, such that *t'* is within the day preceding the day of the time of evaluation, as in King's (2003, p. 216).

- (14) a.  $P[Y[\text{John turn off the stove}]]$ .  
 b. (14a) is true at evaluation time  $t$  iff there is a time  $t'$  preceding  $t$  at which there is a time  $t''$  the day before  $t'$  such that *John turn off the stove* ( $t''$ ) = 1.

Both of these scope configurations yield obviously incorrect truth conditions. (13a) takes us to a time the day before the time of utterance, and then to some time before that, and says of this time that John turns off the stove. (14a) takes us to some time before the time of utterance, and then at a time the day before that, John turns off the stove. In both cases, John's turning off the stove is earlier than the intuitive interpretation of (12) would have it. Intuitively, (12) is true just in case John turned off the stove at some past time within the interval of the day before today.<sup>20</sup> King provides such examples to make the case that tense is not an index-shifting operator, but something more like an object language pronoun in the style of Partee (1973), Enç (1986; 1987), and others, or a quantifier over temporal variables, as in Ogihara's (1996). My focus here will be on the pronominal theory of tense.<sup>21</sup> Like individual pronouns, the thought goes, tenses contribute variables ranging over times (or intervals) to the Logical Form of the sentence. On such a view, it is fairly easy to yield truth conditions that corroborate our intuitive interpretation of (12). We simply render the adverbial *yesterday* as a predicate of times which modifies the extension of the pronoun, as in (15).

- (15) (12) is true just in case John turns off the stove at  $t < s^*$  and  $t \subseteq$  day before  $s^*$ , where  $<$  is the precedence relation and  $s^*$  is the designated speech time.

King's motivation in pointing out this apparent advantage of the pronominal view over the operator view does not merely have to do with concerns about the

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<sup>20</sup> A reviewer raises a good point. My treatment of the operator  $Y$  does not make *yesterday* directly referential, as in Kaplan's account (1977), and as suggested in Section 4 of this paper. One should distinguish between an operator  $Y$  which picks out a time within the day before the time of the context (without invoking the time of evaluation at all), and another operator (let's call it  $G$ ) which means something like *one day ago*, and is defined as I did in Footnote 19.  $P[G[\text{John turn off the stove}]]$  would have the truth conditions described in (14b). But, as King (2003, Footnote 42) himself acknowledges, a  $Y$  operator, defined as the reviewer suggests, would give the correct truth conditions for (12) when in the scope configuration in (14a). I put the point aside, though, for the reasons given by King. First, a  $Y$  operator so defined would still allow for a scope ambiguity where none exists for (12). Second, since this  $Y$  operator effectively ignores the index-shifting of tense operators scoping above it,  $F[Y[\text{John turn off the stove}]]$  would also yield the correct truth conditions—a strange and undesirable result. So, even admitting a directly referential  $Y$  operator, the interpretation of (12) is still troublesome when tense and temporal expressions all treated as operators. Thanks to the reviewer for raising to point.

<sup>21</sup> But I suspect the main points of the present paper can be made with Ogihara's quantifier theory as well.

empirical adequacy of theories of tense in natural language. He also takes it as confirmatory evidence in favor of eternalism about the semantic content. The reasoning behind this is as follows. If tenses are operators, they need to operate on temporally neutral sentences. This is the famed operator argument of Kaplan (1977; also endorsed in Lewis, 1980). As a consequence, we would have circumstances of evaluation (indices) that include times, and the output of compositional semantics will be an object that varies (*inter alia*) over times. However, if tenses are temporal pronouns and not operators, circumstances of evaluation will not include a time coordinate; there would be no need. So, the content of a sentence would not be defined as a function from worlds and times to truth values (or sets of world-time pairs). Instead, if a circumstance of evaluation only includes a world coordinate, the semantic content of a sentence in a context is simply a function from worlds to truth values (or, equivalently, a set of worlds). This is an eternal proposition. So, the reasoning continues, the superiority of the the pronominal theory of tense amounts to a reason to endorse eternalism over temporalism when it comes to the semantic value of sentences in context. We will come back to the pronominal theory of tense later in the paper; for now, I want to focus on Brogaard's response to the challenge.

Brogaard aims to maintain an operator theory of tense in the face of King's challenge, and proposes a theory of composite tense operators to meet it. According to this proposal, tense operators like *P* and *F* are basic tense operators, and adverbs that appear with these basic operators modify them. To get a handle on the motivation for composite tense operators, it helps to clarify the precise challenge nested temporal operators pose for the operator theory. Take the example cited above in (12) with the past tense *P* operator and the adverbial *yesterday*. The problem takes the form of a dilemma: the adverbial can either provide a time to the content that is operated on by the *P* operator, or it can provide an operator to the sentence, in addition to *P*. Neither of these options is acceptable to the proponent of the operator theory. The first option is ruled out on account of it making the content eternal, whereupon the operator would be otiose (this is essentially the situation described in Footnote 20), and the second is ruled out on account of it making erroneous predictions about the truth conditions of the sentence, as we saw above.

Brogaard's proposal about composite tense operators suggests that these two possibilities do not exhaust the options for operator views of tenses. On her proposal, adverbs like *yesterday* neither add to the content to be evaluated, nor do they provide an operator to enter into scope relations with the operator *P*. What they do instead, is combine with and modify basic tense operators to form composite tense operators. In general, if *A* is an adverbial modifier, *P* is the basic past tense operator, and  $\phi$  is a sentence, then " $\ulcorner AP\phi \urcorner$  maps to true iff  $\phi$  is true at a past



circumstance of evaluation whose class of times belong to the class of times picked out by  $A'$ ” (Brogaard, 2012, p. 92),<sup>22</sup>

Composite tense operators allow Brogaard to respond to the challenge of nested temporal operators by rejecting the dilemma they seem to force on the proponent of the operator view. If  $P$  and  $Y$  form a composite tense operator,  $P-Y$ , where  $Y$  modifies the past tense operator, then (12) is interpreted as follows:

- (16) a.  $P-Y$ [John turn off the stove].  
 b. (16a) is true at evaluation time  $t$  iff there is a time  $t'$  preceding  $t$  such that  $t'$  is the day before  $t$  and *John turn off the stove* ( $t'$ ) = 1.

This seems to evade the challenge. There are not two operators here that can alternate in their scope configurations. As a result, we do not find scope ambiguities leading to erroneous interpretations. Additionally, we are not forced to say that the adverbial denotes a time as part of the content of the sentence that operator takes as an argument.

The precise role that temporal adverbs play in composite tense operators can be thought of as modifiers of circumstances of evaluation: if basic tense operators shift the time coordinate of the index from the contextually given index to evaluate the embedded sentence at a shifted index, then temporal adverbials further modify the shifted indices to constrain the target circumstance of evaluation. Says Brogaard: “[T]hey help to indicate which time to look at when evaluating the intension of the operand sentence” (Brogaard, 2012, p. 90). It is precisely this role that I find suggestive in Brogaard’s proposal, as it parallels what I was suggesting in the comments in the last section for how to deal with temporal adverbs in desire ascriptions as modifying the circumstance at which the content is evaluated.<sup>23</sup> In saying that temporal adverbials in desire ascriptions do not specify a time as part of the content, but instead circumscribe candidate times at which the content is to be satisfied, this is the relation of a modifier of a composite tense operator to the sentence that the whole composite tense operator operates on. I take it, therefore, that Brogaard’s notion here nicely illuminates the suggestion about desire content I leveraged to respond to the objection.

Still, there is a difference between what I was proposing and what Brogaard proposes. My proposal has to do with desire content, and a way of interpreting desire ascriptions in light of commitments about that content. Brogaard, as I take it, offers a theory of natural language tenses. This explains the desire on her part to accommodate a sense of semantic content of sentences in context that is tem-

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<sup>22</sup> Brogaard also considers a kind of operator formed with durative or frequency adverbials that map not to times but to intervals, which are the “span operators” discussed by Lewis (2004). I will omit discussion of these and focus on the composite tense operators for position adverbials. I draw upon Brogaard’s theory for illustrative purposes, so focusing on composite tense operators will be sufficient to make my point.

<sup>23</sup> To be clear, Brogaard’s proposal predates my own. In (Skibra, 2021), I failed to appreciate the parallel.

poral. She accepts, and King denies, that the output of compositional semantics is a semantic object that varies in truth conditions across times. While I find the proposal Brogaard makes about the role of temporal adverbs useful for my purposes, I do not think I can follow her in taking this composite operator strategy as a theory of tense for natural language.

### 7. Some Skepticism About Composite Tense Operators

The goal of articulating an empirically adequate semantics of tense in natural language is not simply to generate the appropriate truth conditions for sentences. The task is concerned with how these truth conditions are arrived at compositionally. I do not have much to say about whether or not the composite tense operator view can make good on this constraint.<sup>24</sup> My worry is a more basic one.

Returning to the motivating example, in (12), the composite tense operator,  $P$ - $Y$ , is composed of the basic tense operator  $P$  and the modifier,  $Y$ . As was made clear earlier, Brogaard takes this proposal about composite tense operators as a way of defending temporalism about semantic content more broadly. I have already made clear how it allows one to say that the arguments of such composite tense operators are temporally neutral. However, if one is defending temporalism about semantic content, one will also want to argue that the expression which results from composing the composite tense operator with its argument is also temporally neutral. This is how basic tense operators behave—if  $\phi$  is a temporal sentence and  $P$  is the past tense operator, then  $P\phi$  is also temporal. It is evaluated the same way that  $\phi$  is—by providing a time relative which the sentence is evaluated. If  $P\phi$  were the schematization of a natural language utterance, we would expect the time relative to which the sentence is evaluated to be the time of the context. In providing this time, context plays what Belnap, Perloff, and Xu (2001) call an initializing role (cf. also Recanati, 2007 for a discussion of this role of context). We would then expect composite tense operators to behave in much the same way.

The problem is, it is hard to see how composite tense operators could behave in the same way. We are invited to think of  $P$ - $Y$  as an operator, even if a composite one. Assuming a broadly Kaplanian picture of semantic content (Kaplan, 1977), this means that  $P$ - $Y$  operates on an item of content, and that the resulting expression is also an item of content. But, on this Kaplanian notion of content, the semantic value of indexical expressions (relative to a context) is already part of the content of the complex expressions containing them. This is essential to Kaplan's way of framing his project. When we evaluate the sentence *I was here*

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<sup>24</sup> Zeman (2013) raises a relevant point here that construing tense and temporal adverbials as composite tense operators may not be supported by empirical evidence about natural language syntax. If not, the actual syntax of tense and temporal adverbials may not provide a mapping from the Logical Form of the sentence to formulas with composite tense operators. This would make it difficult to say that tenses and temporal adverbials in natural language work like composite tense operators.

(schematized  $\ulcorner P[I \text{ be here}] \urcorner$ ), the past tense operator shifts the time of evaluation of the content of the embedded sentence. In other words, we evaluate whether the denotation of *I* relative to the context is at the denotation of *here* relative to that context at some circumstance of evaluation at an earlier time. (Equivalently, we evaluate whether the speaker of the context is at the location of the context, at that earlier circumstance of evaluation). This means that semantic evaluation occurs in a particular order; first the semantic values of indexicals are determined relative to the context, then context can play its initializing role in providing the time of evaluation.

Given this, it is hard to see how sentences with composite tense operators are indeed temporal when the expressions supplying the modifying portion of the composite operator are temporal indexicals. This seems a problem, because there are candidate composite tense operators which would contain temporal indexical adverbs: *yesterday*, *now*, *today*, *tomorrow*, etc. In the broadly Kaplanian framework I am assuming here, we would apparently have to say something like this: when  $P\text{-}Y\phi$  is a sentence with  $\phi$  a sentence and  $P\text{-}Y$  a composite tense operator (formed by means of the past tense operator  $P$  and the adverbial *yesterday*), the context initializes the time of evaluation relative to which  $P\text{-}Y\phi$  is evaluated, but the content of  $P\text{-}Y\phi$  contains the day before the day of the context as part of the content. I have been very loose with what counts as a time indication, but this sounds like one if anything does, and so it seems a stretch to say that the content of the complex expression  $P\text{-}Y\phi$  is temporal.

Perhaps there are ways of resisting the difficulties described above. The options are not clear to me. One might deny the Kaplanian semantics for the likes of *yesterday*. I do not think Brogaard intends to deny this, and it would be nice to avoid having to do so for the sake of composite tense operators.

## 8. Interim Summary

At this point, it would be helpful to take stock of where we find ourselves dialectically. I have introduced desire temporalism and given some reasons for thinking desire temporalism is true. I have stressed that desire temporalism is stronger than standard temporalism (when it comes to the attitude of desire, that is), since it claims that desire contents need to be temporal if they are indeed the satisfaction conditions of desires. Given the strength of this position, I asked whether we had any reason to doubt it—whether any putative counterexample was to be found. When we considered desire ascriptions with a certain kind of temporal adverbial (those which could be thought to supply a time indication to the content), I suggested that such ascriptions could be leveraged to fashion an objection to desire temporalism.

From there, I followed a suggestion from Skibra (2021) which held the promise of evading the objection. However, since the suggestion was pretty vague, I fleshed it out by means of Brogaard's work on composite tense operators. While the composite tense operator story might say what we want to say about

the content embedded under the tense operators, I gave some reasons for thinking this story about composite tense operators will not work as a theory of natural language tenses more broadly. At least as far as the discussion in the present paper goes, the pronominal view of tense is on better footing when it comes to the semantics of tense in natural language.

Dialectically, this leaves us in a precarious position. The pronominal view of tense, as I have said, has been argued by philosophers to strongly corroborate an eternalist picture of semantic content, since the temporal pronouns provide a time indication to the semantic content of the sentence. So, it might seem at this point that there is little latitude to defend desire temporalism from the objection.

It turns out, I will argue, that the framing of the dialectic just given overstates the case against desire temporalism dramatically. Instead, the pronominal view of tense actually gives us considerable resources to accommodate desire temporalism. Once we avail ourselves of these resources, and we pay attention to some of the work on embedded tenses in the pronominal tense framework, desire temporalism actually comes out looking pretty good. Furthermore, it will turn out that the discussion of composite tense operators will not have been an unhelpful digression. Even if composite tense operators do not give us the semantics for natural language tenses, they can still provide a helpful way to think about the way embedded tenses under attitude ascriptions can work.

### 9. Pronominal View: Nuts and Bolts

In this section I will outline the pronominal view of tense. The aim here will be to set out the main motivations for taking natural language tenses to be pronominal, and in subsequent sections, I will describe some central strands the research utilizing this framework has taken. Eventually, I will try to make good on the promise I made in the last section of vindicating desire temporalism. But for now I just want to lay out the nuts and bolts of the view.

First, the fundamentals. The classic observations motivating the pronominal theory of tense come from Partee (1973). Partee notes that perfectly natural uses of the past tense would be quite odd if they had the denotation given to them on a typical operator theory. Returning to a variation on our stove example, imagine a person driving in their car, and just as they merge onto the highway, they turn to the passenger and utter (17).

(17) I did not turn off the stove.

Assuming a view whereby  $P$ , the past tense operator, scopes over *I not turn off the stove*, and has the meaning as a kind of meta-language quantifier over times, (17) would have an almost trivial denotation—that there is some time or other prior to the time of utterance at which it was true that the speaker was turning off the stove. Such truth conditions are much too weak—it is hard to think of

someone for whom they would be false.<sup>25</sup> A typical use of (17) has the speaker intending to say no such thing. Instead, it is much more intuitive to take the speaker of (17) to be referring to a particular time—say, the time just before leaving the house—and saying of that time that it was one where the stove was not turned off.<sup>26</sup>

What this observation suggests is that tenses can have a deictic meaning, which works like the deictic interpretation of pronouns. Correspondingly, much like how awareness of the relevant contextual features allows a hearer to determine which time is being spoken about in (17), a similar kind of awareness allows a hearer to know what person is being spoken about by means of the pronoun in (18):

(18) She left me.

The analogies between tense and pronouns do not end there. First, tense enters into anaphoric relationships, and second, it can be bound, two other features of pronouns.

- (19) a. Sheila had a party last Friday and Sam got drunk.  
 b. Sheila borrowed my display cable during the last conference and Sam is borrowing it today.
- (20) a. Whenever Susan comes in, John immediately leaves.  
 b. If one of those arrows hits the target, it is mine.

Much like in (19b), where the pronoun *it* is anaphoric on *my display cable*, in (19a) the time at which Sam got drunk is anaphoric on the time at which Sheila had the party. Likewise, in (20b), the pronoun *it* is bound in the antecedent of the conditional, and in (20a), the time of John's leaving is bound by the relative clause "whenever Susan comes in".<sup>27</sup>

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<sup>25</sup> Or, the negation could outscope the past tense operator, resulting in the almost certainly false interpretation that it is not the case that I turned off the stove at some point in the past.

<sup>26</sup> This interpretation of (17) is indeed the most natural one, but it is not the only way to interpret the past tense. There is still a perfectly good "existential" interpretation of the past, as when someone utters "I went to Paris", intending to communicate that there is a time in the past at which they went to Paris. This kind of interpretation is much closer to the kinds of truth conditions the standard operator theory would give past tense. So, evidently, an account yielding such an interpretation is still needed in some cases, but Pardee's point is that there are plenty of instances where such truth conditions would not give us the intended interpretation.

<sup>27</sup> Kratzer (1998) argues that yet another parallel between pronouns and tense is that both can have a "zero" interpretation, where a zero pronoun is one that lacks phi-features and so has no presuppositions. Such zero tense pronouns would be very helpful for the story I ultimately tell in the final sections of this paper, but I will not pursue the matter here.

The pronominal view of tense takes these parallels seriously, and treats tenses as pronouns. Implementing these insights requires having an account of pronouns, and we can go with account in Heim and Kratzer's (1998), where pronouns are indexed by a number. The index on a pronoun helps resolve its denotation (indices with the same number are co-referential), and is important for various kinds of constraints on how pronouns can be bound. But it also makes for a rather straight-forward way to give a semantics for pronouns, by using the variable assignment, which is needed independently to give the semantics of quantifiers. We relativize the interpretation function to a variable assignment,  $g$ , and give the denotation to an indexed pronoun as follows:

$$(21) \llbracket he_n \rrbracket^g = g(n).$$

Bracketing quantifiers, the variable assignment takes indices and maps them to objects. So, in (21),  $g$  maps the index  $n$  to the object referred to by the pronoun (more precisely: the  $n^{\text{th}}$  object in the sequence given by  $g$ ).<sup>28</sup> Where does this assignment come from? It turns out that there is some controversy about this (cf., e.g., Rabern, 2012), but for our purposes we can just recapitulate the line from Heim and Kratzer's (1998) and say that it determined by the context. That is, the context puts constraints on what would count as an appropriate variable assignment. This would corroborate our intuition that, for deictic uses of pronouns, the context plays a role in determining the referent of the pronoun. (By contrast, indexical pronouns get their denotations directly from the context without the need of a variable assignment).

We can say much the same thing for tenses, where tense morphemes in language introduce an indexed pronoun into the Logical Form of the sentence, which is then interpreted the same way as the individual pronoun above.<sup>29</sup>

$$(22) \quad \text{a. } \llbracket \text{past}_i \rrbracket^g = g(i). \\ \quad \text{b. } \llbracket \text{pres}_i \rrbracket^g = g(i).$$

This tells us a little bit about the implementation of the idea that tenses introduce time pronouns, but clearly something more is needed. According to what we have so far in (22), past and present tense have pretty much the same semantic meaning (modulo whatever index they happen to have). However, there is clearly a difference between the times past and present tense can refer to; they are not interchangeable.

Again, individual pronouns provide a natural option for modeling these constraints; for the pronoun  $he_n$ ,  $g$  cannot map  $n$  to just any object. Taking (21) as an example, the pronoun  $he_n$  is mapped by a variable assignment to some object

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<sup>28</sup> To be clear, this use of "index" is a bit different from the use of "index" earlier in the paper, as a sequence of parameters that give us circumstances of evaluation. Here, we just mean: a number that allows us to keep track of different variables.

<sup>29</sup> I will use  $i$  for the temporal indices.

$g(n)$ , but the word *he* places some constraints on its interpretation. Namely, *he* tends to refer to individuals of a masculine gender.<sup>30</sup> We treat this constraint as a presupposition and incorporate it into the framework by saying that the interpretation function  $\llbracket \cdot \rrbracket$  is a partial function, and is defined for  $he_n$  only if  $g(n)$  is masculine. If so, then it is defined as stated in (21). The same idea can give content to the intuition that past and present tense morphemes have presuppositional constraints on their interpretation.<sup>31</sup>

- (23) a.  $\llbracket \text{past}_i \rrbracket^{c,g}$  is defined only if  $g(i) < t_c$ . If defined,  $\llbracket \text{past}_i \rrbracket^{c,g} = g(i)$ .  
 b.  $\llbracket \text{pres}_i \rrbracket^{c,g}$  is defined only if  $g(i) \sigma t_c$ . If defined,  $\llbracket \text{pres}_i \rrbracket^{c,g} = g(i)$ .

This effectively adds the presupposition that present tense overlaps the time of the context,  $t_c$ , and that past tense precedes the time of the context.

We need to say just a bit more before we have the nuts-and-bolts version of the pronominal view on the table. We need to say how these time pronouns find their way into the LFs of sentences. One thing to say (cf. Heim, 1994) is that verbs have argument positions for times, in addition to their thematic arguments. The example Heim gives is with the verb *cry*. It is an intransitive verb, and as part of its thematic grid, has an argument position for an agent. On this picture, it also has an argument position for an event time. If we give times their own primitive type (type  $i$ , for interval), and  $\langle s, t \rangle$  is the type for propositions ( $\langle s, t \rangle$  is a function from worlds to truth values), then the verb *cry* has the type:  $\langle i, \langle e, \langle s, t \rangle \rangle \rangle$ —it is a higher order function from a time to a function from entities (the primitive type  $e$ ) to a function from worlds to truth values. Alternatively—it takes a time and an agent argument, and gives you a proposition as shown in (24).<sup>32</sup>

- (24)  $\llbracket \text{cry} \rrbracket(t)(x)(w) = 1$  iff  $x$  cries at  $t$  in  $w$ .

This is the pronominal view in a nutshell. And when we put things in this way, it is hard to think that there is any room for any kind of temporalism. Why so? Because times find their way into the LF in much the same manner as individuals do with deictic individual pronouns, and we do not tend to think that the denotations of such sentences are individual-neutral.<sup>33</sup> But in fact, this is the starting point for most contemporary work on tense, instead of the final word. While the general framework gives us what is desired in terms of making tense a kind of pronoun, a slightly deeper dive into the semantics of tense shows us

<sup>30</sup> The features giving rise to these constraints are called phi-features and play an important role in theories of agreement in syntax.

<sup>31</sup> Take  $<$  to be the relation “wholly precedes” and  $\sigma$  to be “overlaps”.

<sup>32</sup> Note: I have suppressed the parameters on the interpretation function here for readability.

<sup>33</sup> Some pronouns might in fact be individual-neutral (cf. Chierchia, 1989; Schlenker, 2004). Put this aside, though.

this simple picture is in need of a bit more sophistication. It is this sophistication which will wind up helping us with desire temporalism.

### 10. Limitations of the Nuts-And-Bolts Theory

The problem with the nuts and bolts version of the pronominal view is that it predicts that tenses are much more well-behaved than they actually are. Among the difficulties are the fact that they display some interpretive behavior that is difficult to square with the nuts-and-bolts pronominal view when it comes to their behavior in embedded clauses—especially so when they embed under attitude verbs. The aim in what follows will be to lay out a theory that expands on the nuts and bolts view so as to retain what is essential to it, but gives it the flexibility to account for the more recalcitrant data. So, I will not spend a lot of time explaining the motivating data, but it is worth getting the flavor of it.

Compare the sentences in (25)–(27), all containing a past or present tense embedded under a higher past tense.

- (25) John met a man who was walking.
- (26) John believed a man was walking around the office.
- (27) John thought that Leslie is pregnant.

The sentence (25) has several possible interpretations. The first is the simultaneous interpretation, where the event described by the verb in the main clause is located in the past, and the embedded clause is simultaneous with that event. In the second interpretation (the back-shifted interpretation), the meeting event is again in the past, but the event described by the verb in the embedded clause is in the past relative to the past meeting event (so, the meeting precedes the speech time, and the walking precedes the meeting). There is also an interpretation of (25) where the walking and the meeting are unordered, but both in the past. It would allow, for example, the walking to come after the meeting (provided both were in the past). This is perhaps a remote interpretation, but it is possible. Let's call this the future interpretation, since the embedded tense denotes a time which is in the future with respect to the one denoted by the higher tense. (Meeting occurs before walking which occurs before speech time).

When we turn to (26), though, we must acknowledge that there are both simultaneous and backshifted readings available, but not the future interpretation.<sup>34</sup>

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<sup>34</sup> One might suspect that embedded tenses can be constrained by the higher tense embedding them, the matrix-level tenses then being anchored to the speech time. Such is the nature of the proposal by Enç (1987). However, the example cited by Abusch (1997) shows that this proposal will not work:

- (i) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.



The availability of something like the future interpretation is predicted by the pronominal view—its absence in special cases like in (26) needs explaining, though. Why should we get both the simultaneous and back-shifted interpretations, but not the future interpretation when it comes to attitude verbs?

Next, consider (27), which has a present-under-past configuration. Present-under-past sentences have a particular interpretation, where the embedded event is interpreted as neither wholly past nor wholly present. That is, for (27) to be felicitous, it has to be the case that John's thinking about Leslie's putative pregnancy is in the past, and yet that the putative pregnancy persists to the present moment. This is called the double-access interpretation. It is obligatory with a sentence like (27); were the putative pregnancy merely simultaneous with the thinking, then an utterance of John thought that Leslie was pregnant would be more appropriate—adverting to the simultaneous reading of a past-under-past construction. Again, the nuts-and-bolts pronominal theory by itself does not provide the resources to explain how one might derive such an interpretation.

### 11. The Temporal *de re*

Abusch (1997) argues that most of the central facts about embedded tenses can be explained if the tense system of natural language has a mechanism for *de re* attitudes towards times.<sup>35</sup> What is crucial about this theory is that it presents only a slight departure from the nuts-and-bolts version of the pronominal view of tense. But it is this departure that will allow us to defend desire temporalism. The aim of this section, then, is to explain this mechanism, and to argue that it underwrites a kind of temporalism which I will use to develop the insights from Sections 5 and 6, but within the pronominal theory of tense.

Essentially, Abusch's proposal is to combine what I called the nuts and bolts theory with an account of *de re* attitude ascriptions (from Cresswell, von Stechow, 1982, which draws heavily on the famous analysis in Lewis, 1979). According to Lewis (1979), attitudes are not relations between subjects and propositions construed as sets of worlds. They are, rather, relations between subjects and sets of centered worlds, where a centered world is an ordered pair of a world and a center. The center is perhaps best thought of as a time slice of an individual, and represents (at least) the spatiotemporal position of the individual in the world. The idea is that sets of centered worlds are sets of world-bound objects. As such, these sets denote properties. If the traditional account of belief in terms of propositions has it that one's attitude is characterized by a set of worlds—the worlds that are live possibilities for the way the world is, as far as one believes, the property-based view advocated by Lewis has it that one's *de se*

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The issue with (i) is that the having of the last meal together is located a time later than speech time. Evidently, we need some kind of constraint to rule out a future interpretation of (26), but not too strong a constraint that would fail to allow (i).

<sup>35</sup> Many, but not all, of the facts. More on this shortly.

attitude is characterized by the objects that, for all one knows, one might be. These are one's doxastic alternatives. With this characterization of belief, *de dicto* belief comes out as a special case of the *de se*. It is one where, in the set of doxastic alternatives, the choice of center is idle—for any  $w$  among the doxastic alternatives, any of the centers in  $w$  is among the doxastic alternatives.<sup>36</sup>

In this centered-worlds/ property-based account of the attitudes, belief *de re* also comes out as a special case of the *de se*, in the following sense. Belief *de re* is simply a centered-worlds based belief which includes a particular kind of acquaintance relation to the relevant object. (This suggestion about acquaintance relations originates with Kaplan 1968). In that case, we can characterize belief *de re* in the following way (cf. Ninan, 2012 for this characterization).

- (28) A subject  $x$  believes, at  $t$  in  $w$ , that  $y$  is  $F$ , relative to acquaintance relation  $R$  iff:
- a.  $x$  bears  $R$  uniquely to  $y$  at  $t$  in  $w$ , and
  - b.  $x$  believes *de se* (at  $t$  in  $w$ ) that the thing to which he bears  $R$  is  $F$ .

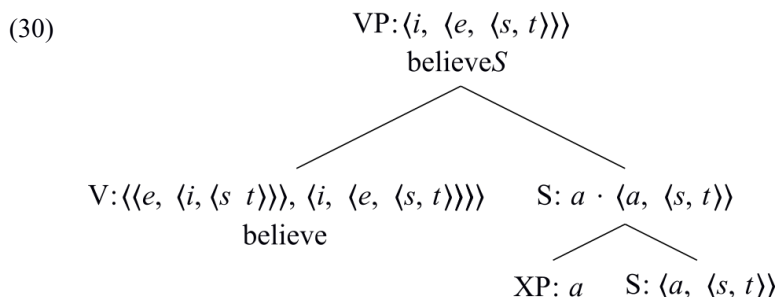
Getting an interpretation like (28) from an attitude report is not completely straight-forward, however. Consider (29) construed *de re*:

- (29) Ralph believed Ortcutt was a spy.

In (29), it is not simply a matter of the verb *believe* taking a proposition as an argument. This would not give us the interpretation in (28). Rather, the proposal is that *believe* takes two arguments: (i) a property argument (a set of centered worlds, as Lewis suggests) and (ii) a *res*-argument (the *res* of which the belief holds). This structure (*believe* and the two arguments) then combines with another individual argument—the subject of the attitude. By itself, this still will not give us the interpretation in (28). We need to interpret *believe* and its two arguments (the *res*-argument, and the property-argument) a particular kind of way. In the Abusch/Cresswell and von Stechow proposal, there is a node in the semantic derivation of the sentence at which the property argument combines with an NP of the *res* (in this case, *Ortcutt*) to yield a kind of structured proposition composed out of the pair of the NP and the property. We can generalize this structure to the schema in (30):

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<sup>36</sup> This point is made in Cresswell and von Stechow's (1982) and subsequently by Egan (2006), who calls such sets of worlds "boringly centered".



The semantic type of the VP node ( $\langle i, \langle e, \langle s, t \rangle \rangle \rangle$ , at the top of (30)) should look familiar: it is the same type as in the example of *cry* given earlier in (24). The type  $\langle e, \langle i, \langle s, t \rangle \rangle \rangle$  is the type of a centered worlds property—a function from individuals (type  $e$ ) and intervals (type  $i$ ) to a function from worlds to truth values. This means the attitude verb *believe* takes a property and yields the typical VP type as a value. But the sister node to *believe* is not a centered world. The dot notation indicates a product type of a pair of an item of type  $a$  and a property of type  $\langle a, \langle s, t \rangle \rangle$ . Now,  $a$  is not actually a type, but a variable ranging over types. So, for a sentence like (29) where the *res* is an entity, the type in question is  $e$  and our product type on the S-node becomes  $e \cdot \langle e, \langle s, t \rangle \rangle$ ; a pair of an entity and a property. On top of this, the normal semantic value of the *res* is not actually contributed to the interpretation, but instead, its place is taken by an acquaintance relation that picks out the thing denoted by it. This is the source of the  $R$  in (28).

Before looking at the case involving tense, let's walk through the interpretation of the standard, objectual *de re* as in (29) to illustrate. Going by the schema in (30), when the NP *Orcutt* in (29) composes with *was a spy*, we get a structured proposition composed of the pair of *Orcutt* and the property *was a spy*—something like  $\langle \text{Orcutt}, \lambda x.x \text{ was a spy} \rangle$ . When this structured proposition composes with the verb *believe*, the NP *Orcutt* contributes not its normal semantic value, but instead another property, which serves as a suitable acquaintance relation Ralph has to *Orcutt*, like *the guy I saw sneaking around the beach*. You may notice, though, that according to the schema in (30), *believe* wants an argument of type  $\langle e, \langle i, \langle s, t \rangle \rangle \rangle$ , not of type  $e \cdot \langle e, \langle s, t \rangle \rangle$ , which is the type of the structured proposition. The way to make *believe* compose with the structured proposition is via a special interpretation rule, which takes the structured proposition (with  $R$  in place of *Orcutt*) and inserts a definite operator (like “the”) to scope over the structured proposition before composing with *believe*.

Since this operator is a kind of generalized quantifier, it can compose with two sets—the set of things which are  $R$  (if  $R$  is in fact a suitable acquaintance relation, the set will include only a unique member), and the set of things satisfying the property (in this case, *was a spy*). Interpreted in this way, with the definite operator, this is now a centered-worlds proposition and can compose with *believe*. Moreover, we now see how we can get an interpretation like (28) from

a natural language attitude ascription like (29).<sup>37</sup> Abusch’s point is this: we can do this for times just as for entities—so for the temporal *de re*, we get the product type  $i \cdot \langle i, \langle s, t \rangle \rangle$  (remember:  $i$  is the type for intervals of time). That is how we get the temporal *de re*.

Let us take a quick look at the temporal case and see how far the temporal *de re* goes to explain some of the data in Section 10. Consider a past-under-past sentence like (31):

(31) Mary believed it was raining.

We can get the simultaneous reading with a Logical Form like (32).

(32) Mary  $\text{past}_2$  believed [ $\text{past}_2$ ]  $\lambda t_0$  [it  $t_0$  be raining].

In (32), the lower past is co-indexed with the higher past. What we can have here is an instance of the lower past being anaphoric on the higher past. This kind of LF, on Abusch’s account, has a particular interpretation. She notes that the lower past is actually in an extensional position, outside the attitude context.<sup>38</sup> So the relevant time is the one in the real world, as it were (in this case, the same time at which the attitude takes place, since the embedded past is co-indexed with the higher past), and the complement of the attitude verb is  $\langle \text{past}_2, \lambda t_0. \text{it } t_0 \text{ be raining} \rangle$ . The  $R$  contributed to the semantic composition is a salient acquaintance relation that Mary had to the time  $g(2)$ . Since we are talking here of the simultaneous reading of (31), it is a simple matter what such an acquaintance relation might be—it is the internal *now* of the attitude holder at that time. We can think of this time as the evaluation time of the belief, since the belief’s truth or falsity will hinge on whether the content of her belief is true or false with respect to that time. *Of that time*, Mary’s belief has a temporal content to the effect that it is raining.

For the backshifted reading of (31), we simply choose another index for the lower past which is not anaphorically related to the higher past:

(33) Mary  $\text{past}_2$  believed [ $\text{past}_3$ ]  $\lambda t_0$  [it  $t_0$  be raining].

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<sup>37</sup> There is more one could say about this account—for example, that it allows for attitude ascriptions in so-called “double vision” cases, so that we consistently say both that “Ralph believed Orcutt was a spy” and that “Ralph believed Orcutt was not a spy”, provided each ascription is relative to a different  $R$ . Or, that there is a debate about whether the kind of recipe for *de re* interpretation described here runs into problems with counterfactual attitudes (cf., e.g., Ninan, 2012; Pearson, 2018; Yanovich, 2011). I set these aside, as they will not matter for the purposes of our argument.

<sup>38</sup> In order for this to be the case, the lower tense node actually needs to undergo a seemingly sui-generis kind of movement, which Heim (1994) called *res*-movement. This kind of movement is controversial, and there are some attempts to have the benefits of a Cresswell and von Stechow and Abusch style *de re* semantics without *res*-movement. Cf., e.g., the Concept Generator theory of Percus and Sauerland (2003).

The reference of  $\text{past}_3$  is anaphoric to another time in the preceding discourse, or to another contextually salient time, but the interpretation is calculated in much the same way as before.

So much for the simultaneous and back-shifted readings. What explains the lack of the future reading? This turns out to require additional machinery to explain—nothing in the interpretive machinery so far would rule out the time denoted by  $\text{past}_3$  in (33) from being later than  $\text{past}_2$ . The unavailability of the future interpretation in the past-under-past configuration is an instance of what Abusch calls the upper limit phenomenon—that the local time of the attitude is the “upper limit” for the denotation of tenses in the intensional position (e.g., embedded under attitude verbs). She considers, but ultimately rejects an acquaintance relation-based explanation of this phenomenon. The acquaintance relation-based constraint is that having an attitude about a time later than the local now of the attitude amounts to requiring an acquaintance relation to a future time. And, the story goes, we cannot be acquainted with a future time—there is no proper acquaintance relation that would ground this interpretation.

There is something intuitive about such an explanation, but Abusch ultimately discards it as empirically unsupported.<sup>39</sup> What she posits instead is the Upper Limit Constraint—a constraint which says that the denotation of the embedded tense cannot be later than the denotation of the higher tense. A tense feature transmission mechanism enforces this constraint. Finally, explaining the peculiar double-access interpretation of present-under-past sentences like (27) appeals both to acquaintance relations and to the Upper Limit Constraint. I will not explain the mechanics of obtaining these interpretations, since we already have the details, we need for our defense of desire temporalism.

What I want to point out is the following: with Abusch’s theory we see an implementation of the pronominal theory of tense that accounts for a number of the facts of tense in natural language (well, in English, at least). Two observations are important for our purposes. First, we see that it is not the case that the pronominal theory of tense commits one to the idea that content is eternal. The whole mechanism of the temporal *de re* is dedicated to picking out a time, and then describing an attitude which the subject of the ascription holds of that time. It is fairly natural to think of this as describing a kind of temporal content. Second, think of the relation between the temporal *res* and the content thus described. If it is a belief being described, we would evaluate the belief as true if

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<sup>39</sup> It is examples like the following (due to Andrea Bonomi) causes her to rethink the acquaintance relation-based explanation.

- i. Leo<sub>1</sub> will go to Rome on the day of Lea<sub>2</sub>’s dissertation.
- ii. Lia<sub>3</sub> believes [that she<sub>3</sub> will go to Rome with him<sub>1</sub> then].

An *de re* interpretation of the second sentence in (i) is possible (imagine “then” as being anaphoric on the day of Lea’s dissertation, but Lia knows only of her travel date and nothing of Lea’s dissertation), even though her going to Rome is after the local evaluation time of the belief.

the content described held at the time provided by the *res* time. This is just the relationship of content to the circumstance of evaluation described in Section 5. We have not said anything about temporal adverbials in this section, and it turns out that integrating Abusch's proposal with temporal adverbials is a non-trivial matter (cf. von Stechow, 1995a; 1995b). But if we abstract away from the compositional implementation, we can see a way for the adverbials to modify an embedded clause in a way that corroborates Brogaard's proposal about composite tense operators. What we need is for the adverbial to modify the temporal *res*, as opposed to the embedded verb. So, rather than adverbial modification occurring as supposed by King (cf. (15) from Section 6), we need another alternative, where (34a) gets the LF in (34b).

- (34) a. Mary believed it was raining at midnight.  
 b. Mary  $\text{past}_2$  believed  $[[\text{past}_2] [\text{at midnight } t_2] \lambda t_0 [\text{it } t_0 \text{ was raining}]]$ .

Given the schema in (30), we would expect the sister of the node with *believe* to be the structured proposition  $\langle \text{past}_2 \ \& \ \text{at midnight } (t_2), \lambda t_0. \text{it } t_0 \text{ be raining} \rangle$ . In line with our previous remarks, the interpretation such an LF would receive is such that Mary's doxastic alternatives are those where her belief is the temporal  $\lambda t. \text{that it rains at } t$ , evaluated relative to  $t = g(2)$  provided she have some suitable  $R$  to this time. (Having this  $R$  does not necessarily involve her having any belief about the time of the rain, other than that it was her internal now when she had the belief). What we see in this case, is the temporal *res* constraining the circumstance of evaluation for the attitude, and the adverbial modifying the temporal *res*. This provides us with an important proof of concept for the proposal made in Section 5 and shows us that we can get a good part of what Brogaard wanted to achieve with her composite tense operators (Section 6), but within the pronominal theory. Whereas Brogaard's proposal was about the nature of semantic content, the present proposal concerns how semantics conspires to describe attitude content. The significance of the present proposal is that attitude content can be temporal even if the semantic content of sentences in context turns out to be eternal.

## 12. Desire Ascriptions and the Temporal *de re*

Even with the encouraging outcome of the previous section, we have not explicitly defended desire temporalism from the challenge posed by temporal adverbials. The examples discussed in relation to embedded tenses all had to do with embedding under verbs of belief and not verbs of desire, so we have not said anything about the desire ascriptions that seemed problematic for desire temporalism. But it should be clear by now how the defense of desire temporalism will go. Namely, I will argue this: the examples that seemed problematic for desire temporalism are actually instances of the temporal *de re*. Even if the adverbials denote a time, the ascriptions do still describe a temporal content. This is

because the time specified by the adverbial is not part of the attitude content, but instead modifies the temporal *res*.

I take it the last section made reasonably clear how the temporal *de re* describes a temporal attitude content with respect a specified time, and how this specified time serves as a kind of circumstance of evaluation in the way described earlier in the paper. But to advance the claim in a way that makes a defense of desire temporalism plausible, we need to address a few loose ends. That will be the focus of this section. To that end, I will focus on desire ascriptions with *want* to illustrate. Doing so raises the question of whether the claim generalizes to other desiderative verbs and to other languages, but this is a question that will have to be addressed at a future time. Suffice it for now to say that this allows us to deal with the supposedly problematic examples posed in Section 4.

On to the loose ends...

**What tense?** The examples of the temporal *de re* we saw earlier involved a tense pronoun being interpreted in an extensional position under the matrix tense. In those cases, it was the tense that denoted the temporal *res*. It is not clear there is any tense in the embedded clauses of the kinds of desire ascriptions we have been considering. If not, then what denotes the temporal *res* in the relevant desire ascriptions?

A natural response to this question is would be to say that when there is no temporal adverbial, then there is no temporal *de re* interpretation possible. With the adverbial, we do get the temporal *de re*. Taking some earlier examples, namely (5c) and (5d), we can illustrate what I mean by comparing the proposed LFs of these sentences with and without the relevant adverbials in (35)–(38).

- (35) a. Jill wants to attend the concert.  
 b. Jill<sub>3</sub> pres<sub>1</sub> want  $\lambda t_0$ [PRO<sub>3</sub>  $t_0$  to attend the concert].
- (36) a. Jill wants to attend the concert on July 31, 2023 at 8:30 in the evening.  
 b. Jill<sub>3</sub> pres<sub>1</sub> want [on  $t_2$  July 31, 2023 at 8:30 in the evening]  $\lambda t_0$ [PRO<sub>3</sub>  $t_0$  to attend the concert].
- (37) a. Jill wants Joe to win the election.  
 b. Jill pres<sub>2</sub> want  $\lambda t_0$ [Joe  $t_0$  to win the election].
- (38) a. Jill wants Joe to win the election on election day.  
 b. John pres<sub>1</sub> want [on  $t_2$  election day]  $\lambda t_0$ [Joe  $t_0$  to win]

As you can see from the proposed LFs, there is nothing in (35) or (36) to serve as the temporal *res*, whereas while in (36) and (38), the adverbial denotes a time which can serve as the temporal *res*.

**No upper limit?** The phenomenon whereby tenses embedded in certain environments (like under attitude verbs) will not denote times later than the local now of the attitude is the upper limit phenomenon. It is what we observe when we note that (26) lacks a future interpretation. For *believe*, the local evaluation

time of the attitude is simply the time the time of the belief, so the embedded tense could not denote a time later than the belief time.

One might worry that the upper limit phenomenon and Abusch's explanation of it—the Upper Limit Constraint—may cause problems for the proposal that there is a temporal *de re* interpretation of these desire ascriptions. But, looking now at (36) and (38), the complements are future-oriented with respect to the local now of the attitude. Is this counter to the upper limit phenomenon? Does the proposal then contravene the Upper Limit Constraint?

It turns out that the worry is easily addressed. These attitude ascriptions do have the kind of future interpretation that (26) lacks, but the proposal still sits quite nicely with Abusch's Upper Limit Constraint. Abusch did indeed first attempt an acquaintance relation-based explanation of the upper limit phenomenon, which rules out future interpretations of embedded tenses under attitude verbs due to our putative inability to have an acquaintance relation to a future time not. If this explanation were correct, it would indeed mean that our claim of the temporal *de re* in desire ascriptions could be sustained. But while this explanation may be tempting, it is not correct, as we saw in Footnote 39. The Upper Limit Constraint Abusch winds up adopting puts a constraint on the interpretation of tenses (so, the interpretation of present and past). In (36) and (38), there is reference to a time later than the local now of the attitude, but it is introduced not via a tense, but via the adverbial, so there is no problem here.<sup>40</sup>

All of this being said, the linchpin in the account is the kind of structured proposition approach to *de re* semantics proposed by Cresswell and von Stechow (1982) and applied to tense by Abusch (1997). This approach encourages a particular conception of how LFs of natural language sentences map onto descriptions of attitude contents. In the temporal domain we are considering, if Jill wants Joe to win the election, as (37) would have it, the attitude verb relates Jill to a temporal content. In the case of (38), where Jill wants Joe to win the election on election day, the attitude verb relates Jill to the ordered pair (on election day( $t_2$ ),  $\lambda t_0$ . Joe  $t_0$  to win), with the second member of the ordered pair describing a temporal content, and the first member modifying the relevant circumstances relative to which the content is to be assessed, if the desire is to be satisfied.

### 13. Concluding Thoughts

We have covered a lot of ground, so here is a final recap. I started by introducing and explaining desire temporalism. Next, I discussed an apparent difficulty for the view. In a nutshell, it seemed that desire temporalism may be plausible when considering desire ascriptions without any embedded temporal expres-

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<sup>40</sup> Additionally, the auxiliaries *will/would* extend the evaluation time of their complements into the future, so it is consistent with the Upper Limit Constraint for reference to the future to be accomplished in other ways, provided it is not simply via the interpretation of a tense node.



sions, but once one considered ascriptions with temporal adverbials, it became hard to see how the view could be sustained, especially if we took some of these adverbial expressions as themselves denoting times. I suggested that we could preserve desire temporalism if instead we took the time denoted by the expression not as contributing to the content, but as modifying the circumstance of evaluation relative to which the content is assessed. I then considered Brogaard's proposal about composite tense operators as a way of making this idea more precise. The proposal was found promising, but ultimately not taken on in favor of the more popular approach of treating tenses as pronouns. But a new problem presented itself—the pronominal view is often taken to preclude any kind of temporalism.

Moving forward, I introduced the pronominal theory of tense in considerable detail, moving beyond what I called the “nuts-and-bolts” version of the theory to a more sophisticated version which includes a semantics for the temporal *de re*. This more sophisticated version gives us the resources to predict some of the behavior of embedded tense. However, the temporal *de re* also provided the resources for spelling out the proposal about circumstances of evaluation. With the temporal *de re*, the temporal *res* acts as a kind of circumstance of evaluation—we just allow the temporal adverbial to modify the *res*. It would seem that the temporal *de re* gives us the resources to produce a similar account to what Brogaard has in mind, though while still eschewing temporal operators for temporal pronouns. We then say that the apparently problematic desire ascriptions are in fact instances of the temporal *de re*.

There are several conclusions to draw from this. First of all, and most immediately, desire temporalism can be sustained in the face of these ascriptions with temporal adverbials. Secondly, we have shown that, contrary to what is sometimes argued, adopting the pronominal theory of tense does not commit one to eternalism. In fact, the pronominal theory of tense shows how language provides the resources for accommodating forms of temporalism about attitude content even if one grants that the semantic content of sentences in context is eternal.<sup>41</sup> If this is right, then the operator vs. pronoun debate turns out to be a bit of a red herring, at least when it comes to the temporalism and eternalism debate. Far from the pronominal view favoring eternalism, it provides the means for articulating a kind of temporalism, when it comes to ascriptions of attitudes.

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<sup>41</sup> I am happy to grant this claim about semantic content, but perhaps we do not have to (cf. Ninan, 2010 for reasons why not).

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JAKUB RUDNICKI\*

## SAVING THE TRADITIONAL VIEW OF CONTENTS FROM THE MESSY SHOPPER AND HIS CRAZY AND AMNESIAC ACOLYTES<sup>1</sup>

**SUMMARY:** In this paper I propose a way of saving the traditional view of contents and attitudes from the threat posed by famous scenarios such as Perry's messy shopper. I argue that, with the solution I suggest, traditionally construed beliefs and contents can play all the roles we traditionally want them to play, including the notoriously problematic explanation of action. I dub the view laid out here the Double Belief Theory because it analyzes *de se* attitudes as, in fact, two conjoined beliefs, one of which is a second-order belief about the other.

**KEYWORDS:** *de se*, indexicality, beliefs, attitudes, propositions, centered propositions.

### 1. Introduction

It is widely accepted that the famous examples formulated by Perry (1977; 1979)—who was inspired by the work of Castañeda (1966; 1967)—and Lewis (1979) at least pose a serious threat to what I shall call here the Standard View of Contents (SVC), and specifically, to one of its two components, the Standard View of Attitudes (SVA). By the latter I mean a certain, traditional philosophical

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\* University of Warsaw, Faculty of Philosophy. E-mail: jmrudnicki@gmail.com. ORCID: 0000-0003-0222-9370.

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theory describing the properties and nature of the contents of propositional attitudes, especially beliefs. The former is a result of conjoining the latter with an, also traditional, theory depicting how linguistic communication occurs, that I shall call the Standard View of (Linguistic) Communication (SVL).

It is much more controversial, though, whether the aforementioned examples, and the arguments that they give rise to, indeed force us to reject the Standard View. Furthermore, even among those who agree on a positive answer to this question, there is further disagreement on how significant the departure from the traditional view needs to be. Therefore, we can distinguish three main families of positions that the proposed solutions to the problem could be categorized into: *de se* skeptics, *de se* condoners, and *de se* enthusiasts. The first attempts to answer the main question to the negative and, mostly, tries to look for the explanation of the phenomenon described in the crucial arguments outside of the realm of contents of attitudes. The next two, on the other hand, agree that some modification of the legacy position is needed, but only the *de se* enthusiasts are willing to reformulate the way we used to understand contents altogether.

The plan of this paper is as follows. First, I detail what claims I attribute to SVC and present a particular, famous scenario—the messy shopper—and explain why it poses a threat to SVC. Then, I describe the three aforementioned types of reactions to the problem revealed by the-messy-shopper kind of cases, which allows me to straightforwardly conclude that the underlying assumption behind all of those views is that SVC, understood as including a certain list of theoretical tasks that the traditionally construed contents are supposed to fulfill, cannot be saved (at least as long as saving it would require retaining every single task from that list). Next, I move to my own proposal of how the main problem can be answered without the slightest departure from SVC and present two different ways the proposal can be developed. In this paper I shall not argue for the superiority of SVC over the different proposals departing from it, so my project can be understood in the conditional manner: If one wants to save SVC from the problems stemming from Perry's cases, then what I describe below is hopefully the best way to it.

The first version of my proposal, which I introduce partly for presentation purposes in order to be able to contrast the second one with it, can strike many as very unintuitive. At the same time, given that it displays a wide range of, mostly theoretical, strengths stemming from providing a possibility of retaining the neat and familiarized traditional picture of contents, I think the idea behind the proposal is at least worth exploring and presenting for potential philosophical use. Having said that, I strongly prefer the second version which avoids the implausible consequences while retaining all of the advantages. Overall, given the crux of the idea, I shall call it the *Double Belief Theory* (DBT), and, respectively, its first version (DBT1) and second (DBT2). Finally, I address potential worries that could be raised against my preferred solution—(DBT2).

## 2. The Standard View of Contents

Before we get into the heart of the matter, I shall first characterize what the aforementioned SVC exactly states. I already hinted that according to how I interpret this view, it consists of two interconnected modules, one regarding the contents of attitudes, and the other concerning communication. According to SVA, belief (and other attitudes) is a two-place relation between its holder—the believer—and a certain proposition capturing the content of what it is that the holder believes. Beliefs, thanks to their contents, are naturally utilized within this traditional theoretical framework of SVA as able to potentially explain *action* and *agreement* or disagreement between agents. It is quite natural for us to think of Michael's belief *that it is going to rain* as explaining why he grabs an umbrella when going out. Additionally, if we had reasons to think that Mary also believes that it is going to rain, then the fact that the believed content is shared by Michael seems like a good explanation of the fact that Michael and Mary agree on the upcoming weather conditions. Two important features that SVA assumes about such contents are that they are *absolute* in the sense that, once established, their truth value is not sensitive to time or who the believer is, and *accessible* or shareable, i.e., believable by any agent (granted sufficient mental and conceptual development). An important terminological remark is that throughout the paper, as hinted above, I shall be distinguishing *contents* of beliefs from *beliefs* proper. The latter being construed, depending on one's philosophical preference, either as acts of believing, the mental states of believing, particular instances of the belief relation (hereinafter I am assuming the first), or as episodes of believing. The crucial point is that different people can believe that, say, the grass is green, i.e., the same content; but their beliefs, in the sense explained above, will nevertheless be numerically different because each of them captures that content in a separate belief act or episode.<sup>2</sup>

The second module, SVL, which can be traced to the work of Stalnaker, consists of two main claims. First, it states that the contents of utterances are the same objects as the contents of beliefs, i.e., the same kind of propositions (Stalnaker, 1999c, p. 151). Second, it asserts that a successful piece of linguistic communication follows a general pattern according to which when the speaker has a belief whose content she wants to communicate, she encodes it in an utterance, and if everything goes according to plan, the hearer should be able to decode that very content after receiving and understanding the message (Stalnaker,

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<sup>2</sup> In other words, if belief, understood as one of the propositional attitudes, is a two-place relation between subjects and propositions, then beliefs, as I shall be using the notion here, are, formally speaking, particular ordered pairs being elements of that relation. (There is a further complication involving time that would allow the distinguishing of different belief episodes of the same agent towards the same content, but I am ignoring it here for simplicity).

1999a).<sup>3</sup> When conjoined, the two above claims provide a picture of communication including a single proposition playing three roles: a) of the speaker's content she wants to convey; b) of the content semantically expressed by the utterance utilized by the speaker; and c) of the content the hearer acquires after correctly grasping the utterance.

Overall then, SVC is a grand and ambitious theory claiming the commonality of the contents of speech acts and the contents of beliefs, prescribing of those contents the features of absoluteness and accessibility, and expecting them to play the roles of explaining behavior and agreement, as well as occupying all three slots within the picture of communication.

### 3. The Problem of the *De Se*

Let me start my short presentation of the problem of the *de se* by introducing the aforementioned messy shopper scenario:

I once followed a trail of sugar on a supermarket floor, pushing my cart down the aisle on one side of a tall counter and back the aisle on the other, seeking the shopper with the torn sack to tell him he was making a mess. With each trip around the counter, the trail became thicker. But I seemed unable to catch up. Finally it dawned on me. I was the shopper I was trying to catch. (Perry, 1979, p. 3)

Intuitively, we could describe the belief that the fictional Perry possesses in the first part of the story (i.e., right after he notices the trail of spilled sugar) as a belief *that the messy shopper is making a mess*. At the same time, he seems to acquire some new belief the very moment he realizes that it is “he” who is spilling sugar (let me call this the moment of *epiphany*). It could be pre-theoretically characterized as the belief *that I—John Perry—am making a mess*. Additionally, it is exactly this change in his beliefs that we would like to refer to when explaining the change in the fictional Perry's behavior (like, say, the fact that he stopped following the trail of sugar and rearranged his cart).

The problem caused by this seemingly innocent scenario is that the change in the fictional Perry's mental states that is supposed to happen during the epiphany is surprisingly resilient to analysis within the standard frameworks of contents normally employed by philosophers, such as the possible worlds framework or structured propositions. Roughly speaking, this is so because no matter how we choose to interpret the content of the fictional Perry's beliefs from before and after the epiphany within any of those frameworks, we are either unable to locate the change we are after altogether, or the newly formed epiphanic belief's content lacks the indexical element needed for Perry to be able to use it to guide his behavior. If we allow the belief from before the epiphany to be *de re*, then we arrive at the first of the mentioned problems because the referent of “the messy

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<sup>3</sup> This view can be recreated from Stalnaker's well-known theories of assertion and common ground.



shopper” and “I” is the same. If it is to be analyzed as *de dicto*, then we make room for the change given that the belief following the epiphany is clearly *de re*, but Perry still needs to possess some additional indexical belief reflecting his awareness that Perry is “him”. Without this additional belief, we can easily imagine a case of an amnesiac Perry who is not aware of his identity, and therefore cannot utilize his belief that Perry is making a mess to guide his behavior. This is why the difficulty of capturing the belief contents that would allow us to comprehensively explain behavior is often called the *problem of the essential indexical* or the *de se* problem.

#### 4. Reactions to the *De Se* Problem<sup>4</sup>

The leading version of the most radical reaction to the *de se* problem comes from Lewis (1979) who suggested that the reason for our inability to capture the content of the missing belief newly formed by the fictional Perry after the epiphany is that there are simply too few of them to choose from in the first place. In order to fix this, Lewis suggested that rather than modelling the beliefs as locating the actual world in a set of worlds in which the believed proposition holds, we should think about them as self-ascriptions of properties. It applies straightforwardly to the *de se* problem because now we can say that the property the fictional Perry self-ascribes before the epiphany is that of inhabiting a world in which the messy shopper is making a mess, while the property he self-ascribes after the epiphany is that of inhabiting a world in which he himself is making a mess. This allows us to capture the fine-graininess we are looking for.

These fine-grained contents are typically represented by employing so-called *centered propositions*. The name comes from the fact that the way they differ from standard possible worlds propositions is by possessing an additional parameter of the index of evaluation, namely the individual holding the belief (i.e., the one the belief is *centered* on). This grants the expected result that when the fictional Perry has the first personal belief to the effect that he himself is making a mess, he is locating himself within the individuals who are making a mess in the actual world. Formally, the proposition believed is:

$$(1) \quad \{ \langle w; x \rangle : x \text{ is making a mess in } w \},$$

and is true if and only if its holder (in this case the fictional Perry) is making a mess in  $w$ . Given that Lewis’s position is all about embracing the conclusions about the missing essential indexicality that could be drawn from the messy shopper scenario, and incorporating it into the contents of beliefs, I dub the sup-

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<sup>4</sup> For a wider discussion of some of the views proposed as a result of Perry’s original introduction of the *de se* problem, see Ninan (2016). Also, Kindermann (2016) and Rudnicki (2021) provide some context, especially with regards to how the different positions react to the problem of communication.

porters of this line of thought the *de se enthusiasts*. This camp, alongside Lewis, includes other theorists such as Weber (2013; 2016), Ninan (2010), Torre (2010), and others.

A slightly more conservative reaction to our problem was proposed by theorists that I call here the *de se condoners*. The name comes from the fact that even though they agree that the missing indexicality needs to find its place in order to save the practice of explaining actions, they are reluctant to make room for it within the contents of beliefs by modifying the way we view them. Perry (1979) himself, for example, proposed that we should place the indexicality at the level of what he called *belief states*. Belief states are somewhat similar to Frege's modes of presentation, in the sense that they are ways of believing traditionally construed contents. For example, the content *that (fictional) Perry is making a mess* can be arrived at by the fictional Perry through different belief states and, what is relevant to our case, among potential others are those of *the messy shopper is making a mess* and *I am making a mess*. In other words, in this view the content of the fictional Perry's belief remains constant throughout the scenario, but what does change, and what is supposed to explain the change in his behavior, is his belief state, which, after the epiphany, contains the indexicality we are after. A similar view also appealing to representations rather than contents when explaining behavior was proposed by Ciecierski (2020).<sup>5</sup> Additionally, an interesting version of this approach was presented by García-Carpintero (2016; 2017), who thinks that the indexicality should be located in the reference-fixing linguistic presupposition of the agent that accompanies the thought he expresses with, say, "I am making a mess". The presupposition can be characterized, by a token-reflexive linguistic rule like *the thinker of this thought*.

The last family of views that I want to discuss is that of the *de se* skeptics, according to whom the conclusions to be drawn from the messy shopper kind of cases should not be all that revelatory. They either believe, such as Cappelen and Dever (2013), not only that the standard approach towards contents should remain unchanged, but also that the supposedly missing indexicality does not need to make its way anywhere into the wider picture of beliefs and their representations; or that, like Magidor (2015) (who, for reasons of brevity, I shall leave aside in this paper for the most part), the only thing the scenarios show is the fact, well-enough argued for already, that the standard views of content are insufficient. According to Cappelen and Dever, when explaining the messy shopper's action, we should not appeal either to the contents of his beliefs, nor to the way they are represented alone, but rather to the fact that different actions were available to him before and after the epiphany (Cappelen, Dever, 2013, pp. 49–52).<sup>6</sup> Magidor, on the other hand, believes that solutions like the one proposed by

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<sup>5</sup> As he remarks about the behavior-explaining role of his characters who display a far-reaching level of similarity to Perry's belief states, Kaplan (1989) explicitly states that he could also be treated as a member of the *de se* condoners camp.

<sup>6</sup> To be more precise, it is rather the combination of the agent's believed contents, intentions, and actions available to him that is relevant.

Lewis should be avoided because they do not answer the worries that typical Frege cases pose to the standard views of contents, and therefore, that a theory providing a remedy to both types of problems at one blow is preferred.<sup>7</sup>

### 5. The Reactions vs the Tenets of the Standard View of Contents

This section concludes the stage-setting part of the paper by discussing how the corrections to SVC suggested by the different reactions to the problem of the *de se* impact the five theoretical roles and features attributed to contents by SVC mentioned above: explaining action, explaining agreement, absoluteness, accessibility, and being sufficient to describe communication. (Recall that given that I am not trying to argue for the superiority of SVC, not conforming to any of its tenets should not be understood as an objective weakness of any of the views. Rather, it can be seen as an issue only relative to the actual aim of mine in this paper, which is merely to propose a way of saving SVC).

*De se* enthusiasts do well when it comes to being able to explain actions by referring to contents, which is obviously not surprising, given that their position is, as already explained, purposely designed to do so. Also, they do not run into problems when claiming that the type of contents they propose are universally accessible. After all, the fictional Perry can believe (1) just as well as any other agent (with enough conceptual complexity). The only difference between the situations of (1) being believed by different agents is that this centered proposition will be true or false depending on the situation of every particular of its holders. And this brings us to the fact that *de se* propositions are, by definition, not absolute. If a content's truth value is dependent on anything other than the world, it is relativistic. In this particular case, it is agent-relative.

Furthermore, this view is also notoriously difficult, or perhaps simply impossible, to reconcile with SVL. If we imagine the fictional Perry trying to communicate (1) to Jane, what SVL predicts is that (1) is the content semantically expressed, and also the one acquired by Jane as a result of the successful communication. But this outcome is clearly wrong. On SVL, if Jane were to believe (1), what she would come to believe would be, contrary to expectations, the proposition that is true once she, being the proposition's center now, and not Perry, is making a mess.

By the same token, Lewis-like positions fall into problems when it comes to explaining agreement in the fashion expected by the standards of SVC. When Perry and Jane both share a belief in (1), contrary to SVC's dictum, it does not follow that they really agree on anything substantial. In fact, we could easily imagine Perry believing that Jane is not making a mess, and Jane believing that Perry is not, while still both sharing (1). This seems to miss the intuitive conception of

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<sup>7</sup> One of the alternatives Magidor discusses is treating contents as <proposition; mode of presentation> pairs.

agreement since there is no actual matter they could be convincingly said to agree on. Overall then, the *de se* enthusiasts score on two out of five tenets of SVC.

Let us move on to the *de se* condoners. They definitely do not share the issues with agreement explanation with the enthusiasts. That is because the general view of contents is not modified here when compared to SVC. The same thing can be said about absoluteness. The action explanation tenet is also straightforward to assess. Given that the condoners appeal to belief states or other forms of mental representations in this regard, it is rather a feature (and not even a consequence) of their views that actions, at odds with SVC, are to be explained without referring to contents.

Next, even though, arguably, the positions belonging to this family might have problems with providing a successful account of linguistic communication,<sup>8</sup> at least at the basic declarative level, the standard model of communication is preserved.

The situation is a bit less evident with the last tenet: accessibility. As Perry (1979, p. 19) himself famously wrote, his position implies a *benign form of limited accessibility*. What he means by this is that every existing content is in principle accessible, but not through every possible belief state (representation). So, for example, Jane is able to arrive at the public content that she is making a mess via a first personal belief state, but nobody else is. It is not completely obvious whether this is good enough from the perspective of SVC. Even though the accessibility of contents is maintained by the condoners, their position somehow still feels contradictory to the spirit of SVC. This is mostly because of the natural intuition expressed by Stalnaker (1999b, p. 148) that what the messy shopper kind of case seems to show is that the indexicality we are trying to make room for is essential at the level of information and not representation, i.e., at the level of contents rather than belief states. In other words, Perry's discussion leaves it unclear in what sense his belief states are anything different from contents.

No matter what one thinks the verdict should be here, what is most relevant to my discussion is that there is an obvious tension between the triad of allowing indexicality either at the level of content or representation, absoluteness, and accessibility. Even if we granted the condoners that they abide by the requirement of absoluteness after all, they still fall short with regards to SVC's preferred way of explaining action.<sup>9, 10</sup>

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<sup>8</sup> For example, they lack a straightforward way of explaining the informativeness of utterances such as "It is twelve o'clock now" made at twelve. This seems to be part of a wider problem though, so I will not delve into this issue here.

<sup>9</sup> An anonymous reviewer suggests that I should include a mention of how Perry's later views might align with my classification. This is nicely illustrated by the following quote from the paper of de Ponte, Korta, Perry (2023), which discusses misconceptions about Korta and Perry's doctrine of "Critical Pragmatics" (2011). Their discussion suggests that Perry's views have not undergone any radical changes that would warrant a reclassification:

Perry's views on *Reference and Reflexivity* were a development of his *rejection*, in *The Problem of the Essential Indexical* (1979), of what he called "the doctrine of

Finally, let me very briefly go through the relation between Cappelen and Dever's claims and SVC.<sup>11</sup> As explained above, the only thing they say which could be relevant for our discussion is that in explaining actions we should employ the idea of action inventory. This is also the only place where they seem to come into disagreement with SVC because they strip the contents of their major role in this regard.<sup>12</sup>

Overall then, just as I signaled in the introduction, even though they differ in the extent, every single family of reactions to the *de se* problem shares the common assumption that SVC, as defined here, cannot survive when confronted with the messy shopper cases. Here is where my DBT comes in, claiming that there is a way to put all the pieces of the puzzle together. The following sections are devoted to the presentation, discussion, and development of the two versions of my proposal, as well as, finally, responding to objections to the second version.

## 6. The Double Belief Theory

DBT concedes that the right way to explain the mental change the fictional Perry undergoes during his epiphany is not by appeal to his first-order beliefs. It claims, though, that we are still able to describe the change in his beliefs that occurs at that moment without being forced to abandon any tenets of SVC. The way to do it is by employing a second-order belief. This can be done in two ways, which give rise to the two versions of the view: DBT1 and DBT2. Before the epiphany the content of Perry's belief is the totally typical proposition:

(2)  $\{\langle w \rangle: \text{Perry is making a mess in } w\}$ .<sup>13</sup>

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propositions". This is basically the view that propositions are the objects of the "propositional" attitudes, and that belief, for example, consists in a relation to a proposition. (de Ponte, Korta, Perry, 2023, p. 915)

<sup>10</sup> For a thorough discussion of this tension, see Ninan's (2016, pp. 110–113).

<sup>11</sup> As mentioned above, brevity demands leaving Magidor (2015) to one side. Her main points are mostly negative, but even taking her as actively supporting one of the heterodox views of propositions, we would have to conclude that in relation to SVC she is probably willing to sacrifice most tenets of SVC except for action explanation and, perhaps, absoluteness.

<sup>12</sup> I decided not to include a detailed discussion of Cappelen and Dever's view. This decision was based on two main reasons: firstly, such a discussion would sidetrack the paper's natural flow, as my focus is not on evaluating the success of their view. Secondly, and crucially, the relevant literature already provides exhaustive analyses of their approach. For instance, a critical discussion on the suitability of the action inventory model for its intended purpose is extensively covered in García-Carpintero (2017, pp. 263–268).

<sup>13</sup> As explained before, the pre-epiphanic content can be analyzed as either *de dicto* or *de re*. Even though I take the former to be more natural, at least in the standard version of the story, I decided to assume the latter motivated by the ease and uniformity of presentation that it provides in the remaining parts of the paper. Also, once it is assumed to be *de re*, it makes no difference whether it contains "Perry" or "the messy shopper" in how it is

When the epiphany happens, and he starts thinking to himself “I am making a mess”, the proposition believed does not change. Nevertheless, he gains a new belief. The way to fit the indexicality into the picture, though, is neither by introducing it straight into the referential element of the content (as Lewisian *de se* enthusiasts do), nor into the representation (as the condoners do), but rather into the predicative element (that is itself not indexical!) of the newly believed second-order proposition. Here is also where the two versions of my view start to diverge. Let me begin by discussing DBT1 first. According to DBT1, the content of the second-order belief is about the first-order content (2):

(3)  $\{\langle w \rangle: (2) \text{ is a first personal content in } w\}$ .

In other words, the difference in the contents of the fictional Perry’s beliefs is not to be located at the ground level, but rather at the level of what he takes those contents to be. Note that since we do not want to appeal to centered propositions, we need to say that (2) is believed by Perry throughout the story. What does change is that he first thinks of the content captured by (2) as of some non-first-personal content, and the epiphany causes him to believe that (2) is first personal. Now, we can simply explain Perry’s change in behavior by additionally appealing to his newly formed belief in (3) that he clearly lacked before the epiphany, and the fact that he unchangeably believes (2) throughout the story stops being a problem. Had he not realized the sugar was spilling from his cart, he would not have formed a belief in (3) and in result would not have rearranged his cart.

With such a view we are also doing very well when it comes to conforming to the other tenets of SVC. Agreement is to be explained in the most natural way by simply referring to contents. Nothing changes in this domain once we introduce the second-order contents such as (3). So, once the fictional Perry has a belief he could express with “I am making a mess”, and Jane has a belief about Perry she could express with “He is making a mess”, they are in agreement because they both share the belief in (2).

Note that once we allowed the second-order contents of beliefs into the picture, the fact that both Perry and Jane believe (2) is not enough to predict that they both start behaving in a similar manner, like rearranging their cart or starting to clean up after themselves. That is because as long as Perry believes both (2) and (3), Jane’s belief in (2) is accompanied by (4) (and not [3]):

(4)  $\{\langle w \rangle: (2) \text{ is a third personal content in } w\}$ .

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laid out, since they happen to co-refer. Readers who find this unacceptably unintuitive can think of the version of the story involving Perry before the epiphany seeing himself in the mirror spilling sugar without realizing that he is looking at himself. Here his starting belief is intuitively *de re*.

This difference is decisive to the fact that it is Perry who rearranges his cart while Jane remains careless about hers.

Furthermore, DBT1 keeps the contents absolute. We already saw that (2), obviously, remains so, but the situation with second-order ones is not different. The second-order contents are also not relativized to any other feature of circumstances than worlds. Their truth values depend, as far as DBT1 is concerned, only on the properties of the first-order contents they are about (in fact, for DBT1, they are always false—more on that later).

Analogously, when it comes to accessibility, nothing is changed from SVC's ideal. The first-order contents remain accessible, and the second-order ones do not pose problems either. For example, anyone is able to have the belief that the content of Jane's belief in (2) is third personal (i.e., believe [4]) or that the content of Perry's belief in (2) is first personal (i.e., believe [3]). It should be noted, though, that just as with the communication of such contents discussed below, it is not unreasonable to assume that, forming such second-order beliefs about other peoples' beliefs is probably a relatively rare practice.<sup>14</sup>

Finally, communication works just as expected by SVL, too. First-order contents are, again, beyond any suspicion, but given that the second-order contents are accessible to anyone and absolute, they do not give rise to the problems acquired by Lewisian theories either. Their contents can be, at least in principle, expressed in utterances and transferred to their receivers, even though, arguably, the communicative purposes of doing so are probably close to nonexistent.<sup>15</sup> The most relevant part, then, is that the standard way of thinking about contents stays unchanged and that is what allows SVL, and SVC as a whole, to thrive.

## 7. Problems of DBT1 and the Presentation of DBT2

In this section, I would like to highlight and discuss some potential problems that might be raised against DBT1. First is the most natural worry of unintuitiveness. Yes, I acknowledge the fact that DBT1 is definitely unintuitive. I think that it might be thought of as somewhat analogous to epistemicism in the debate over vagueness.<sup>16</sup> On the one hand, most people see it as pre-theoretically implausible, but, at the same time, the view possesses such theoretical merits, understood as fitting neatly into the wider philosophical landscape, that it should not be dismissed without first being taken seriously.

The unintuitiveness comes from two main directions. First, DBT1 seems psychologically implausible. That people form beliefs with second-order contents (of the sort proposed by DBT1) just does not feel right at all. When I think about

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<sup>14</sup> It seems that it is not that rare in philosophy. This practice seems well-established in analyzing typical cases involving mirrors and agents forming beliefs about themselves without realizing that they are thinking about themselves, and comparing them to ordinary beliefs about oneself.

<sup>15</sup> At least when assuming the standard view of communication.

<sup>16</sup> I borrow the metaphor from García-Carpintero (2017, p. 261).

my belief that Rome is beautiful, there is a sense in which I can almost feel this belief located in my head. On the other hand, when I try to think about myself in a first personal way, it is simply not the case that I see myself as believing that the content of my other belief has the property of being first personal. In other words, something seems to be off here on the phenomenological level. At the same time, this problem becomes significantly less acute when DBT is combined with non-representationalist views of beliefs such as dispositionalism or interpretationalism. But even representationalist frameworks seem to possess tools usable for diminishing problems of this sort. Appealing to implicit beliefs might be one of them, and to believing without accepting another.

Furthermore, one of the main lessons to be drawn from the externalist revolution of the '70s and '80s is that relying on introspection when judging what the contents of our beliefs are is a misleading practice. Even though this analogy is, of course, heavily deficient, it should be nevertheless good enough to mellow the second source of unintuitiveness related to DBT1, which is the fact that Perry's belief that (3) (or Jane's belief that [4]) is, contrary to expectations, false. That is due to the fact that once we stick to the traditional absolute conception of contents, those contents can be neither first nor third personal, etc. In other words, what DBT1 implies is that humans are continuously misled in their practice of belief-forming by some kind of a wrong implicit theory of contents, according to which properties of being first or third personal may correctly describe them.

The question now is whether this fact should disqualify the theory. I think a quick glance at the philosophical literature regarding the nature of contents suggests otherwise. After all, it is only a rhetorical question to ask if the theorists specializing in this topic differ in their conclusions with regards to the nature of beliefs. In other words, no matter which of the available theories of contents turns out to be correct (if any), the proponents of all the views incompatible with it must have been misled, just as laypeople might be, even if the reasons that led them astray might be of a somewhat more theoretical than psychological nature.

But there is also the second (therefore, DBT2) way of fleshing out the details of DBT, and this is the one that I strongly favor over the previous. The first difference is in how the second-order contents are analyzed. As we saw earlier, according to DBT1, the second-order contents concern the contents of the beliefs from the first level. In DBT2, on the other hand, they concern the acts of belief, as explicated at the beginning of the paper. So, if we called the fictional Perry's act of belief in (2)  $B_P$ , and the act of Jane's belief in (2)  $B_J$ , we could characterize the contents of their second-order beliefs thus:

(3\*)  $\{\langle w \rangle: B_P \text{ is a first personal belief in } w\}$ ;

(4\*)  $\{\langle w \rangle: B_J \text{ is a third personal belief in } w\}$ .

The second difference, when compared to DBT1, is that, in the current approach, we claim that the pre-theoretical intuition about the existence of indexical beliefs that emerge from the messy shopper scenario is not solely captured by



the second-ordered contents (as the previous version has it), let alone the first-order ones, but that it is captured by the conglomerate of both. In other words, the fictional Perry's epiphanic belief in (3\*) is true if and only if he believes both (2) and (3\*). This solves the problem very neatly because it seems that, conceptually speaking, it is perfectly sufficient for Perry to believe that Perry is making a mess, together with believing that that belief,  $B_P$ , is first personal, to be truthfully attributed a first personal belief to the effect that he himself is making a mess. In other words, what more could there be to Perry's indexical belief that he is making a mess than for him to believe that Perry is making a mess and think about that belief as first personal? Is not thinking of one's belief in a certain way a plausible explication of that belief being as it is thought of (at least for some class of its potential properties)? For example, somewhat analogously, if I believe that Picasso is the greatest painter, and at some point start thinking (believing) this belief is a thing of the past, is that not equivalent to saying that I used to believe that Picasso was the greatest painter, but I no longer do?

This idea bears similarity to the relation between believing to believe that  $p$  ( $BBp$ ) and believing that  $p$  ( $Bp$ ). Shoemaker (1995) famously argued for the following relation:  $(Bp) \rightarrow (BBp)$ ; but he suggested that  $(BBp) \rightarrow (Bp)$  might be true, also. Baumann (2017) argued for the latter at more length, too.<sup>17</sup> The basic idea here is that once one has a second-order belief that one believes that  $p$ , there is a clear sense in which one must be aware of the question of whether  $p$  is true. And if so, then it is natural to think that one must have the disposition to answer such a question in the positive—which is essentially equivalent to believing  $p$ —once one already believes that one believes that  $p$  is true. Additionally, once one believes that one believes that  $p$ , one will be disposed to use  $p$  in motivating one's behavior, reasoning, etc. But this is exactly what a person believing  $p$  would be disposed to do too. These considerations are also connected to Moore's paradox, since they provide an interpretation for why utterances of and beliefs that  $p$  but *I do not believe that  $p$*  are infelicitous by explicating the interesting relation between believing that  $p$  and believing that one believes that  $p$ , hinted at above.

These ideas provide perfect insight into the crux of DBT2. If we think about the fictional Perry's belief that (3\*), the fact that he holds it means that there is a sense in which he is aware of the question of whether his  $B_P$  is first personal or not. Given that he believes it to be (as his belief in [3\*] states), it means that he will be disposed to behave (and reason) just as if  $B_P$  were indeed first personal (i.e., rearrange his cart). And again, just as in the case of  $BBp$  above, this is essentially the same as having a first personal belief whose content is still (2). This result is, of course, not available unless Perry forms a belief that (3\*) in addition

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<sup>17</sup> The explication of my idea along these lines is indebted to the two mentioned papers. Also, for the offered way of thinking to be useful for my purposes, the latter rule need not be completely universal. Its plausibility for a wide range of contents is perfectly enough for me. In other words, I do not need to assume the controversial claim that there are no counterexamples to it.

to the one that (2). Note also, that *I believe that  $B_P$  is first personal, but it is not*, as potentially uttered or believed by Perry, is problematic in a similar way that typical incarnations of Moore's paradox are (or simply a version of it, depending on how exactly it is to be defined).

Overall then, there seems to be a class of properties of beliefs, such as whether they are believed at all (as the rule " $BBp \rightarrow Bp$ " suggests),<sup>18</sup> or whether they are first personal, or perhaps whether they are a thing of the past (as my previous Picasso example suggested) that might be imposed on them from above, in the sense of trickling down from the contents of one's second-order beliefs. Note too that this kind of solution is not available for DBT1, since at least some aspects of contents of first-order beliefs cannot be so modified. Specifically, given that we are working here with the SVC framework according to which there are no first personal contents, one cannot simply impose the first-personality on the content of first-order beliefs from above.<sup>19</sup>

So, if we assumed for illustrative purposes that the so-called PRO reports do, in fact, capture the essence of the contrast between *de se* beliefs and other forms of *de re* beliefs, the idea behind the currently discussed solution could be presented in the following way.

- (5) I believed PRO to be making a mess.
- (6) I believed I was making a mess.

If we think about the truth conditions of (5) as uttered by the fictional Perry, it seems that it is true only when Perry had a first personal belief attributing the property of making a mess to himself. At the same time, (6) would also be true if Perry saw himself making a mess in the mirror without realizing at the time (but only later) that the person he is looking at is in fact him. For the report expressed in (6) to be true, then, it is enough that Perry believed (2). But for (5) this is not enough: it becomes true only once Perry, additionally, forms a belief in (3\*) during the epiphany. What is very interesting about his belief that (3\*) is that once the belief that (2) is already in place, (3\*) becomes true simply by virtue of its being believed. That is because it is the whole consisting of (2) and (3\*) that makes (3\*) true. Or to put in the mentioned terms, the belief that (3\*) imposes on the belief that (2) from above the very property of being first-personal that makes (3\*) true.

On the other hand, had Perry not seen the trail of sugar at all and had he not formed (2), he could not be judged to have a first personal belief to the effect that

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<sup>18</sup> By this I mean a situation in which at some point I form a belief that I believe that  $p$  without ever forming a belief that  $p$  before. This way, given the rule, I have formed the latter once I have formed the former.

<sup>19</sup> Other restrictions would probably involve typical cases motivating externalism. Once I have a belief about XYZ-water, the fact that I believe that belief to be about H<sub>2</sub>O-water arguably cannot change its being about XYZ-water.

he is making a mess, even if (for whatever reason) he was to form the belief in something like (3\*) (i.e., some similar proposition but not about  $B_p$  that would not exist). This is another way of saying that both (2) and (3\*) are separately necessary and jointly sufficient for (3\*) to be true (and for [5] to be a true belief report).

The other thing to notice is that the view is not threatened by the philosophers' favorite cases of amnesiacs or people falsely believing themselves to be eighteenth-century Scottish Enlightenment philosophers. If we imagine the crazy Heimson, who believes himself to be Hume, buying groceries and finding himself in a messy shopper situation, the constant belief he holds during the whole scenario is *that Heimson is making a mess* (it is at first expressed by "the messy shopper is making a mess" and after the epiphany by "I am making a mess"), and the one he forms as the result of the epiphany will, again, be a version of (3\*). This is enough to attribute to him the indexical belief to the effect that he himself is making a mess, and to explain why he stops and rearranges his cart. This also provides evidence that the combination of the two aforementioned contents really is all there is to indexical beliefs. If the combination was not good enough, one would expect that the fact that Heimson believes himself to be somebody other than who he actually is could somehow get in the way.

The whole situation is totally analogous to Jane and her third personal belief about Perry. She does have the indexical belief about him only once she believes both (2) and (4\*). And again, once (2) is in place, (4\*) is self-veridical in the sense that it is enough for its own truth. Overall, then, (2) and (4\*) are both necessary and jointly sufficient for the truth of (4\*).

Even in this version of the view, we are able to maintain all the theoretical tenets of SVC. We explain Perry's action thanks to his newly formed (3\*) which, this time, as explained above, is a true belief. The agreement between Perry and Jane is explained by appealing to (2) which they both believe to be true. All of (2), (3\*), and (4\*) are absolute since their truth depends only on worlds. With regards to linguistic communication, nothing has changed since the previous discussion of DBT1.

And, finally, the interesting result is that not only are all of (2), (3\*), and (4\*) accessible, but that their combinations are accessible, too (which should not be surprising given the first fact, but is still an interesting result, nevertheless). This means that Jane can, in principle, believe in a first personal way that Perry is making a mess once she believes (2) and (3\*). But this is only in semantic or metaphysical principle. In reality, Jane cannot believe the exact same content captured by (3\*) because this is a *de re* second-order belief about Perry's belief  $B_p$ . I think it is totally reasonable to claim that beliefs, as some type of mental acts or entities, are available for thinking about in the *de re* fashion only to their holders, just as, say, qualitative mental states, such as pain, are. The important thing to note though is that the impossibility of Jane's having the *de re* belief about Perry's belief  $B_p$  is not of metaphysical or semantic, but epistemological. She is simply not properly related to that belief (or acquainted with it, to use the more classic notion) in order to be able to have the *de re* belief about it. In other

words, my view assumes a non-liberal view of singular thought, i.e., one requiring some form of acquaintance with potential objects of such thoughts. In this particular case, the acquaintance with the object of the second-order belief would be provided by introspection, just as it is typically conceived for qualitative states, such as pain.<sup>20</sup> I do not want to commit myself here to any particular theory of belief introspection, but for example, one could think of ascribing to them particular phenomenology. What needs to be stressed, though, is that the phenomenology of any belief cannot itself be of perspectival (especially first personal) nature since it would yield such beliefs non-accessible for strong semantic and metaphysical reasons, as I have called them, and not for purely epistemological ones. Finally, the claim here again is not the highly implausible one that one cannot have *de re* thoughts about what other people are thinking, i.e., about the contents of other people's beliefs. My view states precisely that one cannot have a *de re* belief about another person's particular belief, understood as an act of believing, located in another person's brain.

Note also that the merely epistemic barrier separating, say Jane, from having Perry's *de se* belief, is enough to solve the problem posed by Perry (2006) (this time the philosopher, not the messy shopper character) in his discussion of Stalnaker's (1999b) diagonal proposition view. In short, the problem is that if the content(s) proposed as the analysis of *de se* attitudes can be believed not only by agents undergoing such attitudes but also by those who are not, such an analysis has to be incorrect. My view is not endangered by this worry because the epistemic acquaintance requirement is enough to make the antecedent of the conditional in the previous sentence false.<sup>21</sup>

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<sup>20</sup> These considerations are partially motivated by the alleged possibility of reading one's acts of believing from, say, a future advanced EEG machine. I would like to thank an anonymous referee for raising this issue.

<sup>21</sup> This might be the right place to consider a suggestion from one of the reviewers regarding a comparison of my proposed view with that of García-Carpintero (2016; 2017). There are notable similarities between our views, especially evident in García-Carpintero's description:

When the shopper makes the epiphanic judgment that his acceptance of "I am making a mess" expresses, he is on this view judging a singular content, *x* is making a mess, with him assigned to *x*, and he is presupposing (in the indicated sense, i.e., as a background belief of his, relevant for the epistemic evaluation of the judgment) another singular proposition about him, to the effect that he meets that condition. (2017, pp. 271–272)

However, García-Carpintero's analysis of the second type of content as token-reflexive differs significantly from my approach, which revolves around second-order beliefs about acts of believing. This difference leads to divergent consequences. In particular, García-Carpintero's view inherits from Perry's (1979) the same kind of "indexical" limited accessibility of the semantic or metaphysical sort (2016, p. 194) which contrasts with that of the epistemological sort stemming from my proposal. Additionally, García-Carpintero explicitly states that his position does not align with SVL (2016, p. 195).

There is one more result brought out by this version of the view that I would like to discuss. Going back to the mad Heimson, Lewis (1979, pp. 524–526) argues that Heimson and Hume should be considered as believing the same thing when they both believe themselves to be Hume, even though, there is a sense in which they do not believe alike. The standard, intuitive reaction, and especially typical of the perspective of SVC that we are interested in here, is that Lewis gets this the wrong way round. Heimson and Hume do not believe alike, even though, there is a sense in which they do. This fact gets captured very neatly by the version of my view under discussion here. The non-existence of agreement is explained by the fact that there is no relevant believed content that Heimson and Hume share:

- (7)  $\{\langle w \rangle$ : Hume is identical to Hume in  $w\}$ ,
- (8)  $\{\langle w \rangle$ : Heimson is identical to Hume in  $w\}$ ,
- (9)  $\{\langle w \rangle$ :  $B_{\text{HU}}$  is a first personal belief in  $w\}$ ,
- (10)  $\{\langle w \rangle$ :  $B_{\text{HE}}$  is a first personal belief in  $w\}$ .

The relevant contents of the beliefs of Hume are expressed by (7) and (9), and of Heimson by (8) and (10). These two combinations of believed contents are enough to ascribe to them both the indexical, first personal belief to the effect that they are identical to Hume, even though, as we just saw, they do not share beliefs in any relevant contents. This way, we have the best of both worlds because we are able to explain the non-existence of agreement between them while also being able to provide some explanation for that *sense* in which there is something common about their mental states. Both pairs of believed contents (7) and (9), and (8) and (10), are enough for both Hume and Heimson to be able to truthfully self-ascribe (11):

- (11) I believe PRO to be (identical to) Hume.

The difference between their distinct, but nevertheless similar, first personal beliefs that they are Hume is that Hume's belief to that effect is true and Heimson's is false, because they track the truth values of (7) and (8) respectively. The mentioned similarity explains also why they are both disposed to behave in a Hume-like manner, i.e., react to the name "David", claim that they wrote the *Treatise*, and so on.

To sum up, according to DBT2, the mistake that all three types of views available in the literature made was that in searching for the missing indexicality, they assumed that it must be located within a single content. This assumption combined with the inability to find such contents forced the *de se* enthusiasts to propose the new kind of contents that are able to singlehandedly be indexical, and the other two positions either to appeal to representations, or to abandon the search for the indexicality and to become skeptics with regards to its value. My

view, on the other hand, dismisses this assumption and seems to be able to maintain all the relevant features of ordinary contents, as well as capture those of the allegedly indexical ones that turned out not to be that different from them.

### 8. Addressing Worries

In this section, I would like to address two *prima facie* problems of DBT2. The first is that similarly to DBT1, DBT2 is simply implausible when it attributes the second-order beliefs about beliefs to agents possessing *de se* attitudes. In other words, it seems unlikely that people form beliefs about their own beliefs on a regular basis, let alone attribute to those beliefs any perspectival properties.

The simplest answer on my part—and the one I briefly suggested when discussing the shortcomings of DBT1—would simply be to appeal to more instrumentalist approaches to belief<sup>22</sup> such as dispositionalism or interpretationism, or to tools available even to a representationalist, such as implicit beliefs or believing without accepting. But we can also offer the following justification. First of all, notice that there is a significant difference between saying that a belief like (3\*) is unlikely to be explicitly held by anyone (we could think of explicitly holding a belief as, e.g., mentally verbalizing its content, because something along these lines seems to be assumed in the worry), and that it would be implausible to ascribe a belief of this sort to someone. Even though I concede the first, the second claim seems unmotivated or perhaps even question-begging to me.

The next thing to note here is that the practice of attributing beliefs to subjects quite surely incapable of holding them in an explicit fashion (e.g., because of conceptual deficiencies or even more so simply because of lack of language), like non-human animals and human infants, is perfectly acceptable not only in everyday speech but also in scientific disciplines of comparative and developmental psychology, let alone philosophy. Even more importantly, the same is also true with regards to attributing beliefs to adult human beings, second-order beliefs included. Think for example about the phenomenon of cognitive dissonance,<sup>23</sup> i.e., a situation of conflicting beliefs (or attitudes more broadly; it may also involve an attitude-behavior combination), say  $B_1$  and  $B_2$ , causing a particular feeling of psychological discomfort. A very natural way of analyzing the cognitive state of an agent undergoing an episode of cognitive dissonance is by conceptualizing the feeling of discomfort as (or at least as phenomenally tied to) the second-order realization/belief to the effect that the two first-order beliefs,

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<sup>22</sup> An anonymous referee suggested that reading my proposed view through instrumentalist lines might be the most plausible approach. I concur with this perspective. Indeed, I view the debate on the contents of indexical beliefs as fundamentally revolving around the selection of a preferable conceptual scheme. Regrettably, a thorough argument in support of this understanding exceeds the scope of this paper and would necessitate a separate, dedicated discussion.

<sup>23</sup> Festinger (1957) is the *locus classicus* on the subject.

$B_1$  and  $B_2$ , are in conflict,<sup>24</sup> even though it seems unlikely that people in described situations in fact explicitly think to themselves anything of this sort. I am not trying to suggest that this analysis has to be materially true. The point is rather that nobody would be willing to dismiss it simply on the grounds that it posits an *implausible second-order belief* attributing the relation of being in conflict to two first-order beliefs. And if we are willing (and rightly so) to allow this much theoretical room to the mentioned reconstruction of cognitive dissonance, I see no reasons why my theory of *de se* attitudes, DBT2, should be held to a stricter standard.

The second worry is that DBT2 is incredible because it analyzes *de se* attitudes in a way that precludes certain subjects that do not have a theory of mind (i.e., the capacity to attribute mental states) from having such attitudes, even though intuitively they are capable of first personal thought. Such subjects might include certain animals and young humans, roughly before the age of 4 (which is when it is normally thought theory of mind is acquired).

Even though I can understand where the worry is coming from, it has to be noted that things are not that straightforward. The argument presupposes at least three (but in fact more) things: that we have a decent idea of which animals are capable of first personal thought, that we have a decent idea of which animals have a theory of mind, that the former class is not contained in the latter, and that my view necessarily requires the possessors of the former quality to have the latter. I think all of these presuppositions are at least questionable (additionally, the worry presupposes also that we have an *intuitive* grasp of what belongs to the class of first personal thinkers—this one I take not only to be questionable but clearly false).

First is the conceptual problem: it is not at all clear what “being capable of first personal thought” exactly means. Arguably, this faculty requires more than just being capable of self-referencing, i.e., of comparing one’s phenotype against that of other subjects. This would clearly overgenerate because even some brainless creatures, like plants, can do that. Does it, then, take full-bodied self-consciousness (see Bekoff, Sherman, 2004 for a succinct discussion of related issues)? Here we are at risk of undergenerating since the typical methods of assessing self-consciousness, like the mirror test, turn out to be notoriously too difficult for many species of relatively intelligent animals.

But even if we assume that self-consciousness is the correct explication of the relevant capability—and here we get to the second, methodological, problem with the first presupposition—the mentioned methods of assessing self-consciousness are far from conclusive. It has often been raised that they are prone to yielding false negatives, for example, because of the tendency in some animals, like gorillas, to avoid eye contact (Shillito, Gallup, Beck, 1999). But

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<sup>24</sup> Note that the sole fact of having two beliefs whose contents are in conflict is not enough to trigger the mechanism (think of Kripke’s [1979] Pierre who at the same time believes that London is pretty and that it is not pretty). This suggests that the analysis in terms of the second-order state is in place.

there are also reasons to worry about false positives since it is possible that some animals may pass the mirror test thanks only to the awareness of their body and not necessarily to full-blown self-consciousness (e.g., Heyes, 1994). Overall, I think it is fair to say that we are not even close to having the roughest of ideas about which animals are capable of first personal thought, and the abovementioned reasons for that are probably only the tip of the iceberg as to why.

Similar issues arise for the experimental results with regards to the second presupposition, i.e., our understanding of animals' and young humans' theory of mind. For example, there is significant evidence that chimpanzees acquire information about what their conspecifics see, but it is far from clear whether this finding should be described in terms of their reasoning about the mental states of the conspecifics or only about their behavior (e.g., Povinelli, Vonk, 2004; Tomasello, Call, 2006 for the differing approaches and discussion). In other words, just as in the case of first personal thoughts, we lack good orientation with regards to which creatures have a theory of mind, too.

Finally, there is nothing certain about the claim that my theory requires the agent undergoing a *de se* attitude to have a full-blown theory of mind, either. For example, there is a good amount of evidence that human infants at the age of roughly 12–24 months develop the potential for what is sometimes called *shared intentionality*, i.e., become capable of knowing what other people see and *intend*, can understand the idea of basic communicative common ground, etc. This is all well before the age when humans acquire theory of mind (which is at 4), and I cannot see why we would have to stipulate that a lot more than shared intentionality is needed to felicitously ascribe beliefs like (3\*) to such subjects, especially given that in order to understand the idea of common ground one presumably needs at least some rudimentary level of understanding of perspective. Furthermore, some psychologists claim that theory of mind and shared intentionality are parts of the same developmental pathway and that it is the acquiring of the latter that should be taken as the “big leap”. This suggests that the difference between the two sets of skills might be one of degree rather than of type (Tomasello, Rakoczy, 2003).

To conclude, all three claims presupposed in the worry under discussion—that we have a decent idea of which animals are capable of first personal thoughts, that we have a decent idea of which animals have a theory of mind, and that my view requires the subjects undergoing *de se* thoughts to have a theory of mind—are doubtful, to say the least. This shows that the alleged intuitive data that the worry rests upon is not really data at all. The issues of self-consciousness and theory of mind in animals and young humans are very messy in every possible respect: empirical, conceptual, and methodological. For the time being, these cases are far from settled, and arguments like the one under discussion here cannot be used conclusively against DBT2.



## 9. Conclusions

In this paper, after introducing the problem the indexical attitudes pose to the standard view of contents, understood as a list of particular theoretical commitments, I argued that, contrary to the common assumption made by all parties reacting to that problem, we are not forced to abandon the standard view. It can be saved once it is realized that we are not limited to first-order contents when approaching the challenge. As I have shown above, the second-order contents attributing indexicality to first-order beliefs can perfectly well explain action in scenarios like the messy shopper while also retaining all the other crucial tenets of the standard view of contents.

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