On the Nature of Indexical Beliefs

by

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Defended on August 23, 2018

A dissertation submitted to the
Faculty of the Graduate School of
the University at Buffalo, State University of New York
in partial fulfillment of the requirements for the
degree of
Doctor of Philosophy

Department of Philosophy
Dedication and Acknowledgments

This dissertation is dedicated to my parents, Hector and Noemi; siblings, Penny and Dario, and my better half, Kendra Webber. This dissertation would not have been possible without your tireless love and support, especially yours Kendra. Special thanks to my committee, David Braun (Chair), John Kearns and Lewis Powell. Your seminars, works and guidance have been essential in making me a better philosopher and teacher of philosophy. For that I will always be grateful. I would also like to thank Matthew Davidson, Tony Roy, John Beverley, Michael Gifford, Harjeet Parmar and Yonatan Schreiber. Your comments and feedback on my work, and discussions on indexicals and related issues have made this dissertation substantially better. Finally, thanks to Natalie Adame, Danny Kono, and Rich and Cat Lenke. You made graduate school possible.
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Abstract

The special challenge posed by indexical beliefs was first brought to light by Hector-Neri Castañeda (1966), and later developed by John Perry (1979) and David Lewis (1979). Indexical beliefs are states of believing something that would most naturally be expressed using a sentence containing an indexical term. Interest over indexical beliefs dwindled in the late 90s and early 2000s. However, over the last few years there has been a resurgent interest in the topic of indexical beliefs, particularly as it relates to the problem of indexical communication. This is the problem of trying to explain how we successfully communicate our indexical beliefs to others.

In this dissertation, I argue that the best way to make sense of indexical communication is by characterizing indexical beliefs along the lines of John Perry’s (1979, 2001) account. At the core of his account lies a distinction between the content of a belief, which is identified as a singular proposition, and the belief state in virtue of which the agent believes said singular proposition. I argue that this approach not only provides an adequate characterization of indexical beliefs, but it is also compatible with a standard and intuitive model of communication. This is a model of communication in which successful communication consist of the transmission of belief content from a speaker to a hearer via a sentence that expresses the speaker’s belief content.

I begin the dissertation by introducing and motivating the problems of indexical beliefs and indexical communication. I argue that an adequate theory of indexical beliefs should be consistent with an intuitive explanation of how we successfully communicate our indexical beliefs to others. I then move on to argue that theories of belief in the Fregean and Lewisian traditions face difficulties in providing an intuitive and appealing
account of how indexical beliefs are communicated. I then move to argue that the source of these difficulties comes from the fact that Fregeans and Lewisians are committed to characterizing indexical beliefs with something like a distinctly indexical content. I show that by giving up this commitment, and adopting Perry’s distinction, we can adequately characterize indexical beliefs without resorting to something like a distinctly indexical content, while at the same time having a theory that is compatible with a standard model of communication. I end by developing a model of communication that accommodates Perry’s characterization of indexical beliefs by building on the standard model of communication.
CHAPTER ONE

The Challenges of Indexical Belief

§0: Introduction

We begin this chapter with a quick exposition of basic concepts that include: indexical expressions, propositions and propositional attitudes. This, will help us understand the traditional problem of indexical or de se beliefs. After looking at this problem, we move to explore a variation of the problem which has come to be known as the problem of indexical or de se communication. I end the chapter by arguing that an adequate characterization of indexical beliefs must also explain how one is able to communicate one’s indexical beliefs to others.

§1: Indexical Expressions

We will begin this chapter by first looking at indexical expressions in order to have a clear understanding of what they are and how they function. Indexicals are linguistic expressions that have been characterized as varying in semantic content and reference from context to context. The semantic content of a linguistic expression is the thing that is expressed (what is said) at a context by the linguistic expression. The semantic content expressed by these linguistic expressions is going to depend on the

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1 Sometimes philosophers will merely characterize indexicals as expressions that vary in reference from context to context. However, one should also add that they vary in semantic content from context to context. This is important because some expressions, which are not considered indexicals, may change reference from context to context, but not semantic content. Take general terms like ‘Cat’ or ‘Dog’. Their extension will change throughout time without affecting what they semantically express.
theory of content one adopts. We will say more about different characterizations of content throughout the dissertation.

One important question surrounding the topic of indexicals in the philosophy of language has to do with determining which linguistic expressions can be considered indexical expressions. For example, some maintain that the verb ‘know’ is amongst the expressions that are considered indexical expressions. Other examples include gradable adjectives like ‘smooth’, ‘fast’, ‘tall’ and predicates of personal taste such as ‘delicious’ or ‘spicy’. In this dissertation we will not concern ourselves with settling this issue. Determining whether these expressions are genuine indexical expressions is a contentious matter that merits its own analysis, and one that would take us far beyond the scope of this dissertation. However, one thing we can say for certain about indexicals is that context-sensitivity seems to at least be a necessary condition of indexical expressions. That is, if an expression \( e \) is an indexical, then \( e \) must be able to vary in semantic content and reference from context to context. Unlike other linguistic expressions, context-sensitivity is built into the linguistic meaning of indexical expressions (Perry, 1977 p. 6). In order to determine their semantic content and reference, indexicals must be placed at a context.

In this dissertation we will focus on paradigmatic examples of indexicals. This is a list of indexicals that we acquire from David Kaplan’s “Demonstratives” (1989). Amongst the type of expressions included in the list are personal pronouns like ‘I’, ‘you’,
‘he’, ‘she’, adverbs like ‘here’, ‘now’, ‘today’, ‘yesterday’ and demonstrative pronouns like ‘this’ and ‘that’. This is by no means meant to be an exhaustive list of all indexical expressions, however, Kaplan’s list includes expressions which have been more or less acknowledged as examples of genuine indexical expressions. Furthermore, focusing on Kaplan’s list can perhaps help us avoid debates that surround other alleged indexical expressions like those mentioned above.

Also, in following Kaplan (1989) we will make a distinction between what he calls true demonstratives and pure indexicals. However, it is important to note that not everyone acknowledges this distinction, and that this distinction doesn’t apply to every indexical expression. Demonstratives are those indexical expressions that require a directing intention, or an associated demonstration, or something else, in order to determine the referent (i.e. a ‘demonstratum’) of the demonstrative expression in a context. Supplementing a demonstrative expression with something else in order to determine its reference is required because the linguistic meaning of the expression alone is not sufficient to determine the reference of the expression. Examples of demonstrative expressions include ‘this’, ‘that’, ‘he’, ‘she’ and ‘it’. On the other hand, indexicals do not require an associated demonstration or directing intention to determine the content and referent of the expression. The linguistic meaning of an indexical expression at a context is sufficient to determine the referent. Some examples of indexical expressions include ‘I’, ‘here’, ‘now’, ‘today’, ‘tomorrow’ and ‘yesterday’.

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4 Hereafter I will only refer to ‘true demonstratives’ as ‘demonstratives.’
5 Hereafter I will only refer to ‘pure indexicals’ as ‘indexicals.’
6 For a rejection of this distinction see Quentin Smith’s (1989).
7 Kaplan does explicitly mention that the expression ‘here’ can have both a demonstrative use and an indexical use. For example, ‘here’ has an indexical use when it comes to sentences like “I am here”. But it can also have a demonstrative use when used in the sentence “In two weeks, I
We now move on to sentences containing indexicals, which we will refer to as *indexical sentences*. Consider the following example: suppose Emmanuelle and Frederick utter the indexical sentence “I own an old movie theater in Paris.” In each of their respective contexts that sentence will express different semantic contents. When Emmanuelle utters “I own an old movie theater in Paris” she expresses the content that *Emmanuelle owns an old movie theater in Paris*. When Frederick utters the same sentence he expresses the content that *Frederick owns an old movie theater in Paris*. But now suppose that Emmanuelle and Frederick utter the non-indexical sentence “Emmanuelle owns an old movie theater in Paris.” Regardless of who utters the sentence, it seems clear that the same semantic content will be expressed, namely that *Emmanuelle owns an old movie theater in Paris*.

Sentences that have indexical expressions as constituents exhibit some interesting features that are not present in non-indexical sentences. One of these features is that when two individuals utter the same indexical sentence, that sentence can come to have distinct truth-values at different contexts. For example, suppose that Emmanuelle in fact owns a movie theater in Paris and Frederick does not. It would follow that when Emmanuelle utters “I own an old movie theater in Paris” she would be saying something true. But if Frederick were to utter the same sentence he would be saying something false. However, this phenomenon does not seem to occur when we consider non-indexical sentences. Suppose that both Emmanuelle and Frederick utter “Emmanuelle owns an old movie

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8 I am ignoring issues about the truth-value of a sentence over time.
theater in Paris.” It is clear that they would both be saying something true, irrespective of their context.

Another feature indexical sentences exhibit is that an indexical sentence and its negation don’t necessarily lead to a contradiction. For example, suppose that Emmanuelle utters “Emmanuelle owns an old movie theater in Paris” and Frederick utters “Emmanuelle does not own an old movie theater in Paris”. It seems clear that if ‘Emmanuelle’ is used to refer to the same individual, both sentences would be contradictory given that they say contradictory things about the same individual. But now suppose that Emmanuelle utters “I own an old movie theater in Paris” and Frederick utters “I do not own an old movie theater in Paris.” Given that the referent of the indexical ‘I’ depends on who is using it, the sentences that Emmanuelle and Frederick utter are not saying different things about the same individual, but about different individuals.

§2: Beliefs

By an *indexical belief*, I mean a state of believing something that would most naturally be expressed using an indexical sentence. For example, if I believe that I am in Los Angeles, I would express this by saying “I am in Los Angeles,” rather than saying “Hector is in Los Angeles.” We contrast indexical beliefs with non-indexical beliefs. By a *non-indexical belief*, I mean a state of believing something that would most naturally be expressed by using a sentence that does not contain an indexical term. For example, suppose I am having a conversation over the phone with a friend who happens to be in Mexico City, and said friend wants to know what city the Lakers play in. I would express
this by saying “The Lakers play in Los Angeles,” rather than “The Lakers play here” (assuming she doesn’t know I am in Los Angeles at the moment).

§2.1: Propositions

Propositions are theoretical entities used by philosophers to explain a wide range of phenomena (e.g. linguistic, cognitive, logical). Traditionally, propositions have been said to play specific roles that allow philosophers to explain all those phenomena. We have hinted at some of these roles already, but we will make them explicit in this section.

Propositions have been said to be the semantic content of declarative sentences (i.e. the thing that is expressed by a declarative sentence at a context). A sentence at a context expresses at least\(^9\) one proposition. For example, if \(S\) is a declarative sentence and \(p\) is what is said or expressed by \(S\) at a context \(c\), then \(p\) is the semantic content of \(S\) at \(c\).

Propositions have also been said to be the primary bearers of truth and falsity. According to this picture, a sentence \(S\) is not true or false in and of itself, but rather in virtue of the proposition expressed by \(S\) being true or false. That is, a sentence \(S\) is true at a context \(c\) iff the proposition \(p\), that is expressed by \(S\) at context \(c\), is true. In addition, it has been traditionally maintained that propositions possess an absolute truth-value. That is, the truth-value of a proposition holds for everyone, throughout all times and places. In other words, the truth-value of a proposition can vary at most from world to world, but remains constant relative to individual, time and location parameters within a world. If a

\(^9\) Some philosophers have argued that in cases in which a sentence has a vacuous term as a constituent, such as ‘Vulcan’ in the sentence “Vulcan is the planet between Mercury and the Sun,” no proposition has been expressed. Other philosophers, such as John Perry (2001), argue that even in cases where sentences contain vacuous terms, some propositions are expressed. In this dissertation we will ignore issues surrounding so called vacuous terms, and issues having to do with propositions expressed (or not expressed) by sentences containing such terms.
sentence $S$ changes truth-values from context $c_1$ in $w$ to $c_2$ in $w$, then the proposition expressed by $S$ at $c_1$ in $w$ is different than the proposition expressed by $S$ at $c_2$ in $w$.

Propositions are also said to be entities denoted by that-clauses. When we want to report the content of someone’s belief or utterance, we usually say something like “A said/believes that $S$” where “that $S$” is used to denote the proposition expressed by $S$. Finally, and perhaps most important for the purposes of this project, propositions are said to be the objects of agents’ cognitive attitudes. If we let $p$ be a proposition and $A$ an agent, $A$ could be said to believe $p$, desire $p$ or hope $p$. To say that an agent $A$ believes $p$ is for $p$ to be the object of $A$’s cognitive attitude.

It is a contentious matter whether there could really be a single entity that plays all of the roles mentioned above. In fact, David Lewis (1986, p. 54-55) thought that the idea of such an entity playing all of these roles was dubious. As we will see throughout the dissertation, some of the views that we will be discussing reject some of these features in order to make sense of indexical beliefs and indexical communication. But for the time being, we will be stipulating the existence of propositions and the sorts of roles they have traditionally been said to play in order to see the problem that indexical beliefs pose for philosophers.

§2.2: Propositional Attitudes

A propositional attitude is a psychological or linguistic relation a person bears toward a proposition. We report these relations by using attitude verbs such as ‘fears’, ‘hopes,’ ‘imagines’ ‘asserts’ or ‘believes’. These attitude verbs express the relation a subject is said to bear toward a proposition. For example, consider the following sentences:
(1) Hans Landa believes that the Americans will defeat the Germans.

(2) Hans Landa fears that the Americans will defeat the Germans.

(3) Emmanuelle believes that the Americans will defeat the Germans.

According to the propositional attitudes account, an individual can bear different attitudes toward the same proposition. For example, sentences (1) and (2) express the fact that Hans Landa bears different attitudes toward the proposition that the Americans will defeat the Germans. Sentence (1) states that Landa bears the belief relation to the proposition that the Americans will defeat the Germans. Whereas sentence (2) states that he bears the fear relation to the same proposition. In addition, according to the propositional attitudes account, multiple individuals can bear the same, or different types, of attitudes toward the exact same proposition. Thus, as expressed by sentences (1) and (3), both Landa and Emmanuelle can stand in the belief relation to the proposition that the Americans will defeat the Germans.

From these comments we are able to establish what has come to be a traditional account of belief. We shall refer to this traditional account as the Traditional View of Belief or TVB for brevity. TVB, as we will present it here\(^{10}\), is composed of the following two elements:

(I) \textit{Dyadic Relation:} The verb ‘believe’ expresses a two-place belief relation between an agent and a proposition.

(II) \textit{Invariant Truth-Value:} The proposition to which an agent bears the belief relation to has an invariant truth-value.

\(^{10}\) Perry calls this view ‘The Doctrine of Propositions.’ He adds a third element to this doctrine. The third element is a way of individuating propositions. He writes that if sentences S and S’ express the same proposition, then necessarily they have the same truth-value. However, if they do not have the same truth-value, then S and S’ do not express the same proposition. See Perry (1979).
We will use these two elements to characterize TVB in the following way:

\[
TVB_{\text{def}} = \text{An agent } A \text{ believes that } S \text{ iff } A \text{ stands in the belief relation to the proposition } p \text{ denoted by ‘that } S,\text{’ and } p \text{ has an invariant truth-value.}
\]

TVB appears to provide an elegant account of belief. However, as we will see in the following section, TVB appears to be insufficient to adequately characterize indexical beliefs.

§3: The Problem of Indexical Beliefs

In the late 1970s John Perry (1979) presented a series of cases\(^{11}\) that attempt to demonstrate that TVB is not sufficient to characterize indexical beliefs.\(^{12}\) Here are some of the cases;

*The Messy Shopper:*
John Perry is shopping at a Safeway supermarket. He sees a trail of sugar on the floor and decides to follow it with the intent of letting the shopper with the torn sugar sack know that he is making a mess. At this point, Perry sees the reflection of a man in the mirror with a torn sugar sack. Perry forms the belief which he expresses by uttering “He is making a mess.” Unbeknownst to Perry the man who he sees in the mirror is himself. It is only when he realizes that he is the individual with the torn sugar sack making the mess that he forms the belief which causes him to utter “I am making a mess.”

*Lingens the Amnesiac\(^{13}\):*
Suppose Rudolph Lingens has amnesia and is lost in the Stanford library. Lingens does not know what his name is, who he is, or where he is. He comes across a biography of himself and begins to read it. Lingens reads many things in the biography, such as “Lingens is the cousin of a notorious spy.” He even comes across the sentence “Lingens is Lingens.” He also reads “Rudolph Lingens is lost in the Stanford Library.” Lingens comes to have the belief which he expresses by uttering “Lingens is lost in the Stanford Library.” However, it is not until Ortcutt informs Lingens of who Lingens is, that Lingens comes to have the belief which he expresses by uttering “I am lost in the Stanford Library.”

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\(^{11}\) There are also contributions by David Lewis (1979) and Robert Stalnaker (1981). The version of *Lingens the Amnesiac* that we will consider is taken from Stalnaker (1981), and we will look at Lewis’ case of the Two Gods in chapter 3.

\(^{12}\) The problem was first presented by Héctor-Neri Casteñada (1966).

\(^{13}\) This version of the story is not Perry’s original version, but Robert Stalnaker’s (1981).
The Department Meeting:
A professor wishes to attend the department meeting on time. He knows the meeting starts at noon and thus comes to have the belief which he expresses by uttering “the department meeting starts at noon.” Thinking that it is not time for the meeting, he waits in his office until it is time to go. He suddenly realizes that it is noon and forms the belief which he expresses by uttering “the department meeting starts now.”

All of these examples are cases in which the individuals in question seemingly form beliefs they did not have prior to acquiring certain information about who they are, where they are, and when it is.

Consider The Messy Shopper case. Initially, Perry was willing to utter the sentence “He is making a mess,” while pointing at the man in the mirror, to express the belief he had about the specific individual he observed making a mess. However, he was not willing to utter “I am making a mess” because he did not believe that he himself was making a mess. It was not until he realized that he was the individual making the mess (when he realized it was his reflection in the mirror) that he was willing to utter “I am making a mess.” TVB maintains that belief is a matter of an agent standing in the belief relation to a certain proposition. If we maintain that TVB is true, and that Perry forms a new belief after his epiphany, then it follows that the belief Perry has when he comes to utter “I am making a mess” consists of nothing other than standing in the belief relation to a new proposition.

The same can be said about the Lingens the Amnesiac case. Initially when reading the biography Lingens forms many beliefs. One of these beliefs is the belief he expresses by uttering “Rudolph Lingens is lost in the Stanford Library.” However, not thinking that he is lost in the Stanford Library, Lingens is not willing to utter “I am lost in the Stanford Library.” Prima facie it would appear that Lingens can have the former belief, without
having the latter belief. Thus, they seem to be two distinct beliefs. Again, if we maintain TVB is true and that Lingens forms a new belief once he learns that he is the person in the biography, then it follows that the belief Lingens has when he willingly utters “I am lost in the Stanford Library” consists of nothing other than standing in the belief relation to a new proposition. The challenge indexical beliefs pose for TVB is determining what this new proposition is. This is the problem of indexical beliefs.

Let us stick with the Lingens the Amnesiac case to better understand the problem. John Perry (1979) argues that the new information Lingens learns about himself is not a traditional proposition which can be characterized as Rudolph Lingens is lost in the Stanford Library. Why is this not the case? Because Lingens already believed that proposition from the outset when he read in the biography “Rudolph Lingens is lost in the Stanford Library.” What Lingens did not believe was that he was lost in the Stanford Library, which he would have expressed by saying “I am lost in the Sanford Library.” So if Lingens does not come to believe the proposition that Rudolph Lingens is lost in the Stanford Library, then what propositions is it? And how can we characterize it?

So far we have remained neutral as to the nature of the propositions believed. But as we will see in later chapters, traditional propositions like Fregean propositions, singular propositions, and propositions as sets of possible worlds face their own unique challenges in accounting for the content of indexical beliefs within a TVB framework. This has led philosophers to take different approaches to account for the difference between indexical and non-indexical beliefs. Philosophers in the Fregean tradition, such as Gareth Evans (1981) and more recently Robert May (2006), have provided accounts that characterize the content of indexical beliefs as having an indexical feature. David
Lewis (1979) sticks with the notion of using possibilia to characterize belief content. However, on Lewis’ account, rather than using propositions as sets of possible worlds, Lewis maintains that we use sets of centered worlds, where a centered world $<w,x>$ consists of a world $w$ and an individual $x$ (or a center in $w$). Finally, in the Mediated Theories of Belief (MTB) tradition, philosophers like Perry (1979), Crimmins and Perry (1989), Salmon (1986) and Braun (2002) maintain that the objects of belief are singular propositions. But they add that agents believe singular propositions via a medium which they describe as belief states, guises or sentential meanings. It is the medium in virtue of which agents believe singular propositions that explains the indexical characteristic of the belief in question.\(^{14}\)

If we focus exclusively on characterizing indexical beliefs, then all of these theories (i.e. Fregean, Lewisian, and MTB) appear to do an adequate job in that they all seem to handle the data presented by cases like the *Messy Shopper*, *Lingens the Amnesiac*, and *The Department Meeting*. But if this is correct, then it seems to suggest that accepting one of these theories over the others might turn out to be a matter of theoretical taste, or prior commitments.\(^{15}\) However, as I demonstrate in this dissertation, reasons for accepting one of these theories becomes apparent when we see how the problem of indexical communication is handled. In fact, I want to show that there are reasons to prefer, and accept, a version of MTB. These reasons will not simply come

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\(^{14}\) While we will not have the space to discuss these views in depth, it is worth mentioning that Robert Stalnaker’s (1981, 1999) views on propositions as sets of possible worlds, and François Recanati’s (2012) view on mental files, are also influential views that have attempted to account for indexical beliefs.

\(^{15}\) Perry appears to share this sentiment when he discusses the differences and similarities between his and Stalnaker’s accounts. See Perry’s (2006, pp. 219-220).
down to the fact that MTB can adequately characterize indexical beliefs, but in addition, MTB it is also better suited to handle the problem of indexical communication.

§4: The Traditional Model of Communication and Indexical Communication

It is undeniable that one of the goals of communication is to transfer information from one person to another. In verbal communication we achieve this goal by using sentences to encode information in order to transfer it from a speaker to a hearer, or an addressee in general. Traditionally, verbal communication has been characterized as the transfer of belief content from a speaker to a hearer via a sentence the speaker asserts. We will refer to this model as the Traditional Model of Communication\(^\text{16}\) (henceforth referred to as \textit{TMC}). Following Clas Weber (2013), we can characterize TMC with two fairly plausible principles:

(I) \textit{The mind-to-speech principle:} the content of the utterance\(^\text{17}\) is identical to the content of a belief the speaker expresses.

\(^{16}\) This model has been called many names. Richard G. Heck (2002) calls it ‘The Naïve Conception of Communication,’ Andy Egan (2007) calls it the ‘Belief-Transfer Model of Assertion,’ Sarah Moss (2012) calls it the ‘Package Delivery’ model and Clas Weber (2013) calls it ‘The FedEx Model of Communication.’ Even thought he doesn’t give it a name, Robert Stalnaker seems to have had something similar in mind in his article “Assertion” (1978). Stalnaker claims that conversations take place against a background of assumed propositions, which he calls “the context set.” Thus, assuming the conversation in question is successful, all the participants in the conversation will be taken to accept the same context set (i.e. the same set of propositions). As assertions are made in the course of a conversation, the context set of that conversation gets smaller and smaller. The propositions expressed by assertions within a conversation inform us of the possibilities that have been excluded from the context set.

\(^{17}\) There may be concern about the notion of “the content of an utterance” as suggesting that when one produces an utterance one expresses at most one content or one proposition. This concern can be based on arguments found in Perry (2001) and Korta and Perry (2008, p.356). In these works, it is argued that when a speaker produces an utterance, they usually express (perhaps even assert) more than one proposition. In addition, Grice (1989) has shown that our utterances implicate other propositions besides what is semantically asserted. But perhaps this concern can be mitigated by thinking of the two principles that characterize TMC as saying that while there can be multiple propositions associated with an utterance, there is still at least one content or proposition that the speaker has in mind, and which the hearer comes to acquire during successful verbal communication. For concerns on whether utterances express multiple propositions see Ciecierski (2009).
(II) *The speech-to-mind principle:* the content of the utterance is identical to the content of a belief the hearer acquires.

Together, the two principles entail that the content of a speaker’s belief can be transmitted to a hearer *via* the utterance of a sentence that expresses that content. In other words, TMC identifies the content of a speaker’s belief with the content of a speaker’s assertion, and the content a hearer comes to grasp during successful communication.

Consider the following example which illustrates this process. Suppose that prior to realizing that he is the person in the biography, Lingens learns *that Rudolph Lingens is lost in the Stanford Library.* He wishes to communicate this to Bernard Ortcutt who happens to be there with him. Lingens does this by uttering “Rudolph Lingens is lost in the Stanford Library.” According to TMC, upon hearing Lingens’ utterance, Ortcutt too will come to believe or entertain the same proposition that Lingens himself believes. That is, by the end of the exchange both Lingens and Ortcutt come to grasp *that Rudolph Lingens is lost in the Stanford Library.* While TMC provides us with the result we expect in this case, it has a much more difficult time making sense of what happens when someone communicates their indexical beliefs to others.

§4.2: *The Problem of Indexical Communication*

As was mentioned in the previous section, it appears that we are fairly successful at communicating our thoughts to others by means of the sentences we use to express said thoughts. TMC seems to provide us with a pretty elegant and attractive model that captures this. However, while TMC has proven to be an attractive model of communication, it does not seem sufficient to characterize what happens when
individuals communicate their indexical beliefs to others. So why is the communication of indexical beliefs problematic for TMC?

Consider the *Lingens the Amnesiac* case. At some point Lingens realizes that he is the person being referred to in the biography, and begins to update his beliefs. One of the beliefs he forms is the belief he would express by uttering “I am lost in the Stanford Library.” If the problem of indexical beliefs is correct, then we expect the belief Lingens expresses by uttering “I am lost in the Stanford Library” to be different than the belief he expresses by uttering “Rudolph Lingens is lost in the Stanford Library.” Assuming that beliefs are individuated in virtue of the proposition an agent bears the belief relation towards, then the differences in Lingens’ beliefs will come down to a difference in the propositions believed. We saw above that TMC appears to nicely handle cases in which an agent communicates a non-indexical belief to a hearer. For example, using TMC we were able to model how Lingens was capable of communicating the content of his belief to Ortcutt, so that Ortcutt could come to believe, or entertain, the exact same content he believes when he utters “Rudolph Lingens is lost in the Stanford Library.” However, when it comes to indexical beliefs, the story is not so simple. That is, it is not clear what proposition Ortcutt comes to grasp when he accepts Lingens’ utterance of “I am Lost in the Stanford Library.” Making sense of what a hearer comes to grasp when they accept what a speaker asserts with an indexical sentence is the challenge indexical beliefs pose for TMC.

Let us assume that the content of Lingens’ belief when he utters “I am Lost in the Stanford Library” is something like *Rudolph Lingens is lost in the Stanford Library*. According to the *mind-to-speech principle*, the content of Lingens’ belief and utterance
are the same. If the speech-to-mind principle holds as well, then when Ortcutt hears Lingens’s utterance he too comes to grasp the same content Lingens believes. However, the lesson from Lingens the Amnesiac case is that the content of Lingens’ indexical belief is something different than Rudolph Lingens is lost in the Stanford Library. This is because, as the problem of indexical beliefs suggest, there has been a change in Lingens’ belief from when he is willing to utter “Lingens is lost in the Stanford Library” to when he is willing to utter “I am lost in the Stanford Library.” Saying that the content of Lingens’ indexical belief is merely that Rudolph Lingens is lost in the Stanford Library may work to ensure that the two principles in TMC are maintained, but it leaves us wanting for a solution to the original problem of indexical beliefs.

As Tyler Burge (1979, p. 430) has stated, indexical beliefs are context bound or context dependent beliefs. In other words, the truth conditions of an indexical belief are tied to the context in which they are had. So if a solution to the problem of indexical beliefs turns out to be that the content of indexical beliefs are context dependent propositions in this sense, such that the content of a belief can only be believed or grasped in the context in question, then we may not be able to maintain both principles of TMC. What I have in mind are contents of limited accessibility, such as those discussed by Frege (1918). These are thoughts about oneself that only the attitude holder can grasp, and which would be expressed by the attitude holder with a sentence containing ‘I.’ These types of contents can presumably be said to adequately characterize indexical beliefs, but they do so at the expense of TMC.
Finally, let us suppose that the contents which adequately characterize indexical beliefs are relative contents.\textsuperscript{18} That is, contents that vary in truth value relative to time, place or individual. If the contents of indexical beliefs turn out to be relativistic in this sense, then TMC would lead us to strange predictions. Let us say that $p$ is the relative content of the belief Lingens expresses by uttering “I am Lost in the Stanford Library.” Now let us say that Ortcutt comes to hear Lingens’ utterance. If TMC is correct and Lingens is successful in communicating his belief to Ortcutt, so that Ortcutt comes to believe what Lingens believes, then it follows that by believing $p$ Ortcutt would believe that he (i.e. Ortcutt) is lost in the Stanford Library. Also, what Ortcutt ends up believing is false relative to him. But this is clearly wrong, given that we would not expect him to believe that he is lost in the Stanford Library, but rather that Lingens is lost in the Stanford Library. Furthermore, we expect Ortcutt to believe something true, given that what Lingens believes is true because he is lost in the Stanford Library.

These examples demonstrate the difficulty that indexical beliefs pose in communication. I want to maintain that a satisfactory solution to the problem of indexical communication requires one to meet two challenges: (i) it requires that one adequately characterize the difference between indexical and non-indexical beliefs, and (ii) it requires a satisfactory explanation of how indexical beliefs are successfully communicated to others. A solution that does not meets both of these challenges cannot be deemed a satisfactory solution.

\textbf{§5: Addressing Concerns}

Before concluding this chapter, I want to address a possible concern. It may be said that given the simplicity of TMC it is no wonder that it runs into trouble when

\textsuperscript{18} This is more or less David Lewis’s position. We will discuss his view in depth in chapter 3.
having to deal with complex cases, such as the communication of indexical beliefs. Furthermore, given these issues it seems reasonable to suppose that an adequate model of communication would never resemble something like TMC. Thus, the problem of indexical communication is really no problem at all, given that it only seems to arise because of a naïve conception of communication.

There are two things that I wish to say about these concerns. First, yes, indexical communication strongly suggest that TMC is false. It is just too simplistic a view to adequately account for communication in general and indexical communication specifically. However, even if we end up with a model of communication that does not resemble TMC at all, TMC can still be used as a reasonable jump off point to develop a better account of communication.

Second, TMC may be a simple model, but that does not mean that we should automatically want to reject it completely. In fact, for all of its simplicity, there is much that can be said for why we should prefer a model of communication that resembles TMC. For instance, as we will see in Chapter 5, there is linguistic data that seems to suggest that something like TMC is true. In addition, TMC seems to capture many intuitive features that we expect, or would expect, a model of communication to have. For instance, TMC captures the intuition that in order for communication to be deemed successful, there must be something (e.g. a content) that remains the same from a speaker to a hearer.  

A similar point is made by Perry (1980), Kaplan (1989, p.537-538) and Moss (2012) in regards to the beliefs we hold in memory. For example, suppose that July 4th

19 Robert Stalnaker seems to have this intuition in mind in his article “Assertion” (1978).
2017 turned out to be a gloomy day in Southern California. Furthermore, suppose that at the time this led me to form the belief which I expressed by uttering “It is gloomy today.” Suppose that several months later I am having a conversation with someone about the strangest weather we have experienced in Southern California and want to recall what the weather was like on July 4\textsuperscript{th} 2017. In order to do so, I would not be able to rely on the sentence I used to express the belief on that day, nor its character. In addition, as the communication case above showed, we would not be able to rely on relative contents either, given that the context of the most recent belief is different. This suggests that there would have to be something (e.g. a content) that remains the same from my past self to my current self.

\section*{§6: Conclusion}

In this chapter we were introduced to indexical beliefs. We also saw the challenge indexical beliefs pose for TVB. We were then introduced to TMC, and the challenge indexical beliefs pose for TMC, namely the problem of indexical communication. I stated that a satisfactory solution to the problem of indexical communication needs to meet two challenges: (i) adequately characterize the difference between indexical and non-indexical beliefs, and (ii) provide a satisfactory explanation for how indexical beliefs can be successfully communicated to others. Finally, I maintained that we should use TMC as a jump off point to meet the challenge of indexical communication, and that a theory of communication that closely resembles TMC should be preferred over one that does not.
CHAPTER TWO

Fregean Propositions and Fregean Communication

§0: Introduction

In this chapter we will look at different characterizations of Fregean propositions and determine whether they can be used to account for the nature of indexical beliefs. We will survey three versions of Fregean propositions. We will highlight some of their upshots, and some of their limitations. In particular, we will see that in their attempt to characterize the consent of indexical beliefs these theories find it difficult to simultaneously provide an adequate characterization of indexical communication. We end the chapter by looking at a model of communication that some Fregeans have adopted in order to explain indexical communication. We will refer to this model as the Equivalency of Content Model of Communication (ECMC). This model maintains that in order for communication to be deemed successful, the proposition asserted by a speaker and the proposition grasped by a hearer during communication must be equivalent in an appropriate way. I argue that ECMC faces some difficulties trying to explain what it would mean for propositions to be equivalent in an appropriate way. And ultimately, the only reason to pursue ECMC is to accommodate a Fregean theory of belief, which makes the entire project ad hoc.
§1: The Fregean View

In this section we will briefly go over Gottlob Frege’s philosophy of language and the motivations for his semantic framework. The goal is to see how his theory of propositions fits into a theory of belief. The Fregean semantic framework is based on a distinction Frege (1892) made between a linguistic expression’s sense and its reference. According to this picture, the semantic content expressed by simple singular terms\(^\text{20}\), such as proper names, are senses. In addition to sense, linguistic terms also have reference. Fregean semantics stands in direct opposition to Millianism which maintains that the only semantic value a proper name expresses is the object to which it refers. For example, under the Millian View, a proper name like ‘Aristotle’ is just the bearer of the name ‘Aristotle,’ namely Aristotle himself.

Frege developed his theory as a way to solve two puzzles about language that seem to arise within semantic frameworks similar to the Millian View. The first puzzle has to do with the cognitive significance of identity sentences\(^\text{21}\): statements of the form “a=a” and “a=b”. We will call this the Cognitive Significance Puzzle. The puzzle arises if we make two plausible assumptions. The first assumption is that the primary function of simple singular terms like proper names, definite descriptions and indexicals is to refer. The second assumption is that the semantic value expressed by simple singular terms is their reference. Now consider the following singular terms ‘the morning star’ and ‘the

\(^{20}\) Frege believed that his distinction applied to all linguistic expressions, such as verbs, adjectives and including complete sentences.

\(^{21}\) Nathan Salmon (1986, pp. 12-13) has noted that different versions of the problem can be presented that don’t involve an identity relation. For instance, the very same problem occurs with “Shakespeare wrote Othello” and “The author of Othello wrote the Othello.” The first sentence is informative while the latter is not. Thus, Salmon claims, the general problem that Frege identifies is not a problem about identity statements, but rather a problem about the information encoded by sentences. Tyler Burge makes a similar observation. See Burge’s (1979, p. 405).
evening star.’ Given our first assumption, both of these singular terms are used to refer. In this case they both refer to the same object, namely Venus. In addition, since the only semantic value of a singular term is its reference, then it follows that ‘The morning star’ and ‘The evening star’ mean the same thing. But this leads to the first problem. Consider the following sentences.

(1) The morning star is The morning star.

(2) The morning star is The evening star.

Sentence (1) has the form “a=a”, while sentence (2) has the form “a=b”. However, if the only semantic property a singular term possesses is the thing that it refers to, then sentence (1) and (2) would mean the same thing. But this can’t be all there is to these sentences. Sentence (1) is trivial, and we are able to determine its truth-value by merely analyzing it. Sentence (2) on the other hand is informative, and requires something extra in order to determine its truth-value. Thus, it can’t be that all there is to the meaning of singular terms is their reference. So what accounts for what appears to be a difference in cognitive significance between sentence (1) and (2)?

In order to respond to this puzzle, Frege postulates that singular terms don’t just have reference, but also a sense. It is a singular term’s sense that accounts for its cognitive significance. According to Frege, distinct singular terms can express distinct senses. Consequently ‘The morning star’ and ‘The evening star’ can be said to express different senses. If ‘The morning star’ and ‘The evening star’ express different senses, and sense accounts for cognitive significance, then it explains why we would think that (1) and (2) differ in terms of cognitive significance. Sentence (2) would be informative,
since ‘The morning star’ and ‘The evening star’ express different senses, whereas (1) would be trivial since ‘The morning star’ and ‘The morning star’ express the same sense.

There is no consensus as to what senses are supposed to be, nor if the same type of sense is expressed by different types of simple singular terms; that is, it is not clear whether the senses expressed by proper names will be the same as the senses expressed by indexicals. However, there does seem to be general agreement, following Frege, that the senses expressed by singular terms are, or have, modes of presentation of the things being referred to by those singular terms.

One prominent view, known as Fregean Descriptivism\textsuperscript{22, 23}, claims that the sense expressed by simple singular terms are purely qualitative representations of the object referred to by the singular term in question. The source of this view is usually traced to a footnote Frege provides in “On Sinn and Bedeutung” (1892, p. 153). In this footnote Frege states that the sense of proper names ‘N’ is said to be qualitative descriptive information of the form the $\phi$, where $\phi$ is a set of qualitative properties. The descriptive content the $\phi$, expressed by ‘N’ determines the reference of the proper name ‘N’. In other words, the referent of a proper name is whatever uniquely satisfies the qualitative content expressed by the name in question. For instance, suppose the sense of ‘Aristotle’ is the qualitative representation that would be expressed with the definite description “The teacher of Alexander the Great.” Assuming that Aristotle is the individual that uniquely

\textsuperscript{22} Henceforth we will refer to it simply as Descriptivism.

\textsuperscript{23} It isn’t clear that this was his official position given that he seems to provide a different account of sense in his later work “Thought” (1918), in particular when it comes to the content of de se thoughts.
satisfies the description “The teacher of Alexander the Great,” it follows that he would be the referent of the name ‘Aristotle.’

To call the senses of singular terms ‘descriptions’ is a bit misleading. Descriptions are linguistic objects. It is important to note that even thought the Fregean account is considered a descriptivist account, the senses expressed by singular terms are not linguistic terms themselves. At least not on standard Fregean interpretations. What is expressed by a proper name is a qualitative, or conceptual, representation of the object that the proper name is meant to denote. A better way to characterize Descriptivism is to say that the sense of a proper name ‘N’ is equivalent to the sense that would be expressed by a definite description ‘The F,’ where ‘The F’ expresses the descriptive content24 the φ. Thus, replacing a proper name with the appropriate description will generally express the same sense.

According to Frege (1892, p. 153), even though senses are objective mind independent entities, the sense associated with a singular term in part depends on the intentions of the person using that term. One consequence of this is that a single proper name can be associated with different senses by different individuals. For example, it might be that when I use ‘Aristotle’ I associate the descriptive content The teacher of Alexander the Great with the name, but someone else associates The most famous Student of Plato. Nevertheless, our use of the name ‘Aristotle’ would pick out the same individual insofar as Aristotle is the person that uniquely satisfies the descriptive content the teacher of Alexander the Great and The most famous Student of Plato.

24 I will use the term descriptive content to refer to the content expressed by a descriptive expression, such as a definite description.
In addition to singular terms, declarative sentences also express a sense. Frege calls the sense expressed by a declarative sentence a *Thought* \(^{25}\) (1918, pp. 327-328), or what we will refer to as as *Fregean propositions*. Fregean propositions are complex or structured entities composed of the senses of the constituents of the declarative sentences used to express them. Each linguistic term in a declarative sentence expresses a sense, and these senses are combined in a specific way to form a Thought or a Fregean propositions. For instance, the Fregean proposition expressed by the sentence “Aristotle is Human” is something like the structured entity \(<\text{“Aristotle”}_\text{sense}, \text{“human”}_\text{sense}>\), whose constituents are the sense of “Aristotle” and the sense of “human.” Like the senses of proper names, Fregean propositions also determine a reference. In the case of simple subject predicate sentences the Fregean propositions they express determine a truth-value\(^{26}\). In other words, the referent of a simple subject predicate sentence is just its truth-value.

The sense/reference distinction made for declarative sentences helps solve another puzzle. We will call this the *Attitude Ascriptions Puzzle*. This is the puzzle that arises in referentially opaque contexts, such as those found in propositional attitude ascriptions. To see this problem, consider the following two sentences:

(3) Smith believes that the morning star is the morning star.

(4) Smith believes that the morning star is the evening star.

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\(^{25}\) The term has a psychological connotation, but these are different than the mind dependent objects Frege referred to as *ideas*. Ideas are psychological or mental object. They are particulars that exist in the minds of the agent who has them. *Thoughts* on the other hand are abstract mind independent objects that can be grasped by different individuals. They are what we have been calling *propositions*.

\(^{26}\) Frege called the references, or the *Bedeutung*, of a declarative sentence the True and the False. He also maintained that not every declarative sentence had a *Bedeutung*, as is the case with sentences containing vacuous terms. But the issue of vacuous terns need not concern us here. See Frege (1892) pp 157-158.
Again, let us suppose, like Millianism, that the only semantic value associated with a singular term is its referent. If this were the case, then for any sentence we should be able to substitute a name with a different co-referring expression without changing its truth-value. However, this is not what happens in the context of propositional attitude ascriptions. Assuming that Smith doesn’t know that the morning star is identical to the evening star, we can see that (3) can be true even if (4) were false. How can we explain the difference in truth-value between (3) and (4) when ‘The morning star’ and ‘The evening star’ are co-referential?

Frege maintained that terms that come after attitude verbs don’t refer to the object they ordinarily refer to, but rather to their sense. Thus, in (3) and (4) ‘The morning star’ and ‘The evening star’ won’t refer to Venus, but rather to the sense of ‘The morning star’ and the sense of ‘The evening star.’ Given that singular terms don’t refer to the object they normally refer to, but rather their sense, it would explain why (3) and (4) can vary in truth-value even though ‘The evening star’ and ‘The morning star’ are co-referential.

The solution to the second puzzle points us towards a Fregean characterization of belief. The reason (3) and (4) can vary in truth-value is not just because singular terms following attitude verbs refer to their senses, but more specifically (3) and (4) say different things about Smith and the propositions expressed by (1) and (2). That is, (3) states that Smith stands in the belief relation to Fregean proposition \(<\text{“The morning star”}_{\text{sense}}, \text{Identity Relation, “The morning star”}_{\text{sense}}\>). Sentence (4) states that Smith stands in the belief relation to \(<\text{“The morning star”}_{\text{sense}}, \text{Identity Relation, “The evening star”}_{\text{sense}}\>). Thus, following TVB, Frege characterizes an agent’s belief in virtue of the
Fregean proposition she bears the *belief* relation towards. We can call this view Fregean *Belief*, and characterize it as follows:

Fregean Belief: An agent A believes \( p \) iff (i) \( p \) is a Fregean proposition, and (ii) A stands in the *belief* relation to \( p \).

Recall that for Frege there is a close connection between how one thinks of an object and the content expressed by a simple singular term used to refer to that object. The semantic content of a simple singular term is the sense an agent associates with the term. Thus the content that is used to think about an object is identical to the content of the singular term used to refer to the object in question. Similarly, when an agent has a complete thought about an object and uses sentences to express that thought, the agent’s thought content will be identical to the content expressed by the sentence the agent uses to express said thought, namely it will express the Fregean proposition.

Given this picture of belief and the nature of the propositions believed, we seem to have a *prima facie* response the complications indexical beliefs seem to pose. Let’s consider Perry’s *Messy Shopper* case again. Suppose Perry sees the reflection on a display case mirror of an individual who is spilling sugar. Consequently, Perry has the belief he expresses by uttering “He is making a mess” while pointing at the reflection. Unbeknownst to Perry the reflection is of himself from an angle that makes it difficult for him to recognize himself. So, while Perry is willing to utter “He is making a mess,” he is not willing to utter “I am making a mess.” Once he realizes that he is the mess maker, Perry forms the belief he expresses by uttering “I am making a mess.”

So what explains the difference in Perry’s beliefs? According to the Fregean picture we have been presenting, we individuate beliefs in virtue of the Fregean propositions an agent bears the *belief* relation towards. In addition, since a person’s
thought content is identical to the content of the sentence they would use to express said thought, we know that if an agent is willing to assert a sentence $S$ but not $S'$, then $S$ expresses a different thought than $S'$. Assuming this semantic framework can be extended to indexical expressions, then the difference between Perry’s beliefs can be explained as follows; when Perry was willing to utter “He is making a mess,” he was said to be standing in the belief relation to Fregean proposition $<\text{“He”}_{\text{sense}}, \text{“Making a mess”}_{\text{sense}}>$.

After realizing that he was the mess maker, and subsequently forming the belief he expressed by uttering “I am making a mess,” he was said to be standing in the belief relation to Fregean proposition $<\text{“I”}_{\text{sense}}, \text{“Making a mess”}_{\text{sense}}>$. The difference in belief content is what explains the difference in Perry’s beliefs before and after his realization that he was the person making the mess.

By looking at Frege’s responses to the *Cognitive Significance Puzzle* and *Attitude Ascriptions Puzzle* we can extrapolate some tenets that appear to be characteristic of a Fregean framework. Listing some of these tenets and keeping them in mind will be helpful when surveying different versions of Fregean Belief. We shall refer to the following tenets as the *Fregean View*.²⁷

1. The meaning of any singular term is a sense, which is a mode of presentation of its referent.

2. The reference of a singular term is determined by the sense expressed by the singular term.²⁸

²⁷ The following tenets are not meant to be a comprehensive account of the traditional Fregean View. The Fregean View as I present it here is composed of tenets relevant to the issue at hand, namely the issue of indexical belief and communication.

²⁸ Someone like Jerrold Katz might want to deny this. Like most Fregeans Katz held that singular terms expressed a sense, however Katz denied that the sense expressed by a singular term determined a reference, at least in the traditional sense that sense is necessary and sufficient to determine reference. See Katz’ (2004).
3. A sentence, at a context, express a complex known as a Fregean proposition, whose constituents are the senses expressed by the constituents of the sentence.

4. The object of an agent’s belief is a Fregean proposition.

5. If agent A is willing to assent to sentence S and not sentence S’, then S and S’ express different Fregean propositions.

§2: Problem of Indexical Belief and Fregean Belief

While our primary focus is the problem of indexical communication, and not the problem of indexical belief, being familiar with some of the problems that have been presented against a Fregean account of indexicals and indexical beliefs will help shed light on the challenges Fregeanism faces when accounting for indexical communication. Many of the criticisms Fregeanism faces in regards to indexicals can be traced back to criticisms presented by John Perry (1977, 1979) and David Kaplan (1980). These criticisms are meant to show that Fregeanism is not able to give a satisfactory account of the semantics of indexical expressions, and in turn it is not able to give a satisfactory account of indexical beliefs.

We can elucidate one of the problems Fegean Belief faces when characterizing the content of an agent’s belief with John Perry’s (1977) Non-Sufficiency of Belief argument. Perry argued that identifying the content expressed by an indexical expression with a descriptive sense will not be sufficient to determine the referent of said indexical expression. Furthermore, grasping the Fregean propositions expressed by said sentences containing said indexical expressions will not be sufficient to characterize indexical beliefs. For instance, suppose that David Hume associates the sense expressed by “The author of the Enquiries” with his use of ‘I’. Now suppose that Hume has the belief he

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29 Perry credits Héctor-Neri Castañeda for inspiring his examples. See Castañeda’s (1966).
would express with “I wrote the Treatise.” According the Fregean View, the content of Hume’s belief would be something like *The author of the Enquiries wrote the Treatise.* But would standing in the *belief* relation to the proposition expressed by “The author of the *Enquiries* wrote the *Treatise*” be enough to account for Hume’s de se belief that he wrote the Treatise? Surly not. We can imagine a situation in which Hume is suffering from an episode of amnesia and believes that The author of the *Enquiries* wrote the *Treatise* without believing that he himself wrote the *Treatise*. Thus, standing in the *belief* relation to a Fregean proposition is not sufficient to characterize an indexical belief.

It can also be demonstrated that standing in the *belief* relation to a Fregean proposition is not necessary to characterize indexical beliefs. Suppose that on July 4\textsuperscript{th} 1776 Benjamin Franklin utters “John Hancock signed the Declaration of Independence on July 4\textsuperscript{th} 1776.” We can suppose that the sense expressed by ‘July 4\textsuperscript{th} 1776’ is just the descriptive content *July 4\textsuperscript{th} 1776*, and that this sense determines the day that John Hancock signed the Declaration of Independence, namely July 4\textsuperscript{th} 1776. Now suppose that on July 4\textsuperscript{th} 1776 in his excitement Franklin jumps out of his chair and ends up tripping and hitting his head. This causes him to lose consciousness for a day. As soon as he wakes up he utters “John Hancock signed the Declaration of Independence today.” Thinking that it is still July 4\textsuperscript{th} 1776 he associates the sense *July 4\textsuperscript{th} 1776* with his use of the indexical ‘today.’ This would entail that when Franklin utters “John Hancock signed the Declaration of Independence today” he is referring to July 4\textsuperscript{th} rather than July 5\textsuperscript{th} 1776. But this would be wrong. It seems that Franklin is still referring to July 5\textsuperscript{th} with his use of ‘today’ even if he thinks it is *July 4\textsuperscript{th} 1776*. 
How does this relate to our worries regarding indexical beliefs? Let us consider the *Messy Shopper* case again. At first, Perry believes the Fregean proposition expressed by his utterance of “He is making a mess.” Suppose the sense Perry associates with ‘He’ is *The shopper with the torn sugar sack*. Suppose that when it comes to his utterance of “I am making a mess” he associates the sense *the only bearded philosopher at a Safeway in California* with his use of ‘I.’ As a result, when Perry is willing to utter “I am making a mess” we can say that he believes the Fregean proposition `<I sense, “Making a mess” sense>`. Now, suppose that for some odd reason Perry forgot that he shaved earlier that day. In fact, David Lewis (a bearded philosopher) is at the same grocery store as well. And it so happens that Lewis is the only bearded philosopher at a Safeway in California. According to the Fregean picture, given that the content expressed by ‘I’ is *the only bearded philosopher at a Safeway in California*, it would determine David Lewis as the referent. This would entail that when Perry has the belief he expresses by saying “I am making a mess,” he would be said to believe that David Lewis is making the mess, and not himself. However, this is clearly wrong. Intuitively, even if Perry forgot that he shaved we would still want to maintain that when Perry asserts “I am making a mess,” he believes that he (Perry) is making a mess, not someone else.\(^{30}\) Thus, associating a descriptive sense with the content of one’s indexical belief is not necessary to have the indexical belief one would express with an indexical sentence.

These examples provide a *prima facie* case against a Descriptivist version of Fregean Belief. That is, the examples provide a *prima facie* case against a version of Fregean Belief that attempts to characterize the content of an agent’s indexical belief with a Fregean proposition that could be expressed with a sentence that contains a description

\(^{30}\) For more on this worry see Perry’s (1977 p. 486).
of the object the belief is about. This has led some philosopher, including Frege himself, to jettison a traditional Descriptivist picture of propositions to characterize the content of indexical beliefs. In particular indexical beliefs one expresses with sentences containing ‘I.’

§3: Fregean Solutions and the Communication Problem

In this section we will look at three approaches Fregeans have taken in an attempt to solve the problem of indexical beliefs. In addition to highlighting some pertinent problems for each view that arise when attempting to characterize indexical beliefs, I will argue that in order to successfully characterize indexical beliefs within a Fregean framework, the Fregean is forced to give up one of the principles that characterize the Traditional Model of Communication (TMC).  

§3.1: Contents of Limited Accessibility

According to Perry, the problems presented in the previous section served as some of the driving forces behind one of the most peculiar doctrines within Frege’s writings. Frege (1918, p. 333) writes:

Now everyone is presented to himself in a particular and primitive way, in which he is presented to no one else. So, when Dr. Lauben thinks that he has been wounded, he will probably take as a basis this primitive way in which he is presented to himself. And only Dr. Lauben himself can grasp thoughts determined in this way.

31 If we recall from Chapter 1, we characterized TMC as the conjunction of the following two principles:

(I) The mind-to-speech principle: the content of the utterance is identical to the content of a belief the speaker expresses.

(II) The speech-to-mind principle: the content of the utterance is identical to the content of a belief the hearer acquires.
In his attempt to explain the difference between the thought Dr. Gustav Lauben would express by uttering “I was wounded” and the thought someone else would express by uttering “Dr. Lauben was wounded” Frege was led to the conclusion that Lauben must think of himself in a way that no other person could. That is, when Lauben uses the indexical ‘I’ to talk about himself, Lauben is presented to himself in a special and primitive way that no one else could grasp. This special and primitive way in which Lauben thinks of himself is what accounts for the content of Lauben’s de se thought. Perry has referred to these contents as contents of limited accessibility; That is, a content that can only be grasped by the individual having the de se thought in question.

According to Perry, Frege was led to the position that some propositions are propositions of limited accessibility because of a failure to find a suitable descriptive content to associate with the indexical ‘I.’ Thus, if the content of de se thoughts are contents of limited accessibility in this sense, and not Fregean proposition the way we have been talking about them, it follows that an individual couldn’t fail but to be thinking about themselves when they have a de se thought. If the sense each individual associates with a use of ‘I’ is primitive in the way that Frege suggests, then it is no wonder that a descriptive content, as we have been talking about them, will not do to characterize de se thoughts. However, while it may seem reasonable to want to characterize the content of de se beliefs in terms of contents of limited accessibility, the view faces challenges attempting to explain the communication of those thoughts. For Frege, contents of limited accessibility are not only primitive, but incommunicable. Frege (1918, p. 333) writes:

But now [Dr. Lauben] wants to communicate with others. He cannot communicate a thought which he alone can grasp. Therefore, if he now says “I have been wounded” he must use the ‘I’ in a sense which can be grasped by others.
The fact that these special contents are incommunicable, suggests to me that there is no reason to think that there are such things as contents of limited accessibility. At least in the way described by Frege.

Suppose that $\Phi$ is the primitive sense that characterizes the content of my de se thoughts. I would maintain that insofar as there is no sentence or term I could use to express $\Phi$, it follows that I have provided no reason for others to think that there is such a content. But, perhaps someone could refute this and say that in fact we do have reasons to suppose that primitive senses of this sort exist. What are those reasons? Well, the fact that trying to characterize the content of de se thoughts with a sharable content has proven to be an arduous challenge. And stipulating primitive senses of this sort sheds light on why that is the case. But this sort of response works only if a case can be made that de se thoughts present a special challenge that is distinct from other traditional Fregean Puzzles. In addition, there would have to be no other viable theory that can account for de se thoughts without stipulating the existence of primitive senses.

First, recently philosophers, most notably Herman Cappelen and Josh Dever (2013), have argued that there is nothing special about de se thoughts which would require its own treatment. In fact, the so called “problem of indexical beliefs” is really just a specific case of general Fregan Puzzles. Second, even if philosophers like Cappelen and Dever are wrong about de se thoughts, it is clear that there are other viable theories that explain the nature of de se thoughts without the need to stipulate primitive senses of the sort described by Frege.
Perhaps we could concede the need for contents of limited accessibility if they were only needed because of the challenges Descriptivism faces when attempting to characterize the content of *de se* thoughts. However, Descriptivism faces similar challenges trying to find suitable descriptive contents for the sense expressed by other indexicals. For instance, Descriptivism faces challenges trying to find suitable descriptive contents for ‘today’ and ‘now’\(^{32}\). We’ve seen this with the Benjamin Franklin example above. Since no descriptive content adequately characterizes the content of the thought Franklin would express with “John Hancock signed the Declaration of Independence today,” then perhaps Fregeans should also resort to using contents of limited accessibility to characterize the content of Franklin’s indexical thought. However, this should strike one as even more implausible than using contents of limited accessibility to characterize *de se* thoughts. First, it seems to entail that for each day one has a thought they would express with a sentence containing the indexical ‘today,’ there would be a primitive and unique way in which that day is presented to the attitude holder. Second, it would seem to entail that the content of the thoughts one would express with sentences containing ‘today,’ can only be grasped on the day the thought is had. So the notion of recalling on July 5\(^{th}\) what one thought on July 4\(^{th}\) when they uttered a sentence containing the indexical ‘today,’ would be impossible. Both of these consequences seem wrong.

Finally, and more pertinent to our current discussion, insofar as contents of limited accessibility are incommunicable, any theory using them to characterize belief content would be incompatible with TMC. In particular, it would be unable to maintain the *mind-to-speech principle*. While adherence to TMC is not necessary in providing a satisfactory account of indexical communication, providing an account of how the

\(^{32}\) Perry makes a similar case for ‘today’ in his (1977) and for ‘now’ in his (1979).
content of a thought is related to the content of an utterance used to express that thought is necessary. So, the challenge for any theory using contents or propositions of limited accessibility to characterize beliefs would be to explain this relationship in a non-*ad hoc* way. That is, a general way that shows a systematic relationship between the content of an agent’s thought and the content of an utterance used to express that thought, regardless of whether it is an indexical or non-indexical belief. But insofar as the content of agents’ *de se* thoughts are primitive and incommunicable, it is not clear how to specify the relationship between thought contents and the contents of the utterances used to express them.

§3.2: Individual Essences

As was mentioned above, the inability to find a suitable description for indexical terms like ‘I’ led Frege to stipulate the existence of contents of limited accessibility. But there are other ways to salvage Frege’s intuitions that the content expressed by singular terms are senses that uniquely determine an object, while at the same time making senses communicable contents of thought. One plausible option that has been proposed by some neo-Fregeans is to identify the senses of simple singular terms with something like an individual essence or a haecceity. In the following sections we will explore the view of identifying senses with individual essences.

§3.2.1: World-Indexed Properties

Alvin Plantinga (1974, 1978) has proposed that we identify the sense expressed by a proper name ‘N’ with an individual essence of the referent of ‘N.’ Plantinga defines individual essences as follows;
**Individual Essences**\textsubscript{def}: A property $P$ that is essentially instantiated by some individual $x$ in world $w$, such that for any world $w'$ $P$ cannot be instantiated by some individual $y$ in $w'$, unless $x$ is identical to $y$ in $w'$.

In other words, an individual essences $P$ is a property that an object $x$ instantiates in every world it exists, and it is such that there is no world in which $x$ does not exist that $P$ is instantiated.

Plantinga’s view is motivated as a way to overcome objections presented by Kripke (1972) against Descriptivism. In particular his modal argument\textsuperscript{33}. According to Plantinga, the idea that proper names express properties is not at all unreasonable. For example, he claims that it is natural to suppose that proper names express the property \textit{being self-identical}. But in addition, particular proper names express more interesting properties. For instance, the proper name ‘Quine,’ not only expresses the property \textit{being self-identical}, but it also expresses the more interesting property \textit{being identical with Quine} (1978, p. 132). Evidence for this, according to Plantinga, can be found in the fact that the sentence “Quine is diverse from Quine” expresses a necessarily false proposition. Furthermore, the property \textit{being identical with Quine} turns out to be an individual essence of Quine (Plantinga, 1978, p. 132). Why is this the case? As was mentioned above, an individual essence is a property that if instantiated by some object $x$, it is

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\textsuperscript{33} Kripke argued that a proper name ‘N’ is not equivalent to a definite description of the form ‘the D’ because sentences containing ‘N’ behave differently in modal context than sentences containing ‘the D.’ That is, a description ‘the D’ could determine different individuals in different possible worlds. Because different individuals could satisfy the qualitative properties expressed by ‘the D.’ However, we would not expect a proper name to do the same. This is because, according to Kripke, proper names are rigid designators, they designate the same object in every possible world the object exists, but definite descriptions do not. Thus, proper names, unlike definite descriptions cannot be said to express properties which in turn determine an object. They just express the object they denote. For more details see Kripke’s (1972) \textit{Naming and Necessity}. 
instantiated by \( x \) necessarily. In addition, it is such that it is impossible for some other object \( y \) to instantiate it unless \( x \) is identical to \( y \). Given that it is metaphysically impossible for someone other than Quine to bear the identity relation to Quine, it follows that it is impossible for some object \( x \) to instantiate \textit{being identical with Quine} unless they are identical to Quine. Thus, the property \textit{being identical with Quine} is an individual essence of Quine. If we accept that the name ‘Quine’ expresses the property \textit{being identical with Quine}, then, according to Plantinga, we have some \textit{prima facie} evidence to suggest that singular terms express individual essences.

Plantinga goes on to claim that proper names express individual essences of a more exotic kind. These are world-indexed properties that are uniquely satisfied by whatever instantiates the property in question in the world to which the property is indexed. For instance, suppose that Benjamin Franklin uniquely instantiates the property \textit{being the inventor of bifocals} in the actual world. If he has this property, then he also has the world-indexed property \textit{being the inventor of bifocals in \( w \)}, where ‘\( w \)’ refers to the actual world. The world-indexed property \textit{being the inventor of bifocals in \( w \)} is an individual essence of Franklin because while there are worlds in which Franklin did not invent the bifocals and thus does not instantiate the property \textit{being the inventor of bifocals}, there are no worlds in which it is not the case that Franklin invented the bifocals in \( w \) (Plantinga, 1978, p.133). Plantinga calls the individual essence \textit{being the inventor of bifocals in \( w \)} “the \( \alpha \)-transform of \textit{being the inventor of bifocals}.” According to Plantinga, the \( \alpha \)-transform of \textit{being the inventor of bifocals} is a property that is expressed by the name ‘Benjamin Franklin.’ Like other Fregeans, Plantinga maintains that different proper names (or one and the same proper name) can express different individual essences. In
addition, according to Plantinga (1974, p. 80) individual essences pick out the same individual across possible worlds. So, Plantinga’s account does not only appear to avoid Kripke’s modal argument against Descriptivism, but it also appears to have the resources to solve other Fregean puzzles.

§3.2.2: Multi-Indexed Properties

In his manuscript *Semantics: A Fregean Approach* Matthew Davidson (2007) expands on the ideas presented by Plantinga and provides a neo-Fregean account of the semantic content of proper names and indexicals. Like Plantinga, Davidson maintains that proper names express individual essences. Davidson adds indexical expressions amongst the linguistic expressions that express individual essences. However, unlike Plantinga, Davidson maintains that the properties expressed by all proper names and most indexicals should also be indexed to a time and a person, in addition to a world. Why the additional indexing to a time and person? Because, according to Davidson, individual essences of the sort described by Plantinga will not always be sufficient to uniquely determine a reference. And this presents other problems when trying to characterize the content of agents’ beliefs, and in particular indexical beliefs.

For instance, in the actual world John Perry instantiates the property *being the philosopher who wrote a book whose title is “Reference and Reflexivity”*. Let us call the $\alpha$-transform of that property $R$-$\alpha$. Let us suppose that whenever John Perry thinks of himself and uses the indexical ‘I’ to express his thought he associates $R$-$\alpha$ with ‘I.’ $R$-$\alpha$ counts as a property that should uniquely pick out John Perry, and thus appears to be a

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34 We will ignore the fact that this property contains the proper name “Reference and Reflexivity.” Assuming that this is a property a Fregean would accept as a candidate for content, the Fregean would have to provide an analysis of this name.
good candidate for the content that can characterize the first-personal component of his 
de se thought. But suppose that on Twin-Earth (a planet in the actual world that is 
qualitatively identical in every respect to Earth) Twin-Perry (an individual who is 
qualitatively identical to John Perry) also wrote Twin-“Reference and Reflexivity”. This 
would entail that no one in the actual world instantiates the property being the 
philosopher who wrote a book whose title is “Reference and Reflexivity,” and thus no 
one has R-α. What does this mean in terms of Perry’s de se thought? Well if R-α is a 
constituent of the content of Perry’s de se thought, and no one instantiates R-α, then 
Perry’s de se thought is about no one. But this is surely wrong. But it appears that insofar 
as properties are only indexed to a world, we would be able to run similar Twin-Earth 
examples for every α-transform property. Thus, Plantinga’s α-transform properties can’t 
be contents that characterize de se thoughts, and indexical thoughts in general. It is 
examples like these that motivate Davidson to index properties to times and persons in 
addition to worlds.

Under Davidson’s view, the only terms that are excluded from this sort of multi-
indexing treatment are the indexicals ‘I,’ ‘now’ and the special term ‘α’ (where ‘α’ is a 
term used to refer to the actual world). These are taken as primitive. For instance, 
Davidson maintains that when it comes to the indexicals ‘I’ or ‘me’ the individual 
 essence expressed by a use of these terms is not an indexed property, but rather the 
haecceity\(^{35}\) of the individual uttering the terms. When it comes to ‘now’ and ‘α’

\(^{35}\) Haecceities are primitive properties which identify particular objects. They are at times 
thought of as the “thisness” of an object (Adams, p. 1981). These properties are the sort of 
properties that would be expressed with phrases like “being Socrates” or “being Quine.” The 
properties expressed by these phrases are primitive, so they are not partially composed of 
Socrates or Quine themselves.
Davidson maintains that these terms refer directly; thus, the content of ‘now’ is the time of the utterance, and the content of ‘α’ is the actual world (2007, p.8). Under this view, which we will refer to as the Multi-Indexed view, proper names and most indexicals, express purely qualitative contents together with the contents expressed by the three primitives 36, ‘I,’ ‘now’ and ‘α’ (Davidson, 2007, p. 119). The property expressed by a referring singular term can generally be characterized as follows: a singular term ‘t’ uttered by individual A as a way to refer to object o will express the indexed property being the F approximately d distance from me now in α, where me expresses the haecceity of A, now expresses the time of the utterance and α expresses the actual world. 37

For instance, the proper name “Donald Trump” uttered by me might express the property being the 45th president of the country I live in and who’s residence is approximately less than 3,000 miles from me now in α. The proper name ‘Immanuel Kant’ might express being the philosopher who wrote the First Critique 38 and lived approximately less than 10,000 miles from and 200 years before me now in α. Some Indexicals can be given a similar treatment. Suppose I am walking with a friend by the philosophy department at UC Riverside and I spot John Perry about 20 feet away from us. I then look over at my friend and say “He wrote Reference and Reflexivity,” pointing at Perry. The indexical “He” in my utterance might express the property being the

36 Davidson takes these as primitive because they are not further analyzed as indexed properties. As was mentioned already ‘I’ or ‘me’ expresses the utterer’s haecceity, ‘now’ expresses the time of the utterance, and ‘α’ expresses the actual world. It is not clear why he does not maintain that ‘now’ and ‘α’ also express haecceities; that is, the haecceity of the time of the utterance and the haecceity of the actual world.
37 Stephen Schiffer presents a similar view in his (1978).
38 The name The First Critique in the description could be further analyzed in a similar way.
A few things should be mentioned about Davidson’s account before considering some problems with it. First, this sort of property indexing is consistent with the notion that the properties expressed by a simple singular term are individual essences. If we think that an individual essence is a property that is uniquely satisfied by a specific object at the world in which the object exists, and by no one else unless they are identical to that object, then these multi-indexed properties have the effect of being individual essences of whatever uniquely satisfied these properties.

Second, even though proper names and most indexicals express multi-indexed properties of these kind, it does not mean that there are no differences between proper names and indexicals. Davidson thinks that the difference between proper names and indexical comes in that there are different linguistic rules that govern the use of each in various contexts (2007, p. 125). When talking about linguistic rules Davidson has in mind something like Kaplanian characters. However, unlike Kaplanian characters, which are defined as rules that determine a referent for each linguistic term given a context, Davidson is thinking of linguistic rules as factors that guide the intentions of the utterer of a linguistic term (2007, p. 125). The referent of a linguistic term is determined by the intentions of the utterer, that is the descriptive content the utterer associates with a term, not the linguistic rules associated with the terms.

Finally, Davidson sees this characterization of individual essences as superior to Plantinga’s account, in that it not only avoids issues like Kripke’s modal problem by indexing the content of a singular term to the world of the utterance. It also seems to
avoids temporal or spatial issues in which the content of a singular term can also
determine qualitatively identical individuals which exist at different places or times in the
same world.

§3.2.2.1: Lack of Information and Variant Semantic Content Problems

I see a few problems with the Multi-Indexed view, in particular as it relates to our
current issue of indexical communication. Davidson develops his theory as a theory of
the intentions of utterers. Thus, the content associated with a particular linguistic term
depends on the content an agent associates with it, which in the case of proper names and
most indexicals is characterized as individual essences characterized as indexed-
properties. As we saw in section 2, it does not seem that having one of these contents in
mind makes a difference in how we use a linguistic term, or who our thoughts are about.
But let us push those issues aside and focus exclusively on the Multi-Indexed view.

One problem with Davidson’s account is that we generally don’t have the sort of
information in mind that his theory requires in order to index the properties that would
determine the referent of the singular term in question. For instance, while I may be able
to determine that I am approximately 20 feet from Perry or that Kant lived approximately
200 years before me now, it not clear that we do this, or can do this, all the time. For
instance, it seems that I may be able to use the name ‘Saint Anselm’ correctly when
speaking about his ontological argument for the existence of God without having the
slightest idea of where or when he lived.

In addition, even if we always had in mind the sort of information required to
index the content of our use of simple singular terms, indexing the content of singular
terms in this way has the consequence that the content of singular terms might vary not just from person to person, but from time to time for the same person.

For instance, suppose that I am in Los Angeles on my way to the airport. I am taking a trip to England to visit Charles Darwin’s birthplace. On my way to the airport I am having a conversation with my cab driver and I mention “Charles Darwin wrote *On the Origin of Species*.” About 14 hours later I arrive in London, and while at customs I explain the reason for my visit and once again I mention “Charles Darwin wrote *On the Origin of Species*.” It seems that the semantic content of those two token sentences should be the same. However, under the Multi-Indexing view, the content of ‘Charles Darwin’ will vary from my use in California to my use in England. Consider another example, suppose that in middle school while learning about Darwin’s theory of evolution the instructor mentions that Darwin wrote *On the Origin of Species*. This leads me to have the belief I express with “Charles Darwin wrote the *On the Origin of Species*.” Fifteen years later, as I’m trying to explain Darwin’s theory of evolution to a friend I mention “Charles Darwin wrote *On the Origin of Species*.” Once again, it seems that the semantic content of those two token sentences should be the same. However, under the Multi-Indexing view, the content of ‘Charles Darwin’ will vary from my use in middle school to my use fifteen years later. This strikes me as odd. But it seems to be a consequence of the Multi-Indexing view because of the spatial and temporal indexing that the theory requires in order to secure the reference of singular terms.

We expect to see this sort of content variation when it comes to indexical expressions. However, it is odd to think that two token uses of the same name type by the same individual can, and would, vary in semantic content in different contexts. In other
words, the sort of content variation we see with indexical expressions is not something that we generally expect to see when it comes to proper names. But insofar as one characterizes contents in this highly contextualized manner, one would be committed to the consequence that two token uses of the same name type may vary in semantic content in different contexts.

Finally, the Multi-Indexing view is not able to maintain both principles of TMC. Under the Multi-Indexing view, given that the content of a linguistic expression is determined by the intention of the speaker, the content of a speaker’s belief will be identical to the content of the utterance they use to express that belief. However, this is not enough to guarantee that the content grasped by a hearer will be identical to the content of the utterance she hears. Thus, the speech-to-mind principle cannot be maintained.

Of course this alone would not be a devastating problem for the Multi-Indexing view, especially because this problem seems to affect most theories that have a descriptivist inclination. When it comes to the Multi-Indexing view, if it is able to provide an account of how the indexed contents of the hearer is determined by what the speaker utters, then it may be said to have provided an account of successful communication. How can the Multi-Indexing theorist explain this relation? Perhaps they can explain this relation by appeal to the linguistic rules Davidson mentions. However, this may not help. As Davidson characterizes them, linguistic rules are conventional factors that guide the intentions of the utterer of a linguistic term. So this might help explain how the content of a belief is related to the content of an utterance. But it does
little to explain how, or why, the hearer comes to have the belief content that she does once she hears the speaker’s utterance.

§3.3: Character-Like Sense

As way of responding to an argument by Tyler Burge (1979) that Fregeans cannot consistently identify the sense of an expression with its linguistic meaning, Robert May (2006b) provides an interpretation of Frege which gives different treatments to the sense of proper names and indexicals. The key to May’s interpretation of Frege is that, unlike proper names, the sense of indexical expressions are not modes of presentations; that is, they don’t determine the reference of an occurrence of an indexical.

Burge’s argument, according to May, is based on the belief that Fregeans can’t identify the sense of a linguistic expression with its linguistic meaning, while at the same time maintaining two other traditionally held Fregean theses: (i) that sense uniquely determines reference, and (ii) that meaning is invariant and universal (May 2006b, pp. 487-488). This is especially the case when it comes to indexical expressions. Thesis (i) entails that if a linguistic term varies in reference, then it expresses different senses. Indexical expressions by their very nature have the property of varying in referent from context of use to context of use. Indexicals can’t satisfy thesis (ii). Therefore, senses cannot be linguistic meanings, because, as Burge puts it “Senses shifts with context; [Linguistic] meaning does not” (1979, p. 405).

May, however, thinks that this problem arises, not because we think that sense uniquely determine reference, but because we think that the reference of all singular terms is determined the same way. More precisely, we assume that the sense of all

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39 Throughout this section I use ‘mode of presentation’ only for entities that determine reference without contextualizing to context.
singular terms are modes of presentation which uniquely determine reference. According to May (2006, p.488), it is this assumption that allows anti-Fregean arguments like those presented by Burge and Perry to make any headway. So, providing an interpretation in which not all senses, in particular those expressed by indexicals, are modes of presentation, will alleviate the problems Fregeans have faced when it comes to accounting for indexicals and indexical beliefs.

According to May (2006b, p.491), within Frege’s article “Thought” (1918) resides the idea that senses come in two varieties: those that present their reference and those that do not present their reference. This distinction immediately raises the question, “What does it mean for a sense to present its reference?” According to May the distinction comes in whether a sense contains a mode of presentation or it does not. Senses that present their reference contain modes of presentation which are qualitative description of the referent in question. Senses that do not present their reference do not contain a mode of presentation. But now we need to know the conditions under which a mode of presentation would be needed in order to determine a reference.

In order to address this concern May has us look at Frege’s theory of judgment. According to Frege, judgment is a transition from a sense to its referent. Agents can make a judgment in regards to a Fregean proposition when there is enough information to determine whether the proposition grasped is true or false. This requires that the agent have, what May (2006b, p. 490) calls, “cognitive access” to the referent of the linguistic term being used. This cognitive access can be accomplished in two ways; either the referent is directly presented to the agent or it must be presented by the sense via a mode of presentation. Thus, modes of presentation are needed when the referent of a term is not
already present to the agent, otherwise modes of presentation are not needed (May 2006b, p. 491). In other words, when the referent of a thought (i.e. a Fregean proposition) is not present (i.e. clearly identified), the sense of the thought grasped by an agent must supply the extra information in the form of a mode of presentation of the referent. This is required in order for the agent to make a judgment of the thought.

Typically, this sort of supplementation is not needed when dealing with the content of indexicals, but it is when dealing with the content of proper names. This is why the sense expressed by a proper name will contain a mode of presentation, but the sense of indexicals will not. Instead, according to May (2006b, p. 491-492), the sense of an indexical will contain enough information that together with a context will determine a reference. In other words, the relevant descriptive sense for each indexical expression would have to be relativized to a context so that the sense of an indexical together with a context determine an object as its referent. For example, the sense of an indexical like ‘he,’ needs to contain at least the information that the present reference is male, unitary and neither the speaker nor the addressee (May 2006b, p. 492). The sense of ‘I’ should at least contain the information that the present reference is the thinker/speaker/writer.

The proposition expressed by a sentence with a proper name will be similar to those expressed on a traditional Descriptivist account, where proper names are said to

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40 When speaking of ‘he’ May has in mind standard uses of the term. However, May (2006b, p. 492, n.8) does note that this is not always the case. In fact, at times ‘he’ can be used to refer to the speaker such as in Perry style mirror cases, in which the speaker successfully uses ‘he’ to unknowingly refer to himself.

41 I add the thinker as a possible sense that would be grasp when one has a de se though because presumably, when one has a de se thought one doesn’t always express their de se thought verbally or in writing. One merely has the thought.

42 May (2006b, p. 492) is essentially identifying the senses of indexical expressions with something akin to Kaplanian character or what Perry calls roles. Mark Balaguer presents a similar view in his (2005) article “Indexical Propositions and De Re Belief Ascriptions”.

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contribute qualitative descriptive senses of the form the F. The proposition expressed by a sentence with an indexical will express a proposition, where the content of the indexical expression will determine a referent at the context of use. For example, the context at which “I am making a mess” is uttered will determine the present referent of ‘I’ as the speaker. The proposition expressed by said sentences will be true if and only if the determined referent of ‘I’ is making a mess. What ultimately differentiates a proposition containing the sense of a proper name from one containing the sense of an indexical, is that the latter’s truth-value cannot be determined without supplementation of a reference in a context while the former can (May 2006b, p. 505). This is because the proposition containing the sense of an indexical expression does not contain a mode of presentation of the referent in question.

Given the differences between the propositions expressed by sentences with an indexical and sentences with a proper name, May not only provides a prima facie solution to the problem of indexical beliefs, but also provides a prima facie response to the Non-Sufficiency of Belief argument presented above.

§3.3.1: Invariant Sense and Communication

As it stands, the theory of sense that May has presented is a theory in which the sense expressed by indexical expressions is invariant (May 2006b, p.494). So the thought content I express with “I am hungry” is the same thought content someone else would express with “I am hungry.” However, according to May (2006b p.495), once the truth-value of a thought has been fixed, it is fixed for good. The result of this is what May, following Frege, calls a complete thought. Whether a complete thought is true or false is
a function of the invariant thought content and the reference of the thought content at a context.

This view, however, seems to run into some problems when dealing with demonstrative thoughts like those expressed with sentences like “that is that” while knowingly pointing at the same object. Suppose that Mike and Bob come across a peculiar dog whose head and torso are brown and whose hind legs and tail are black. Mike has come across this dog before. The dog is standing behind a pillar which from Mike and Bob’s perspective makes it seem like there are two distinct dogs. Bob comes to believe that it is in fact two distinct dogs. Mike however knows it’s the same dog, and attempts to inform Bob. Mike utters “that dog [pointing at the head] is that dog [pointing at the hind legs].” Under May’s view the sense of each occurrence of ‘that dog’ are the same, in addition to the fact that they refer to the same dog. So, while the thought that Mike expresses seems to be informative, May’s account entails that it is in fact trivial. But this is clearly wrong. This consequence is a result of identifying the sense of indexical expressions with invariant linguistic meanings.

In addition, while the sense of indexical sentences and thoughts are invariant, it is still does not seem sufficient to uphold both principles of TMC. Suppose Mike believes that Bob is hungry and wants to communicate this to Bob by uttering “You are hungry.” By the time that Bob hears what Mike asserts the context has surely changed. So we cannot expect Bob to believe what Mike asserted. For Bob to believe what Mike asserts would be to believe the proposition he would express with “You are hungry,” but this is wrong. So, in order for communication to be deemed successful, it can’t be the case that Bob has to believe what Mike asserted. Rather Bob has to believe (or merely entertain)
the proposition he would express with “I am hungry.” But this would require giving up one of the principles of TMC, and explaining why the proposition Bob comes to grasp is deemed appropriate for successful communication.

§4: Fregean Indexical Communication

As our discussion above suggests, in order to account for indexical beliefs a Fregean theory of belief would have to in some sense relativize the content of said indexical belief to the context of the agent’s belief. This, however, has the consequence of violating one or both principles of TMC. Of course this would only be considered a problem if it was a necessary condition of successful communication that a speaker and hearer grasp the same proposition. Some Fregeans have denied this requirement, and thus reject TMC.

In order to explain how communication works within a Fregean framework, some Fregeans have provided alternative models of communication that do not depend on having speakers and hearers grasp the same proposition. While these theories vary in detail they all adhere to a main core idea; communication is deemed successful even when the propositions grasped by a speaker and a hearer differ, as long as the propositions are equivalent in an appropriate way. We’ll call models that follow this basic structure Equivalency of Content Models of Communication (ECMC)\(^{43}\). So what would it mean for two propositions to be equivalent in an appropriate way?

Richard Heck (2002, p. 23) argues that it is a fact about language that when using a referring expressions, one must think of the referent of the expression in a certain way. Ways of thinking about a referent will vary from person to person, even when they are

\(^{43}\) Anne Bezuidenhout seems to be committed to a model of this kind, although she does not specify what grasping a proposition in an equivalent way would consist of. We will consider her view in chapter 5. For details on her view of communication see her (1997).
using the exact same referring expressions. However, Heck (2002, p. 23-25) proposes that for each utterance of a referring expression there will be a restricted cluster of ways in which one could think of the object the expression is used to refer. Heck has us think of these restricted clusters as *appropriate ways* one can think of an object given the referring expression used. These appropriate ways of thinking are the contents that are grasped and asserted when one uses referring expressions. If this is correct, then it might turn out that different individuals can think of the same object in different ways, even when they use the same referring expression to refer to said object. But as long as the ways of thinking fall within the appropriate parameters for the given expression, then the ways of thinking, and thus the content grasped by the agents who understand the expression in question, would be regarded as equivalent in the appropriate way (Heck 2002, p.23). So, according to Heck, successful communication doesn’t come in a speaker and hearer grasping the same proposition, but in having a speaker and hearer think of the object in question in equivalently appropriate ways.

One concern with Heck’s account is that it seems to pass the explanatory buck. That is, it takes the burden of explaining “equivalent in the appropriate way” and places it on the notion of “appropriate ways of thinking of an object,” as if the latter made better sense. In fact, doing this seems to make things more obscure. In other words, it does not seem clear what would constitute the set or parameters of appropriate ways in which we can think of an object for any given expression used to refer to said object. Identifying the cluster of permitted ways of thinking of a referent for any term, still requires us to identify what makes the plurality of permitted ways equivalent, or similar.
One might explain the notion of “equivalent in an appropriate way” in terms of what is *common* between the content expressed by a speaker’s utterance and what a hearer comes to grasp. Peter Pagin (2006) seems to take this route when providing his model of indexical communication. In order to account for indexical beliefs Peter Pagin (2006, pp. 302-303) adopts a view of belief that is committed to contents of limited accessibility. As we already saw, this has the consequence that the contents grasped by a speaker and hearer during communication would not be the same. Pagin (2006, pp. 303) maintains that communication can still be considered successful if the content of the speaker’s belief and the content of the hearer’s belief are approximately the same. According to Pagin, it suffices to say that contents are approximately the same iff they pick out the same individuals. For instance, suppose John communicates his belief to Mary by uttering “I am a philosopher.” According to Pagin’s account, communication will be successful just in case the contents of their beliefs pick out John and the property *being a philosopher*. So, two contents are “equivalent in an appropriate way” under Pagin’s model, if they determine the same referent.

What appears to be doing the explanatory work under Pagin’s model is the referent determined by the contents grasped by the speaker and hearer during communication. If this is the case, at this point why not just use singular propositions to explain the commonality between what is grasped by the speaker and hearer during communication? Heck considers this possibility, but dismisses it on the grounds that there might be other option that account for the commonality between the contents grasped by a speaker and hearer (Heck 2002, p. 31). I don’t disagree with Heck. That is, I would agree that there might be other option to account for the commonality between
what is grasped by the speaker and hearer during communication besides resorting to singular proposition. But I think that this will be a very difficult task for the Fregean to accomplish.

It seems to me that we can just avoid the complications of trying to find what is common between the contents grasped by a speaker and hearer by resorting to singular propositions. A Fregean might still oppose this on grounds that Fregean propositions are needed to account for cognitive significance and ultimately for the nature of indexical beliefs. However, this is clearly false given that there are other theories that account for these phenomena.\(^44\) So I don’t see why one would have to buy ECMC other than to accommodate a Fregean theory of belief. But this just seems to make the entire project \textit{ad hoc}.

§5: Conclusion

In this chapter we looked at different characterizations of Fregean propositions and determined whether they can be used to account for the nature of indexical beliefs. I highlighted some of their upshots, and some of their limitations. In particular, we saw that in their attempt to account for indexical beliefs these theories find it difficult to simultaneously explain indexical communication. We then looked at ECMC as a model that can help Fregeans explain indexical communication. I argued that ECMC faces some difficulties trying to explain what it would mean for propositions to be equivalent in an appropriate way. And ultimately, the only reason to pursue ECMC is to accommodate a Fregean theory of belief, which makes the entire project \textit{ad hoc}.

\(^44\) In chapters 3 and 4 we will look at theories that explain cognitive significance and the nature of indexical beliefs without the need of Fregean style propositions.
CHAPTER THREE

Centered Beliefs and Centered Communication

§0: Introduction

In this chapter we will look at how centered contents (i.e. sets of centered worlds) have been used to characterize indexical beliefs. We will begin by looking at David Lewis’ (1979) views on centered worlds and centered contents, and his motivations for using centered contents to characterize not only de se beliefs, but beliefs in general. We will then look at the challenge that Lewis’ view faces when trying to account for indexical communication. We then take a look at two recent approaches at trying to account for indexical communication within a Lewisian framework. The first approach is that of Clas Weber’s (2013). Weber attempts to account for indexical communication by rejecting the Traditional Model of Communication (TMC) and provides an alternative model of communication which accommodates a traditional account of centered contents. The second approach is one taken by Dilip Ninan (2010, 2012, 2013). Ninan attempts to explain indexical communication by reformulating the notion of a centered content while maintaining something like TMC. I will argue that both approaches are problematic, and therefore a view that uses centered contents to characterize indexical beliefs cannot adequately account for indexical communication.

45 Stephan Torre (2010) also provides an account similar to the one Ninan presents.
§1: The Case Against Propositions

In his paper “Attitudes De Dicto and De Se” (1979), David Lewis presented an account of belief that is a radical departure from the Traditional View of Belief (TVB). He does this by laying out the foundation to one of the most influential accounts of belief content; Lewis maintains that the content of psychological states, such as believing, are not propositions, but rather properties or, equivalently, sets of centered worlds. To argue for this position Lewis attempts to establish the following two theses (Lewis, 1979 p. 516):

(I) When propositions can serve as the objects of attitudes, properties can also.

(II) At times properties will serve as the objects of attitudes, but propositions cannot.

In order to understand how Lewis establishes these two theses, it is important to first see the motivations for the development of this view.

Lewis, like John Perry, was aware of the problems that self-locating beliefs pose for TVB. Lewis believed that the problem with TVB was that belief contents are identified as propositions. This is especially problematic when dealing with self-locating beliefs. His famous case of the two gods is an attempt to demonstrate how inadequate propositions are for characterizing self-locating beliefs. In that case Lewis attempts to establish that we cannot always characterize the contents of psychological states with truth bearing propositions. Lewis writes:

Consider the case of the two gods. They inhabit a certain possible world, and they know exactly which world it is. Therefore, they know every proposition that is true at their world. Insofar as knowledge is a propositional attitude, they are omniscient. Still I can imagine them to

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46 Roderick Chisholm (1981) also developed a similar view in which he takes mental contents to be properties. However, Lewis’ characterization of mental content as sets of centered worlds has turned out to be more influential. For this reason, we focus on Lewis’ framework.
suffer ignorance: neither one knows which of the two he is. They are not exactly alike. One lives on top of the tallest mountain and throws down manna; the other lives on top of the coldest mountain and throws down thunderbolts. Neither one knows whether he lives on the tallest mountain or on the coldest mountains ... if it is possible to lack knowledge and not lack any propositional knowledge, then the lacked knowledge must not be propositional. (Lewis 1979, pp. 520-521).

Let us call the god that lives on the coldest mountain Bolt and the god that lives on the tallest mountain Manny. Both gods know which world they inhabit, both have an equally good vantage point of every corner of the world they inhabit, and thus know every true proposition in that world. However, neither Bolt nor Manny are willing to assent to “I am the god that lives on the coldest mountain” or “I am the god that lives on the tallest mountain.” Lewis wants to claim that if it is possible to lack this kind of knowledge, then what they are ignorant of is not another proposition, but something else (1979, pp.520-521).

Lewis’ argument against propositional attitudes can be formulated as follows:

**Lewis’s Argument Against Propositional Attitudes**

P1) Assume that the contents of all psychological attitudes are propositions.

P2) ‘Know’ expresses a psychological relation an agent can bear to a proposition.

P3) The two gods are omniscient and thus know every true proposition at their world \( w \).

P4) However, neither god knows which mountain he is on.

P5) Since the gods know every true proposition in \( w \), but are ignorant of which mountain they are on, it follows that some knowledge is not propositional.

C) It is not the case that the contents of all psychological attitudes are propositions.
There has been much controversy surrounding Lewis’ case of the two gods and, in particular, whether it can be coherently maintained that the gods are omniscient about all true propositions, yet be ignorant as to their location within their world. Without getting into all of the controversial aspects of the case, we will briefly talk about the one aspect that makes the case of the two gods’ ignorance plausible. The key to getting Lewis’ argument off the ground is identifying propositions with sets of possible worlds (henceforth referred to as possible-world contents). By equating propositions with sets of possible worlds, Lewis is able to make the case that TVB cannot make sense of de se beliefs given that possible-world contents are too coarse grained to account for the more fine-grained nature that de se attitudes seem to require.

If propositions are possible-world contents and sentences express propositions, then a sentence $S$ is said to express a possible-world content, namely the set of possible worlds where $S$ is true. We will provide the following truth conditions for possible-world contents:

$\text{Possible-World Contents Truth Conditions} \quad \text{def} = \text{A possible-world content } p \text{ is true at a world } w \text{ iff } w \text{ is a member of } p.$

When it comes to believing a possible-world content $p$, an individual believes $p$ insofar as she takes the world she inhabits to be a member of $p$. In other words, if $x$ believes possible-world content $p$, then all the possible worlds $w'$ compatible with what $x$ believes in $w$ are in $p$. By identifying our world (the actual world) as a member of a set of possible worlds, we are in essence ruling out other ways our world might have been or could be; that is, we are ruling out other possibilities. So believing a possible-world content

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48 As we will see in the next chapter, de se beliefs also raise issues for views that characterize the content of belief with structuredRussellian propositions.
amounts to taking the world one inhabits to be a member of a specific set of possible worlds. For example, if I believe *that the Boston Celtics will win the 2019 NBA championship*, then I take this world (the world I inhabit) to be in the set of worlds where the Boston Celtics win the 2019 NBA championship. My belief will be true iff this world is a member of the set of possible worlds where the Boston Celtics win the 2019 NBA championship; and it will be false iff this world is not a member of the set of worlds where the Boston Celtics win the 2019 NBA championship.

In the case of the two gods, it is stipulated that they are omniscient with respect to all the propositions that are true at the world they inhabit. Since they are omniscient with respect to all the propositions that are true at the world they inhabit, and there is only one world compatible with everything they believe, it follows they know which world they inhabit. That is, they know all the sets of possible worlds their world is a member of, which is the singleton of their world. Furthermore, since they know every true proposition in their world, they would be said to know *that the god on top of the tallest mountain throws down manna*, and *that the god on the coldest mountain throws down thunderbolts*. This is because they know that in their world the god on top of the tallest mountain throws down manna, and the god on the coldest mountain throws down thunderbolts. But why would they not be able to know which mountain they are on? Why couldn’t either assent to the sentence “I am the god that lives on the coldest mountain” or “I am the god that lives on the tallest mountain”? According to Lewis, the reason is because what we are asking the gods to do is not to identify which world they inhabit, since they already know this, but rather where they are within that world. Thus, the
content of the gods’ *de se* attitudes, what they believe, will be true with respect to some people at world $w$ and false with respect to other people at the same world $w$.

Identifying propositions with sets of possible worlds means that the gods will only be able to draw boundaries between those worlds that make propositions true at their world, and those that do not. However, *de se* attitudes, like the ones in question, require the gods to make finer distinctions within a world. They require one to draw boundaries not between worlds, but within a world. Since under TVB the gods are related to the same possible-worlds content, (the singleton of their world) we can’t characterize the cognitive difference in their *de se* beliefs in terms of the difference in their belief content. Thus, Lewis concludes, possible-world contents are just too coarse-grained to make the kind of distinctions that we need to adequately characterize the cognitive difference of *de se* beliefs. In order to get this fine grained distinction Lewis suggests a different type of content.

**§2: The Case for Properties**

Once Lewis presents his argument against propositions, and thus TVB, he moves on to present his case for a new kind of content. Ultimately, Lewis maintains that the content of people’s attitudes are properties or sets of individuals, not propositions. He begins by defending his first thesis:

(1) When propositions can serve as the objects of attitudes, properties can also.

As we already saw, Lewis takes propositions to be sets of possible worlds. When it comes to properties, Lewis takes them to be sets of possible objects (i.e. individuals) that possess the property in question (Lewis 1979, p.515, 1986, p.50-69). Lewis provides a
broad conception of properties. This conception includes not only intrinsic and extrinsic properties, but also impure properties like being in the country where baseball is the national pastime or being such that Sacramento is the capital of California. Given this broad conception of properties, Lewis wants to maintain that for any proposition \( p \) (i.e. possible-worlds content) there corresponds the property of being such that one inhabits a world where \( p \) is true. According to Lewis, this entails that there will be a one-to-one correspondence between all propositions and some properties. If this is true, it follows that no information is gained or lost, and thus the informational content between them is equivalent. From this result, Lewis comes to establish that either entity (proposition or property) could sufficiently serve as the content of attitudes (1979, p. 516).

After he establishes his first thesis, he moves on to establish his second thesis which he says follows directly from the first. If we recall, his second thesis states that

\[ (II) \text{ At times properties will serve as the objects of attitudes, but propositions cannot.} \]

Lewis re-emphasizes that the one-to-one correspondence holds between all propositions and some properties. He continues by stating that if a property only applies to a subset of a world’s population, then the property in question does not correspond to any proposition at all. For example, since the proposition that snow is white is true at our world, then the property inhabiting a world in which that snow is white is true applies to all those individuals that live in our world (namely because snow is white in our world). Thus, there is a one-to-one correspondence between the proposition that snow is white and the property being one that inhabits a world in which that snow is white is true.
According to Lewis, we can use either the proposition or the corresponding property to characterize the content of someone who believes that snow is white.

But now consider the property *being a graduate student at UB*. Since this property only applies to some members of our world and not to others, according to Lewis, there is not going to be a corresponding proposition that can be used to characterize the content of the belief someone would express by uttering “I am a graduate student at UB.” Again, the reason for this is because propositions, construed as possible-world contents, are true/false at a world and not just of some members of a world. Thus, characterizing the contents of *de se* beliefs would be better served using properties rather than propositions.

So far, we have merely seen an account of the contents of attitudes, which for Lewis turns out to be properties. But Lewis also provides an account of the belief relation that is different than the one we see in TVB. Since Lewis takes properties to be the contents of beliefs, the belief relation turns out to be a self-ascribing relation. To believe a property *being P* is to ascribe the property *being P* to oneself. For example, suppose I self-ascribe (that is, believe) the property of *being a graduate student at UB*. Self-ascribing this property is why I am inclined to utter “I am a graduate student at UB.” Self-ascribing the property of *being such that all dogs are mammals* is why I am inclined to utter “all dogs are mammals.”
§3: Believing Centered Contents

Lewis’ account can also be characterized in a different, but equivalent, way. In fact, this alternative way of characterizing Lewis’ view has been more influential than characterizing the content of attitudes as properties.\(^{49}\) This alternative way of characterizing the content of attitudes uses sets of possibilities that are distinct from possible-world contents. Rather than using sets of possible worlds, Lewis suggests that we should use sets of centered worlds (henceforth referred to as centered contents). A centered world is an ordered pair \(<w,x>\) consisting of a world \(w\) and an object \(x\) which is considered the center of the centered world.\(^{50}\) Properties and centered contents are equivalent (Lewis 1979, pp. 531-532) in that for any property \(P'\) there is a set \(u'\) of \(<w',x'>\) (i.e. centered content \(u'\)) such that every \(x'\) has \(P'\) in \(w'\), and for each set \(u'\) of pairs \(<w',x'>\), there is a property \(P'\) that all of the \(x''\)'s have in their respective worlds.

We can show this equivalency as follows: Consider some arbitrary property being \(P\), such that some objects instantiate \(P\) at some worlds, and lack \(P\) at other worlds. Consider some arbitrary set \(u\) of pairs \(<w, x>\). If we take a liberal notion of properties, the way Lewis does we can establish that property \(P\) is equivalent to set \(u\) in that we can imagine that property \(P\) is a property that all the \(x\)'s in \(u\) share. So that property \(P\) is equivalent to set \(u\). We can get the same result in reverse. Set \(u\) is equivalent to property

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\(^{49}\) Centered contents have been used in the philosophy of perception (Brogaard, 2010), they have been used to account for epistemic modals (Egan, 2007), and assertions (Torre, 2010).

\(^{50}\) I present centered worlds as ordered pairs \(<w,x>\) which consists of a world \(w\) and an agent \(x\). However, sometimes they are presented as triples \(<w,t,x>\) consisting of a world \(w\), time \(t\) and and an agent \(x\). When it comes to most of the examples we will be using, it is harmless to remove the time coordinate \(t\) and only focus on the world and agent coordinates. The time coordinate is used to make the content in question more fine grained, and also to account for attitudes regarding time, such as the belief that would be expressed by uttering “John is at work now”. Thus, unless we are dealing with attitudes involving time, we will take the liberty to remove the time coordinate from centered worlds, and only incorporate them as needed.
$P$ in that for every property $P'$, there is the corresponding set of all $<w',x'>$ such that each $x'$ has $P'$ in $w'$. We can imagine that $P$ is the property that each $x$ has in $w$. So set $u$ is equivalent to property $P$. Thus, we get that property $P$ and centered content $u$ are equivalent. Since property $P$ and centered content $u$ were arbitrary, we get the result that for any property $P'$ there is a set of $<w',x'>$ such that $x'$ has $P'$ in $w'$, and for each set $u'$ of pairs $<w',x'>$, there is a property $P'$ that all of the $x$'s have in their respective worlds. Thus, properties and centered contents are equivalent.

§3.1: De Se Beliefs

We can use centered contents to characterize the content of Bolt’s beliefs in the case of the two gods. For example, let $m$ be the centered content whose members instantiate the property of living on the coldest mountain at their respective worlds. We can represent this centered content as follows:

$$m = \{<w',x'>: x' \text{ living on the coldest mountain in } w'\}$$

where for any center $x'$ in set $m$, $x'$ exemplifies the property living on the coldest mountain in world $w'$. When Bolt has the belief in world $w$ that he expresses by uttering “I live on the coldest mountain,” he takes the centered world $<w, \text{Bolt}>$ to be a member of the set of centered worlds whose centers instantiate the property living on the coldest mountain at their respective worlds. In other words, he takes centered world $<w, \text{Bolt}>$ to be a member of $m$. Bolt’s belief will be true iff $<w, \text{Bolt}>$ is a member of $m$, meaning Bolt in fact instantiates the property of living on the coldest mountain in $w$.

Lewis says that the idea behind the notion of believing a centered content is somewhat similar to that of believing a possible-worlds content. They are similar in that they require the attitude holder to take a possible world, or centered world in this case, to
be a member of a specific set of possibilia. Lewis says that believing a possible-world content consists of taking the world one inhabits to be a member of a specific set of possible worlds, whereas believing a centered-content consists of taking a centered world to be a member of a set of possible individuals that instantiate a specific property. According to Lewis, believing a property and believing a centered-content are equivalent in the following sense: to believe a centered content at world \( w \), an individual must take herself to instantiate certain properties. Since properties are sets of possible individuals, then self-ascribing a property amounts to believing a centered content (i.e. taking oneself to be amongst the set of individuals that instantiate a certain property).

§3.2: De Re Belief

Under the Lewisian View, the self-ascription relation is taken to be a basic relation. Since the self-ascription relation is taken to be a basic relation in the Lewisian View, it follows that all beliefs, including de re and de dicto beliefs, are reduced to de se beliefs.

For instance, suppose I go to a boxing match to see Muhammad Ali fight, and see him win the match by knock out. Subsequently, I form the belief I express by uttering “He is the heavyweight champion.” Later that evening I go have dinner with a friend at a restaurant and see a man in a suit eating dinner with some people. My friend tells me that the man in the suit is Muhammad Ali, which happens to be true. However, I don’t believe him so I form the belief I express by uttering “He is not the heavyweight champion.” If we attempt to characterize my beliefs merely with centered contents, then a problem arises. For example, consider the belief that I express by saying “He is the heavyweight champion.” Suppose that we take its content to be the set of centered worlds such that
Muhammad Ali is the champion. Since I also have the belief that I express by saying “He is not the heavyweight champion”, it means I believe the set of centered worlds such that Muhammad Ali is not the champion. However, since Muhammad Ali is the man wearing the suit in the restaurant, it follows that there are no centered worlds such that Muhammad Ali is, and is not, the heavyweight champion at the same time. In other words, the set I believe is the empty set. But surely this is wrong, given that this is also the set one would use to characterize someone’s irrational belief that some dogs are brown and no dogs are brown. This suggests that centered contents alone are not sufficient to characterize the contents of the de re beliefs I express by uttering “He is the heavyweight champion” and “He is not the heavyweight champion.”

In order to avoid this problem, Lewis introduces a descriptivist solution. Lewis maintains that whenever we have a de re belief about someone we have to do so relative to a relation of acquaintance. According to Lewis (1979 p.539), these are relations capable of transmitting information reliably, insofar as there is a causal and epistemic dependence between the agent and the objects of the agent’s beliefs. Relations of acquaintance need not be robust relations. For example, a suitable relation of acquaintance, for the purpose of having a de re belief, can consist of being related to someone via visual perception. But we can also bear relations of acquaintances to individuals via the properties we ascribe to them descriptively (1979, p. 539). In order to have a de re belief about someone, an individual must bear a unique relation of acquaintance to the individual who the belief is about. With the implementation of relations of acquaintance, we get the following picture of de re beliefs from Lewis (1979, p. 539):
The Lewisian View: An agent \( x \) believes *de re* that individual \( y \) is \( F \) relative to relation of acquaintance \( R \) in world \( w \) iff there is a relation of acquaintance \( R \) such that (i) \( x \) uniquely bear relation of acquaintance \( R \) to \( y \) in \( w \), and (ii) \( x \) believes *de se* that the object to which \( x \) bears relation of acquaintance \( R \) is \( F \) in \( w \).

Condition (ii) can be interpreted as follows: \( x \) believes the following property *being a thing such that it stands in \( R \) to exactly one thing and that thing is \( F \).*

How does the introduction of relations of acquaintance solve the issue we mentioned with my beliefs about Muhammad Ali? Suppose that I am acquainted with Muhammad Ali relative to relation of acquaintance \( S \), which is the relation \( x \) bears to \( y \) just in case \( y \) is the unique individual \( x \) sees winning the boxing match by knock out. Thus, when I believe Muhammad Ali is heavyweight champion relative to \( S \) in \( w \), I believe centered content

\[
c = \{<w',x'>: x' \text{ being such that there is exactly one } y \text{ such that } x' \text{ sees } y \text{ winning the match and } y \text{ is the heavyweight champion in } w' \}
\]

But I am also acquainted with Muhammad Ali relative to \( Q \), which is the relation \( x \) bears to \( y \) just in case \( y \) is the unique individual \( x \) sees wearing a suit and eating dinner. Thus, when I believe Muhammad Ali is not heavyweight champion relative to \( Q \) in \( w \), I believe centered content

\[
n = \{<w',x'>: x' \text{ being such that there is exactly one } y \text{ such that } x' \text{ sees } y \text{ wearing a suit and eating dinner and } y \text{ is not the heavyweight champion in } w' \}
\]

Since I am acquainted with Muhammad Ali relative to two distinct relations of acquaintance my beliefs that Muhammad Ali is heavyweight champion and that the man in the suit is not heavyweight champion will be compatible with each other. Even though they are apparently contradictory beliefs about the same individual.
§4: Centered Contents and the Problem of Communication

Centered contents seem to give us a very plausible and attractive way of characterizing the contents of indexical beliefs. However, when we use centered contents to characterize the contents of indexical beliefs and incorporate this view into TMC, then we seem to get some strange results.

To recall, TMC holds that the content of an agent’s belief is identical to the content of the sentence the agent uses to express said belief, and the content of the belief the hearer comes to have once they hear the agent’s utterance and accept what it says.

Following Clas Weber (2013) TMC can be characterized by the following principles:

(III) *The mind-to-speech principle*: the content of the utterance is identical to the content of a belief the speaker expresses.

(IV) *The speech-to-mind principle*: the content of the utterance is identical to the content of a belief the hearer acquires.

However, once we couple TMC with the Lewisian View we get some strange results.

Let’s consider the *Messy Shopper* case again. Suppose Perry realizes that it is his sugar sack that is torn, and thus comes to believe that he is making a mess. We can characterize the content of his belief as follows:

\[ n = \{<w',x'>; x' \text{ being a mess maker in } w' \} \]

Suppose he intends to communicate his belief to David Lewis by uttering “I am making a mess.” According to TMC, if Lewis accepts what Perry has asserted, then Lewis too could come to believe centered content \( n \). However, since \( n \) is the centered content whose centers instantiate the property of *being a mess maker* at their respective worlds, by accepting \( n \), Lewis would be said to believe that he is making a mess. But this is clearly wrong, since what we expect, if Lewis does accept what Perry asserts, is for him to
believe that Perry is making a mess. The problem for the Lewisian View comes in that the representational nature of centered contents are not representations of the way the world is, but of the attitude holder’s context. Thus, two individuals that believe the same centered content will be said to have beliefs that represent them in the exact same way.51

Clearly TMC and the Lewisian View cannot be simultaneously maintained as they stand. This leaves one with two options; either reject TMC, and present an alternative model of communication that can accommodate the Lewisian View, or modify the Lewisian View to make it compatible with TMC or something that resembles it. In the following sections we will explore both alternatives. I will argue that both alternatives are problematic. More importantly, the problems that each alternative faces suggest that centered contents cannot be used to characterize indexical communication.

§5: The Re-Centering Model of Communication

In his paper “Centered Communication” Clas Weber (2013) sticks with the traditional account of the Lewisian View and instead decides to do away with TMC. Weber provides an alternative model of communication in which the exchange of information is indirect, such that what the hearer comes to believe is not what the speaker expresses. Instead, the hearer comes to believe a distinct centered content, which is inferred from the centered content expressed by the speaker’s utterance.

The goal of the model, according to Weber, is to maintain that while communication is not direct, speech is still a straightforward expression of an attitude holder’s thought content. In essence, Weber retains the mind-to-speech principle that was

51 Robert Stalnaker was the first to express this concern with the Lewisian View. See his (1981).
presented in chapter one, but rejects the speech-to-mind principle. In doing so, the Re-Centering Model denies that the content a speaker expresses will be the same content a hearer comes to believe. Thus, the Re-Centering Model requires two distinct centered contents: the content the speaker believes and expresses, and the content the hearer comes to believe. According to Weber the content a speaker believes and asserts with an utterance like “I am hungry” is a centered content and not a standard proposition (2013, p.209-211). The content that a hearer comes to acquire is also a centered content, but

52 The mind-to-speech principle states that the content of the utterance is identical to the content of a belief the speaker expresses. The speech-to-mind principle states that the content of the utterance is identical to the content of a belief the hearer acquires. Both of these principles characterize TMC.

53 Contrary to philosophers such as Egan (2007), Feit (2008, p.109) and Moss (2012), Weber disagrees with a standard view in speech acts that speakers often assert the contents of the sentences they utter. That is, Weber denies that the content expressed (what is asserted) by a speaker A’s utterance of “I am hungry” is a standard possible-world content. He instead maintains that it is a centered content. However, he seems to agree with standard semantic theory that the semantic content, or what he calls the semantic value, of an utterance of a sentence like “I am hungry,” in A’s context, is just the possible worlds proposition, that A is hungry. Even though the content expressed by an utterance is not identical to the semantic content/value of the sentence uttered, Weber maintains that an agent can grasp the semantic content/value of the sentence in virtue of the agent’s linguistic competence. For more on Weber’s reasons for denying the identification of the content expressed by an agent’s utterance with a possible-world proposition, see his (2013, Section 7).

54 More precisely, Weber (2013, p.211) claims that what is expressed by an utterance of “I am hungry” is the diagonal of the sentence’s character, which he claims corresponds to a set of context, where a context (for Weber) is defined as a centered world. Weber, however, does not explain how the diagonal of the sentence’s character corresponds to a set of contexts (i.e. set of centered worlds). What he seems to have in mind is the following; the character of a sentence S can be represented with a two-dimensional matrix, whose horizontal axis is labeled with worlds (i.e. parameters of evaluation) and whose vertical axis is labeled with centered worlds (i.e. contexts). Supposing that a row on the vertical axis is labeled with centered world <w’,x’>, then that row tells you the truth-value of the standard proposition expressed by S in <w’,x’> at each of the worlds in the horizontal axis. The diagonal of the matrix tells one the truth-value of the proposition that S expresses in each <w,x> at each w. This would be the proposition that is true at each <w,x> iff S is true at <w’,x’> and each w’. For example, the diagonal content of “I am hungry” is the proposition one would express with “the speaker of context c is hungry at the world of the context.” So, perhaps in this way, we can make sense of how the diagonal of the sentence’s character can be said to correspond with a set of contexts (i.e. set of centered worlds). While Weber (2013, p.211) takes his account of diagonal propositions to be a portrayal of Kaplan’s, it will surely have to differ given that most relativist (such as Weber) tend to include parameters other than possible worlds in the horizontal axis of a matrix, such as individuals.
it’s distinct from the content expressed by the speaker. We will refer to the content the hearer comes to believe as *the appropriate content*. Given this picture of communication there are two questions we should ask: What does the appropriate content a hearer comes to acquire look like? And what is the process by which this is accomplished?

As was already mentioned Weber rejects the *speech-to-mind principle*, but retains the *mind-to-speech principle*. The idea is that the hearer will come to believe a content that represents her context. According to Weber, the hearer will accomplish this by deriving the appropriate content from the speaker’s expressed content. The appropriate content will be the content that represents the hearer’s context relative to the speaker’s context. Thus, in order to derive the appropriate content, it is crucial that the hearer identify her context relative to the context of the speaker’s utterance. There are many ways this can be accomplished. For example, one straightforward way to do this, in a standard conversational setting, is by having the hearer recognizes that she is the speaker’s addressee. This situation makes it easy, given that the hearer is aware of the speaker’s spatial-temporal location. However, this need not always be the case. In fact, there may be times when the hearer doesn’t know where the speaker is, or that she is the intended addressee. Nevertheless, even when this occurs, Weber claims that a hearer can locate the speaker’s utterance’s context by means of the following relation $R$: *hearer h and speaker s stand in R just in case s produces the utterance token that h is perceiving*.

Kaplan seems to want to limit circumstance of evaluation to at most world-time pairs, in order to account for modal and temporal operators in a language. But would be hesitant to include these exotic parameters. In addition, diagonal propositions are traditionally taken to be traditional propositions See Kaplan (1981 p.502).

55 Weber doesn’t make this clear, but I would assume that in order for a hearer to have *de re* beliefs about a speaker, under the Lewisian View, relation $R$ would have to be a relation of acquaintance, where $R$ is a relation that the hearer uniquely bears the speaker. So perhaps a better
(2013, p.109). By locating the context of the speaker’s utterance, the hearer would then be able to differentiate the content that applies to the speaker, and then infer the content that applies to herself (i.e. the appropriate content).

Weber represents his general Re-Centering Model as a series of steps (2013, p.212):

*The Re-Centering Model*

1. The hearer perceives an utterance “u”. [Perceiving]
2. The hearer believes that the expressed content of “u” is true of the speaker. [Centering]
3. The hearer believes that she is R-related to the speaker. [Locating]
4. The hearer infers information about herself from 2 and 3. [Re-Centering]

Step 1 is straightforward. This is simply taken to be the step at which the addressee perceives the speaker’s utterance. Step 2, the Centering step, is meant to establish that the hearer believes that the content expressed by the speaker’s utterance “u,” is true of the speaker. Weber deconstructs the Centering step, and formulates it in the form of an argument to show the line of reasoning that the hearer goes through in order to derive the appropriate content. The Centering step, as presented by Weber, looks as follow (2013, p. 213):

*Centering*

2a.*Understanding Premise*: “u” is true of the set of Φ-individuals.

2b. *Trusting Premise*: “u” is true of the speaker.

way to represent relation R is as follows; hearer h and speaker s stand in R just in case s is the unique individual that produces the utterance that h is perceiving.
2c. Centering Conclusion: The speaker is a Φ-individual.  

By deconstructing the Centering step, we see that in order to arrive at the Centering Conclusion the hearer has to not only understand what the utterance is trying to represent of the speaker’s context (i.e. Understanding Premise), but the hearer must also assume that the content in question has characterized the speaker’s context correctly (i.e. Trusting Premise). In Step 3 of the Re-Centering Model (i.e. the Locating step) the hearer begins the re-centering process. This is the process in which the hearer derives the appropriate content that represents her context relative to the context of the speaker’s utterance.

Weber also deconstructs the Locating step, and presents it in the form of an argument, in order to show the hearer’s reasoning process.

Re-Centering

3a. Centering Premise: The Speaker is a Φ-individual.

3b. Locating Premise: I am R-related to the speaker.

When talking about content, Weber appears to go back and forth between centered contents and properties. At times he also talks about sets of world-bound individuals. This makes his exposition and examples very confusing. In order to better understand and explain the Re-Centering Model, I propose that when talking about content we stick with contents as properties. I think this makes it easier to understand what he is trying to convey. Although, I assume that what is said in terms of properties can be said in terms of centered contents. So, with this said, we should re-characterize the Centering Step as follows;

2a. Understanding Premise: the content expressed by the speaker’s utterance “u” is the property Φ.

2b. Trusting Premise: the property expressed by the speaker’s utterance “u” is true of the speaker.

2c. Centering Conclusion: the speaker has the property expressed by her utterance “u.”

Weber present the Trusting Premise as a trivial step, however, it is anything but. We will return to this point in section 5.1.1. Seeing the problematic nature of the Trusting Premise will allow us to see the fundamental limitation the Lewisian View faces in accounting for indexical communication, but also in explaining an agent’s reasoning processes in general.
3c. Re-Centering Conclusion: I am \( R \)-related to a \( \Phi \)-individual.\(^{58}\)

The \textit{Centering Premise} is identical to the \textit{Centering Conclusion} derived in the Centering step. Next comes the \textit{Locating Premise}. Again, a hearer can identify this relation by recognizing that she is the speaker’s addressee, and thus stands in the \textit{addressee of} relation to the speaker in question. Or, even if this isn’t possible, the hearer can resort to the \( R \)-relation presented above. This relation is meant to allow the hearer to locate her context relative to the speaker’s utterance’s context by having the hearer understanding that she is \( R \)-related to the speaker. From 3a and 3b, the hearer would presumably be able to infer the appropriate content.

To see how the model works, we will consider Weber’s Groat’s disease example. Suppose individual \( A \) believes that that individual \( B \) has Groat’s disease, and wants to tell \( B \) by uttering “You have Groat’s disease.” If everything goes well, then we would expect \( B \) to believe that she (i.e. \( B \)) has Groat’s disease. Weber models this exchange using the Re-Centering Model as follows\(^{59}\):

\textbf{Weber’s Example} (2013, p. 213-214)

1. \( B \) perceives the utterance produced by \( A \) of “You have Groat’s disease” (being produced at the speaker’s spatial-temporal location) [Perceiving]

2. \( B \) understands the utterance “You have Groat’s disease”; that is, \( B \) understands the property \textit{being such that the utterance of “You have Groat’s disease”}

\(^{58}\) Again, I propose that we re-characterize the Re-Centering Step as follows;

\textit{3a. Centering Conclusion}: the speaker has the property expressed by her utterance “\( u. \)”

\textit{3b Locating Premise}: I am \( R \)-related to the speaker of “\( u. \)”

\textit{3c Re-Centering Conclusion}: I am \( R \)-related to a unique thing that has the property expressed by “\( u. \)”

\(^{59}\) I modified Weber’s Example to mirror the re-characterized Centering Step and Re-Centering Step. See footnotes 56 and 58
expresses the property of addressing a thing x such that x has Groat’s disease. [Understanding]

(3) B believes the property expressed by A’s utterance of “You have Groat’s disease” is true of A: that is, B believes the property being uniquely R-related to a thing y such that the property expressed by y’s utterance “You have Groat’s disease” is true of y. [Trusting]

(4) B believes A has the property expressed by her utterance of “You have Groat’s disease”: that is, B believes the property being uniquely R-related to a thing y such that y self ascribes the property of addressing a thing x such that x has Groat’s disease. [Centering]

(5) B believes she is the addressee of A: that is, B believes the property of being the addressee of a unique thing y such that y is the speaker of the utterance “You have Groat’s disease”. [Locating]

(6) B infers, and comes to believe, from (4) and (5) that she has Groat’s disease: that is, B believes the property of having Groat’s disease. [Re-Centering]

So, by first coming to believe that A has accurately represented her own context and recognize that she (i.e. B) is A’s addressee, B is able to derive and believe the appropriate content that she, and not A, has Groat’s disease.

I conclude this section by making two final points regarding the Re-Centering Model. The first point to note is that Weber’s model concedes Stalnaker’s (1981 p.146-147) point that unless one is willing to accept the undesired consequences the Lewisian View faces when coupled with TMC, then all communication must be in some sense indirect. Weber not only accepts that a hearer will always have to infer the appropriate content from the speaker’s utterance, but also provides the mechanism to show how this could be accomplished. The second point to note is that Weber does not maintain that

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60 Neil Feit (2008, pp. 106-109), like Weber, claims that, contrary to Stalnaker, the fact that communication turns out to be indirect is not problematic at all. While Feit doesn’t provide the mechanism to show how this would work, he claims that all that would be required to demonstrate that indirect communication is not problematic is to provide an adequate explanation of how indirect communication can still entail successful communication.
the inferential steps a hearer takes to acquire the appropriate content necessarily represent a conscious process. While the inferential process can be a conscious one, it can also represent a straightforward sub-conscious process given that speakers and hearers are typically in close spatial proximity, and share world-time parameters (Weber, 2013 p.217).

§5.1: Concerns with the Re-Centering Model of Communication

In the following section I will consider two concerns facing the Re-Centering Model. The first elaborates on a concern presented by Peter Pagin (2016) which points to the difficulty the Re-Centering Model faces in making sense of exchanges in which the hearer disagrees with what the speaker asserts. The second is a concern that has to do with whether one can make traditional inferences such as modus ponens or modus tollens using centered contents. We will look at both of these in turn.

§5.1.1: The Gullibility Concern

If we recall, the Centering step is presented in the form of a pseudo-argument, which consists of the Understanding Premise and the Trusting Premise. But the Trusting Premise cannot in general be maintained, as Peter Pagin (2016) has rightly noted, for otherwise one would not be able to make sense of exchanges in which there is disagreement. For example, suppose that \( A \) believes that \( B \) has Groat’s disease, and expresses this belief by uttering “you have Groat’s disease.” Rather than having \( B \) believe (i.e. self-ascribe) the property having Groat’s disease, \( B \) denies this. She comes to believe the property not have Groat’s disease. However, according to the Re-Centering Model, \( B \) would first have to trust that \( A \) is asserting something that is true, prior to making up her mind about whether to believe or not believe her. And this seems like the
wrong result. We will refer to the Re-Centering Model’s seeming requirement of having the hearer accept the speaker’s assertion as true as the Gullibility Concern.

Two options appear to be available to Weber, or any other proponent of the Re-Centering Model, when dealing with the Gullibility Concern. One option, suggested by Pagin, would be to do away with the Trusting Premise and explain how a hearer can derive the appropriate content without it. The other option, suggested but not explored by Weber, would be to replace the Trusting Premise with something weaker. Let us look at these options in turn.

In his article “De Se Communication,” Pagin (2016) argues that by getting rid of the Trusting Premise, a hearer would not be able to infer an appropriate content in a normal conversation where there is no disagreement. Pagin notes that since the Centering Premise depends on the Trusting Premise, it follows that by removing the latter, the former cannot be available in the Re-Centering Model either. So how would individual B, in Weber’s Example, infer, and come to believe the property having Groat’s disease? In order to infer the appropriate content, given the absence of the Trusting Premise and the Centering Premise, Pagin thinks the Re-Centering Model would need something like an Extended Understanding Premise. Let’s consider Weber’s Example without the Trusting Premise.

**Weber’s Example without Trusting** (Pagin, 2016 p. 300)\(^6\)

1. B perceives the utterance produced by A of “You have Groat’s disease” (being produced at the speaker’s spatial-temporal location) [Perceiving]

2. B understands the utterance “You have Groat’s disease”; that is, B understands the property being such that the utterance of “You have Groat’s disease”

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\(^6\) Once again, I modified Pagin’s Example to mirror the re-characterized Centering Step and Re-Centering Step. See footnote 56 and 59.
expresses the property of addressing a thing x such that x has Groat’s disease. [Understanding]

(3) B understands “You have Groat’s disease”: that is, B understands the property being uniquely R-related to a thing y such that y self ascribes the property of addressing a thing x such that x has Groat’s disease. [Extended Understanding]

(4) B believes she is the addressee of A: that is, B believes the property of being the addressee of a unique thing y such that y is the speaker of the utterance “You have Groat’s disease”. [Locating]

(5) From (3) and (4), B infers and comes to believe the property being the addressee of a unique thing y such that y is the speaker who self-ascribes the property of addressing a thing x such that x has Groat’s disease.

Pagin (2016, p. 300) claims that in order for B to infer the property having Groat’s disease from (5), B would need two things: First, B needs to identify the property she believes in (4) with the property being the individual to whom a unique thing y, such that y is the speaker, ascribes the property of having Groat’s disease. However, this identification is not a trivial task. But, if this step is allowed, then B can advance to

(6) B believes she was ascribed having Groat’s disease: that is, B believes the property being ascribed the property of having Groat’s disease.

Secondly, B needs to advance from (6) to believing the property of having Groat’s disease. However, according to Pagin, this second step cannot be accomplished without a kind of ‘disquotation’ step that allows one to go from the property being ascribed $\phi$ to the property being $\phi$. The Trusting Premise provided this step, but since it is not available, Weber would have to provide this disquotation step in another way. Pagin (2017, p. 300) suggests that B could perhaps already believe some kind of disquotation content such as

**Disquotation Content**: having Groat’s disease if being a thing x such that x has correctly been ascribed having Groat’s disease.
However, in order to isolate *having Groat’s disease*, one needs to infer it from the disquotation content and the content *having correctly been ascribed the property having Groat’s disease*. Pagin suggests that this can be done in a similar fashion to how one would infer ‘ψ’ from ‘ϕ’ and ‘ϕ → ψ’ using *modus ponens*.

However, this presents two problems: (i) it forces the hearer to accept the premise (i.e. believe the property) *having correctly been ascribed the property having Groat’s disease*, which again would only be correct if one were hyper-gullible (Pagin, 2016 p. 301), and (ii) It is not at all clear that one can make inferences like *modus ponens* with centered contents. Thus, by removing the *Trusting Premise* not only has the Re-Centering Model not fully solved the *Gullibility Concern*, but it has made it more difficult for B to infer the appropriate content in an exchange where there is no disagreement.

The other option available to avoid the *Gullibility Concern* is one that was suggested by Weber (2013, p. 212, n.14) but never explored. This option is to replace the *Trusting Premise* with something weaker like the property *being such that the speaker wants me to believe that she has made a true utterance*. However, this too does not seem to get us any closer to an answer of how B could merely entertain, and not accept, having Groat’s disease. Let’s call this replacement step *Weak Trusting*. The new step would look as follows in Weber’s original example.

\[(3^*) B \text{ believes } A \text{ wants her } (B) \text{ to believe that she } (A) \text{ made a true utterance: that is, } B \text{ believes the property being uniquely } R\text{-related to a thing } y \text{ such that } y \text{ wants me to believe that her utterance of “You have Groat’s Disease” is true.} [\text{Weak Trusting}]
\]

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62 We will explore this issue in section 5.1.2.
It is still not clear how we can go from the *Weak Trusting Premise* to the *Centering Premise*, and ultimately to a position where *B* can assert that she does not have Groat’s Disease. Once again, the *Centering Premise* still requires *B* to accept that what the speaker is asserting is true. And this is not the result Weber wants if he is to avoid the *Gullibility Concern*. But perhaps Weber can say that *Weak Trusting* doesn’t lead us to the *Centering Premise*. Rather it leads us to something like a *Weak Centering Premise*.

\[(4\ast)\] *B* believes *A* has ascribed Groat’s disease to her: that is, *B* believes the property of *being uniquely R-related to a thing y such that y is a speaker and the addressee of y has been ascribed having Groat’s disease*. [Weak Centering]

From the *Weak Centering Premise* and the *Locating Premise*, *B* could infer the property *being such that having been ascribed the property having Groat’s disease*. We can imagine that *B* believes that this ascription is incorrect. If this is so, then we can perhaps reach the desired result of *B* not believing that she has Groat’s disease in the following manner. Suppose *B* already believes the following two properties: (i) *being a thing x such that if x has Groat’s disease then x has correctly been ascribed having Groat’s disease* and, (ii) *being a thing x such that x has not correctly been ascribed having Groat’s disease*. By an inferential process similar to that of *modus tollens*, it seems that *B* could come to infer the property *being a thing x such that x does not have Groat’s disease*. However, in order to accomplish all of this, *B* would already have to believe centered (i) and (ii), which seems unlikely.\(^{63}\) In addition, we would have to assume that all of these inferences can be accomplished with an inferential process similar to *modus tollens*, which as we will see in the next section seems problematic in and of itself given the nature of centered contents.

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\(^{63}\) Pagin also thinks that this unlikelihood applies to *B* already possessing (i.e. believing) the disquotation content his case *Weber’s Example without Trusting* (2016, p.301).
In concluding this section, the *Trusting Premise* presents a problem for the Re-Centering Model in that it wouldn’t allow the Re-Centering Model to make sense of exchanges where there is disagreement. Removing the *Trusting Premise* seems to solve the apparent problem of requiring the hearer to accept the speaker’s assertion as true prior to making a judgment on the truth-value of the content. But doing so makes it difficult for a hearer, under the Re-Centering Model, to infer the appropriate content in exchanges where there is no disagreement. Replacing the *Trusting Premise* with something weaker to make sense of exchanges where there is disagreement doesn’t make things better. In order to go from the content believed in the *Weak Trusting Premise* to something like the appropriate content of *Not having Groat’s disease*, we have to presuppose that the hearer already believes contents that would allow her to make said inferences, and that one can make inferences using traditional methods like *modus pones* and *modus tollens* using centered-contents.

§5.1.2: The Inference Concern

Weber’s Re-Centering Model operates under the assumption that a hearer can infer the appropriate content from two distinct contents: (i) the content expressed by the speaker, and (ii) the content the hearer believes about how she is related to the speaker’s context. In his presentation of the Re-Centering Model Weber speaks trivially about the inferential process a hearer engages in when acquiring the appropriate content. However, it is not at all trivial or clear how this process is accomplished.

Consider a case in which $B$ infers that she has correctly been ascribed having Groat’s disease. Suppose $B$ already believes the following two contents: (i) *being a thing $x$ such that if $x$ has Groat’s disease then $x$ has correctly been ascribed having Groat’s*
disease and, (ii) having Groat’s disease. From these two contents, she infers content (iii) being a thing x such that x has correctly been ascribed having Groat’s disease. It seems reasonable to suppose that B can infer this property from (i) and (ii) by using a centered contents version of modus ponens.\textsuperscript{64} We will call this inferential process Centered Content Modus Ponens (CCMP), and will represent it as follows:

I. \{<x',w'>: x’ being such that if \(\phi\) then \(\psi\) in \(w'\}\}

II. \{<x',w'>: x’ being such that \(\phi\) in \(w'\}\}

III. \{<x',w'>: x’ being such that \(\psi\) in \(w'\}\}

CCMP seems to be the sort of inferential process that would allow B to go from believing (i) and (ii), to (iii). It is important to remember that inferential rules such as modus ponens or modus tollens operate on the logical form, or formal properties, of the contents in question. In the case of modus ponens, we are allowed to derive a content ‘\(\psi\)’ whenever one accepts a conditional content of the form ‘\(\phi \rightarrow \psi\)’ and a content that resembles the antecedent of the conditional content, namely ‘\(\phi\)’. Assuming CCMP works in a similar way, it would seem that these rules would have to operate on the structure of the contents in question. The problem, however, is that like their possible-world counterparts, centered contents are unstructured entities. So, CCMP cannot work the same way modus ponens does. If this is the case, then how does B infer make her inference? More generally, if centered contents are unstructured, then how does an agent make inferences in cases that appear to be instances of CCMP? This is what Weber, or any proponent of the Re-Centering Model, has to explain in order to explain how a hearer

\textsuperscript{64} In his criticism of the Re-Centering Model, Peter Pagin (2016) claimed that some inferences using centered contents can be made using centered content versions of modus ponens and modus tollens.
derives an appropriate content. In what follows we will look at four possible responses. I argue that none of these responses provide a satisfactory solution to the inference problem.

I - Centered-Contents Entailment:

Perhaps a solution to the inference problem does not come in providing an account of structured centered contents, but in providing an account of entailment for unstructured centered contents. Once entailment has been explained, an account of inference can be given. What would an account of entailment look like? First, given that entailment is taken to be a truth-preserving relation between two truth bearing objects, providing a theory of entailment for centered contents would require a theory of truth for centered contents. Centered content theorists can provide a theory of truth that is analogous to the theory of truth provided above for possible-world contents. Truth for centered contents can be explained as being relativized to individual-world pairs $<x,w>$. So we can define truth for centered contents as follows:

\[
\text{Centered-Contents Truth Conditions}_{\text{def}} = \text{For all centered content } \phi \text{ and all centered world } <w,x>, \text{ } \phi \text{ is true at } <w,x> \text{ iff } <w,x> \text{ is a member of } \phi.
\]

Given this account of relativized truth for a centered content, we can sketch an account of entailment for centered contents as follows:

\[
\text{Centered-Contents Entailment}_{\text{def}} = \text{For all modal models M, and all sets of centered contents } \Delta \text{ in M and all centered contents } \psi \text{ in M, } \Delta \text{ entails } \psi \text{ iff for all centered worlds } <w,x> \text{ in M, if all members of } \Delta \text{ are true at } <x,w> \text{ in M, then } \psi \text{ at } <x,w> \text{ in M.}
\]

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65 I want to thank David Braun for bringing to my attention possible responses I, III and IV that a centered content theorist can use to respond to the inference problem.
Given this account of entailment, Weber can say the following about how (iii) follows from (i) and (ii); For all modal models M and for all centered worlds \(<x,w>\) in M, if centered contents (i) and (ii) are true at \(<x,w>\), then it follows that centered content (iii) is true at \(<x,w>\). If this is correct, then any time an agent \(x\) believes centered contents (i) and (ii), and recognize that when (i) and (ii) are true at \(<x,w>\), (iii) is also true at \(<x,w>\), then \(x\) can come to infer (iii). This account seems correct. However, it does not seem to give us a full account of how we infer all information. Especially cases in which we seem to naturally infer information using something like a modus ponens inference.

Consider the following arguments:

A)

(a1) If Pete is a dog, then Pete is a mammal.

(a2) Pete is a dog.

(a3) Pete is a mammal.

B)

(b1) If Bob is in Los Angeles, then Bob is in California.

(b2) Bob is in Los Angeles

(b3) Bob is in California.

Since we know how modus ponens works, we infer that (a3) in (A) follows from (a1) and (a2), and that (b3) in (B) follows from (b1) and (b2), because they instantiate the same structure as modus ponens. An inferential schema like modus ponens helps us make inferences by allowing us to focus on the logical constants (e.g. ‘and’, ‘or’, ‘if...then’) of an argument, and their truth-preserving properties.
However, we cannot rely on CCMP to help us do the same in the case of (A’) and (B’) below.

(A’)

(a1’) \( <x,w> : x \text{ being such that if Pete is a dog, then Pete is a mammal in } w \).

(a2’) \( <x,w> : x \text{ being such that Pete is a dog in } w \).

(a3’) \( <x,w> : x \text{ being such that Pete is a mammal in } w \).

(B’)

(b1’) \( <x,w> : x \text{ being such that if Bob is in Los Angeles, then Bob is in California in } w \).

(b2’) \( <x,w> : x \text{ being such that Bob is in LA in } w \).

(b3’) \( <x,w> : x \text{ being such that Bob is in California in } w \).

Recall that CCMD does not hold in virtue of form, but in virtue of the contents being true at a centered world. So, we cannot present CCMD as if it were an inferential schema that holds for instances of centered contents that have the same ‘structure’. Even if (a1’) and (a2’) entails (a3’), and (b1’) and (b2’) entails (b3’), we can’t rely on CCMP to make these inferences. Rather than treating (A’) and (B’) as instances of CCMP, we would have to considered them in turn. But this means that every time a hearer is trying to make an inference, the hearer must first determine whether all the contents in question are true at the same center, rather than merely relying on some previously established inferential principle like modus ponens. Given that there is an infinite amount of these types of arguments, it seems very unlikely that we do not depend on inferential principles like modus ponens. But this requires us to give an account of structured contents.
II - Structured Centered Contents:

While Lewis himself admitted that it is natural to think of properties (construed as sets of possible objects) as unstructured, that need not always be the case. In fact, Lewis provides an account in which properties can have some sort of structure (1984, pp.56-57). Lewis does this by representing some properties as ordered pairs, whose members are sets that stand in high-order relations to each other. In doing this, Lewis is able to account for the difference in the properties expressed by predicates that are co-extensive.66

If this avenue is open to Weber, the challenge would be to extend the notion of structured properties to centered contents. While Lewis shows that some properties can have structural features, it is not clear that we can apply this insight to the case of centered contents whose members are individuals. One main difference between centered contents and the properties discussed by Lewis (e.g. being triangular), is that in the latter, objects are ordered pairs that bear second-order relations to each other. Whereas in the case of centered contents, the objects in question are individuals that stand in first-order relations with other individuals. Providing the account as ordered pairs that stand in second-order relations to each other is what allows Lewis to give the structural components of these particular properties.

66 Under a view in which properties are just unstructured sets of individuals, whenever two distinct predicates are co-extensive, then they would be said to express the same property. For example, since the predicates ‘is triangular’ and ‘is trilateral’ are co-extensive, they would be said to express the same property in that their extension is the same set of individuals. But of course we would want to say that both of these predicates express different properties, even though they are co-extensive. In order to avoid this consequence Lewis has to demonstrate some difference in the properties expressed by the predicates. Lewis begins by first assuming that A is the relation being an angle of, and S is the relation being the side of. Let T be the higher-order unstructured relation which hold between a property F and a relation G iff F is the property of being something which exactly three things bear G to. So, a certain property, triangular, is the unique thing which bears T to A, and this property can be represented as <T,A>. A different property, trilateral, is the unique thing that bears T to S, and which can be represented as <T,S>. Since A and S are different sets, the predicates ‘is triangular’ and ‘is trilateral’ express different structured properties. See Lewis (1984 pp. 50-69).
III - Mental Sentences:

Perhaps a Centered Content theorist can account for inferences such as modus ponens not by the structural properties of belief contents, but by a structured system of mental representations that allow one to do modus ponens. For example, one possible candidate for these structured mental representations could be sentences of a natural language in the head of the attitude holder. The traditional possible worlds account is consistent with the view that individuals have sentences of a natural language in their heads, whose contents are possible-world contents. It is the structural properties of these mental sentences that allow an agent to do modus ponens, modus tollens and the like. Under this view, agents can make modus ponens inference by having a conditional English sentence in their heads, along with the antecedent and consequent of that sentences. Performing a modus ponens inference would be possible even if the contents of those sentences are possible-world contents. This is due to the fact that what’s accounting for the structural properties is not the content but the mental sentences. The Lewisian can take a similar approach. Except that rather than identifying the content of these mental sentences with possible-world contents, she would identify them with centered contents.

It should be worth noting that unlike the Mediated Theories of Belief (MTB), the mental sentences in the view being sketched in support of the Lewisian View need not account for cognitive significance. When it comes to MTB the third relatum, whether a sentential meaning (i.e. character) (Kaplan 1989) or a belief state (Perry 1980), is introduced as a way to account for the cognitive significance of thought. Under the view
being sketched in support of the Lewisian View, mental sentences could merely be stipulated to account for this sort of reasoning process.

Introducing mental sentences to account for this sort of reasoning process is not wrong in principle. However, stipulating mental sentences to account for the reasoning process of an agent strays away from one of the traditional tenets of the Lewisian View, namely that belief (and any attitude for that matter) is analyzed solely as a two-place relation between an agent and a centered content. By adding mental sentences, Lewisians are now required to account for how this third entity (i.e. mental sentences) fits into their analysis of belief or other attitudes, which seems to be a departure from the traditional Lewisian View. In addition, assuming this departure is acceptable, it appears that an argument could be made that the Lewisian View is forfeiting one of the main reasons for stipulating centered contents to begin with, which was to account for basic features of rationality in terms of belief content alone.

IV - Ignore the Problem:

Finally, Weber could just say that the only thing the inference problem shows is that the Lewisian View cannot be viewed as a psychological theory of how people make inferences like modus ponens. In fact, the Lewisian View is not alone in this. A traditional account of belief, such as TVB, in which belief is viewed as a two-place relation between an agent and a possible worlds proposition also falls victim to the same concern. Traditionally, philosophers using possible-world propositions seem to push the inference problem aside, and claim that providing an account of how inferences like modus ponens are accomplished is beyond the scope of an analysis of belief, or perhaps even beyond the kind of a priori analysis that philosophy seeks. Moreover, it does not
seem that the possible-world semanticist needs to provide a theory of inference in order to provide an adequate account of communication.\textsuperscript{67} However, the reason Weber can’t merely push the inference problem concern to the side, is because his Re-Centering Model of communication depends on individual’s making inferences. And as we have seen above, some of these inferences may turn out to be apparent cases of modus ponens or something like it.

\textbf{§6: Sequenced Contents & Communication}

In recent years Dilip Ninan (2010, 2012, 2013) has taken aspects of the Lewisian View and modified them in order to present a novel version of belief content, which is used to account for indexical beliefs, and also to solve other doxastic puzzles\textsuperscript{68}. In his (2010) paper “De Se Attitudes: Ascriptions and Communication” Ninan sketches a way of modeling indexical communication using this novel account of mental content in order to solve the problem of indexical communication. In the following sections, I will present Ninan’s account of mental content and how he applies it to solve the problem of indexical communication. I will begin by first sketching a simplified version, in which contents have only two centers, and then move to his more sophisticated account in which a content has multiple centers.

\textbf{§6.1: Pair-Centered Contents and Communication}

Ninan’s basic strategy is to expand the notion of a centered content to include other centers that will represent different attitude holders in a conversation. For simplicity’s sake, let’s consider the conversation that takes place with only two

\textsuperscript{67} See Robert Stalnaker’s (1978).
\textsuperscript{68} In his (2012) and (2013) Ninan uses his view to account for counterfactual attitudes like imagining and wishing.
individuals: Perry and Lewis. We will also ignore the notion of a relation of acquaintance for the moment. Under this view, which we’ll call the Pair-Centered View, when Perry asserts “I am making a mess” the content of his assertion would be the following paired-centered content:

\[ k = \{ <w',x',y'>: x' \text{ Being a Mess Maker in } w' \} \]

When Lewis hears and accepts Perry’s utterance, he too comes to apprehend pair-centered content \( k \). However, merely adding centers to a centered-content does not place the Pair-Centered View in a better position to solve the problem of indexical communication. In fact, by only characterizing contents this way The Pair-Centered View would still run into the exact same problem that the Lewisian View runs into. The reason for this, as Ninan himself points out (2010, p. 561), is that the first center is always a function of whoever happens to be the attitude holder. When Lewis hears Perry’s assertion and comes to believe \( k \), Lewis also comes to have the belief that he is making a mess. Nothing having to do with the content alone can make it such that once Lewis comes to believe the content in question, it is only Perry and not Lewis who is represented by the first center.

In order to stabilize the centers, Ninan introduces what he calls a conversational sequence. A conversational sequence is an ordered \( n \)-tuple of the participants in a given conversation (Ninan, 2010 p.562). Ninan stipulates that the \( n \)th center of a sequenced content will always represent the \( n \)th member of its corresponding conversational sequence. Since Perry and Lewis are the conversational participants, the relevant conversational sequence will consist of the ordered pair \(<\text{Perry, Lewis}>\). One important thing to note is that the conversational sequence could either be \(<\text{Perry, Lewis}>\) or
<Lewis, Perry>. The order of Perry and Lewis in a conversational sequence is irrelevant, in and of itself. What is relevant is that once we pick one we stick with it, and we specify which centers represent Perry and Lewis within a paired-centered content. So, relative to conversational sequence <Perry, Lewis>, $x$, in the pair-centered content $k$, represents Perry and $y$ represents Lewis. Thus, what is said of $x$ in $k$ concerns Perry, and what is said of $y$ in $k$ concerns Lewis.

We are now in a position to model how the content asserted by Perry, namely $k$, can be apprehended by Lewis without leading to the consequence of Lewis believing that he is making a mess. When Perry asserts “I am making a mess,” relative to conversational sequence <Perry, Lewis>, the content of said assertion will be the pair-centered content $k$ where $x$ represents Perry in $w$ and $y$ represents Lewis in $w$. Given that $x$ represents Perry, when Perry believes $k$, relative to conversational sequence <Perry, Lewis>, he believes that he is making a mess. Similarly, given that $y$ represents Lewis, when Lewis comes to apprehend $k$, relative to conversational sequence <Perry, Lewis>, he believes that Perry is making a mess, not that he is making a mess.

We can generalize the notion of having a content with multiple centers as follows. We will call these contents *sequenced contents*. A sequenced content is a set of sequenced worlds, where a sequenced world $<w', x_1, \ldots, x_n>$ is an $n$-tuple consisting of a possible world and an $n$-ary sequence of centers that stand in specific relations to each other in that world. Each center in the sequence of a sequenced content represents different attitude holders relative to a corresponding conversational sequence. And thus, who the first center represents is no longer a function of who the attitude holder is, but rather who the first member of the corresponding conversational sequence is. The same
goes for the other members of a sequenced content; the \( n \)th member of a sequenced content will represent the \( n \)th member of the corresponding conversational sequence.

It is important to note that sequenced contents, as we have been talking about them, are contents asserted during communication. In “De Se Attitudes: Ascriptions and Communication,” Ninan (2010, p. 562) characterizes belief content in terms of centered contents that correspond to the sequenced contents that are asserted during communication. The belief contents of a speaker and a hearer, during communication, are systematically related to the sequenced content in question. In his later work, he also goes on to characterize thought content with a type of multi-centered content\(^{69}\). In essence, Ninan’s view requires two contents; one to characterize belief content and the other, a sequenced content, to characterize asserted content. So, while Ninan (2010, p. 562) does speak of conversational participants ‘believing’ or ‘presupposing sequenced’ contents, strictly speaking the sequenced contents we have been talking about are merely systematically related to the participants’ thought contents. The reason for this will become apparent when we see that the type of multi-centered contents Ninan uses to characterize the content of \( de \ se \) thoughts cannot be grasped by multiple individuals. Finally, Ninan’s view entails that only members of the relevant conversational sequence can believe the sequenced content in question.

\section*{§6.2: Multi-Centered Contents and Belief}

As we have already seen, like Lewis, Ninan uses sets of possibilia to characterize the content of agent’s attitudes. But unlike Lewis, in his more sophisticated account Ninan allows for multiple individuals to serve as the centers of a single centered world.

\(^{69}\) These turn out to be multi-centered contents that incorporate the relations of acquaintance in virtue of which the attitude holder is acquainted with the individuals her beliefs are about.
In addition, unlike Lewis, who takes *de se* belief to be basic (by making the *self-ascription* relation basic), Ninan takes *de re* belief as basic. His basic relation is a *de re* relation to sequences of individuals, under relations of acquaintance. This idea stems from what Ninan takes to be the Lewisian View’s inability to deal with counterfactual attitudes such as imagining or wishing.

The problem of counterfactual attitudes arises because of the constraint the Lewisian View puts on the individuals that represent the *res* of an attitude holder’s *de re* belief in the worlds of the centered content in question. The constraint that the Lewisian View requires is that the individuals who represent the *res* of an attitude holder’s *de re* belief, in other possible worlds, be qualitatively similar to the *res* in the world of the attitude holder (Ninan, 2013 p. 314). On the other hand, under the Lewisian view, when it comes to centered worlds <w,x> the center x represents the attitude holder in w in virtue of stipulation. In order to avoid the problem of counterfactual attitudes, Ninan expands this notion to the *res* of an attitude holder’s *de re* belief. So, rather than requiring that the individuals that represent someone in another possible world be qualitatively similar to the individual being represented, Ninan suggest, following Hazen (1979), that the representatives of these other possible world be determined by theoretical fiat.

Ninan identifies possibilia with multi-centered worlds, where a multi-centered world <w,f> consists of a possible world w and what Ninan refers to as a tagging function f. As is evident, the key difference between centered worlds and multi-centered worlds is the tagging function. In order to explain what a tagging function is and what it is meant to do, it is important to first introduce, and discuss, the notion of an *acquaintance set*. Ninan, like Lewis, also maintains that agents cannot have *de re* beliefs
simpliciter. Rather, *de re* belief must be had relative to a relation of acquaintance. Ninan uses Quine’s (1956) example of Ralph and Ortcutt to explain his account.

*Ortcutt the Spy:*
There is a certain man in a brown hat who Ralph has seen under questionable circumstances: suffice to say that Ralph suspects that he is a spy. There is also a gray-haired man who Ralph sees at the beach one day; Ralph recognizes this man to be Bernard J. Ortcutt, the town mayor, and Ralph believes that this man is no spy. Now Ralph does not know it, but the men are one and the same.

How can Ralph be said to rationally have two seemingly contradictory beliefs about the same person (Ortcutt)? Well Ralph is acquainted with Ortcutt under two different relations of acquaintance. We can imagine that Ralph is acquainted with Ortcutt relative to relation of acquaintance $Q$ (suspicious looking man) and relation of acquaintance $S$ (gray-haired man). Being acquainted to Ortcutt in these two distinct ways helps explain why Ralph is rational in holding his seemingly contradictory beliefs about the same man. Ninan suggests that we represent the way in which an agent $x$ is acquainted to an individual as a *relation of acquaintance-individual pair* $<y, R>$, such that an agent $x$ bears $R$ to $y$ in world $w$ (2013, p. 318). We can represent the two ways in which Ralph is acquainted with Ortcutt with the following two relation of acquaintance-individual pairs: $<\text{Ortcutt}, Q>$ and $<\text{Ortcutt}, S>$. Ninan suggests that we can gather all of an agent $x$’s relation of acquaintance-individual pairs into a single set called an *acquaintance set*. An agent $x$’s acquaintance set $\sigma$, is the set of all $<y, R>$ such that $x$ bears relation of acquaintances $R$ to $y$ in $w$.

Having defined what an acquaintance set is, we can now explain what a tagging function is. A tagging function $f$, in a multi-centered world $<w, f>$, maps relation of acquaintance-individual pair $<y, R>$ from an agent $x$’s acquaintance set $\sigma$ onto a
representative of \(<y,R>\) in world \(w\) (Ninan 2013, p.318). In other words, the output of 

\(f(y,R)\) in a possible world \(w\), will be the individual that represents \(y\) in that world. Take 

Ralph’s acquaintance set \(\sigma\) in \(w\). Since Ralph is acquainted with Ortcutt relative to relation of acquaintance \(Q\) (suspicious looking man) in \(w\) and relation of acquaintance \(S\) (gray-haired man) in \(w\), we know that \(<\text{Ortcutt, } Q>\) and \(<\text{Ortcutt, } S>\) are in \(\sigma\) in \(w\). A 
tagging function \(f'\), in a multi-centered world \(<w',f'>\), would map \(<\text{Ortcutt, } Q>\) and \(<\text{Ortcutt, } S>\) to two distinct individuals, \(y'\) and \(z'\), in world \(w'.f'\) can be said to map 

\(<\text{Ortcutt, } Q>\) to \(y'\) in \(w'\) and \(<\text{Ortcutt, } S>\) to \(z'\) in \(w'\). It is important to note that \(y'\) and \(z'\) represent Ortcutt relative to \(Q\) and \(S\), not because there is some identity relation or even a strong qualitative similarity, but merely because of theoretical fiat.

We need to explain one final concept before we can present Ninan’s account of belief, and that is the concept of content compatibility. A multi-centered world \(<w',f'>\) will be compatible with whatever an agent \(x\) believes about \(y\) relative to \(R\) at \(w\) iff the domain of \(f'\) is \(x\)’s acquaintance set \(\sigma\), and for any \(n\)-place relation \(\phi\), where \(n \geq 1\), each representative \(f'(y,R)\) stands in all the \(\phi\) relations in \(w'\) that \(x\) believes the members of \(\sigma\) stand in \(w\).

To better understand Ninan’s characterization of belief with multi-centered contents, it will be useful to compare it to the Lewisian’s View characterization of belief content. Let’s consider the following example. Suppose that Perry has a \textit{de re} belief about Lewis in world \(w\) relative to relation of acquaintance \(R\), which he expresses by uttering “he is making a mess.” Under the Lewisian View we characterize the content of Perry’s belief as follows:

\[
h = \{<w',x'>: \text{being such that there is exactly one } y \text{ that uniquely bears relation of acquaintance } R \text{ to } x, \text{ and } y \text{ is making a mess in } w' \}\]
And we can characterize Perry’s belief as follows:

Perry believes that he [referring to Lewis] (relative to \( R \)) is making a mess in \( w \) iff

(i) Perry bears relation of acquaintance \( R \) uniquely to Lewis in \( w \) and,

(ii) Perry takes the centered world \(<w, Perry>\) to be a member of \( h \).

Under Ninan’s view belief content is a multi-centered content. We can represent the content of Perry’s de re belief as follows:

\[
o = \{<w',f'>: f'(y,R) \text{ is a mess maker in } w' \}
\]

Perry would be said to believes de re that he [referring to Lewis] (relative to \( R \)) is making a mess in \( w \) iff

(i) There is a relation of acquaintance \( R \) such that Perry bears \( R \) to Lewis in \( w \), and so \(<\text{Lewis}, R>\) is a member of Perry’s acquaintance set in \( w \), and,

(ii) Every multi-centered world \(<w',f'>\) compatible with what \( x \) believes in \( w \) is such that \( f'(\text{Lewis}, R) \) is making a mess in \( w' \). In other words, all multi-centered worlds \(<w',f'>\) compatible with what \( x \) believes in \( w \) are in \( o \).

So when Perry expresses his belief with an utterance of “he is making a mess,” referring to Lewis relative to \( R \), it means that every multi-centered world compatible with what Perry believes is such that the individuals that represent Lewis in those multi-centered worlds are making a mess.

Under Ninan’s view de se beliefs are treated in a similar fashion. De se beliefs are just a special case of belief where the belief holder bears the relation of identity \( I \) to herself. Essentially they are reduced to de re beliefs where the \( res \) is the agent holding the de se belief in question, and the relation the belief holder is bearing towards the \( res \) is the relation of identity \( I \). For example, if Perry has the belief he expresses by uttering “I am making a mess,” we could characterize the content of his belief as follows:
\[ i = \{<w',f'>: f'(Perry,I) \text{ is a } \textit{Mess Maker} \text{ in } w' \} \]

Furthermore, we could characterize Perry’s belief as follows:

Perry believes that he is making a mess relative to relation of acquaintance \( I \) in \( w \) iff

(i) There is a relation of acquaintance \( I \) such that Perry bears \( I \) to himself in \( w \). And

(ii) Every multi-centered world \(<w',f'>\) compatible with what Perry believes in \( w \) is such that \( f'(Perry,I) \) is making a mess in \( w' \). In other words, all multi-centered worlds \(<w',f'>\) compatible with what Perry believes in \( w \) are in \( i \).

So when Perry expresses his belief with “I is making a mess,” relative to \( I \), it means that every multi-centered world compatible with what Perry believes is such that the individuals that represent Perry in those multi-centered worlds are making a mess.

§6.3: Multi-Centered Contents and Indexical Communication

In the remaining sections I want to present two concerns with Ninan’s account of content as it relates to indexical communication.

§6.3.1: Conversational Sequences and Eavesdropper Cases

If we recall, Ninan (2010) gets around the communication problem that the Lewisian View faces by relativizing contents (i.e. sequenced contents) to conversational sequences. For instance, the conversation between Perry and Lewis was interpreted relative to conversational sequence \(<\text{Perry}, \text{Lewis}>\). By doing this, we are better able to accurately predict that when Lewis hear Perry’s utter “I am making a mess,” what Lewis comes to believe is that Perry is making a mess, not that he is making a mess. Ninan presents his view as a model of how communication works in a fairly standard setting; that is, a setting in which two individuals are having a conversation, and both know they are participants in the conversation. However, conversations are just a small part of communication. And in what follows, I want to argue that it is not clear how Ninan’s
model can be extended to account for a broader conception of communication. This becomes apparent when we consider eavesdropper cases. I want to maintain that even though eavesdroppers are not part of the conversation, and thus not part of the conversational sequence, we should still be able to predict that an eavesdropper can come to understand what is being said, if the eavesdropper has the right knowledge.

Consider the case in which two individuals $A$ and $B$ are having a conversation in which $A$ tells $B$ “I am making a mess”. Then the content of $A$’s assertion is the pair-centered content

$$k = \{ <w,x',y'> : x' \textit{ Being a Mess Maker in } w' \}.$$

Assuming that they are having this conversation relative to conversational sequence $<A,B>$ where center $x$ in $k$ represents $A$, and the center $y$ in $k$ represents $B$, when $A$ believes $k$ she believes that she is making a mess, and when $B$ hears $a$’s utterance, and comes to believe $k$, she believes that $A$ is making a mess. Let us suppose that $C$ is walking by $A$ and $B$ and eavesdrops on the conversation and hears $A$’s assertion. It seems plausible to suppose that $C$ could understand what is being said by $A$, namely that $A$ is making a mess. If we consider this in terms of the model that Ninan has presented, we know that $k$ is grasped relative to a conversational sequence. Otherwise, a pair-sequenced content would function the same way regular centered content functions in that who the first center represents is just a matter of who the attitude holder is at the time. Introducing a conversational sequence is meant to stabilize the content so that only $A$ can be said to believe that she is making a mess, and not any other individual that comes to believe $k$. Conversational sequence $<A,B>$ does that for participants $A$ and $B$. But what are we to say about $C$?
The problem is that it is not clear what we can say about $C$. By definition an eavesdropper is not an intended member of a conversation, and so we can’t expect $C$ to be a member of an intended conversational sequence from the outset. Incorporating $C$ as a member of a conversational sequence would presuppose that $C$ is a member of the intended conversation, which is clearly not the case if $C$ is eavesdropping on the conversation. Nevertheless, even though $C$ is not an intended member of the conversation in question, it seems reasonable to suppose that $C$ would understand, and even come to believe, what is being said by $A$.

It is important to address this issue if we are to extend the view beyond a standard conversational setting. Especially in cases where it seems clear that an individual who is not an intended member could still be said to understand what is being said in a given conversation.

§6.3.2: De Re Multi-Centered Contents of Limited Accessibility

Ninan introduces acquaintance sets to represent the different ways an agent can be acquainted to those individuals the agent’s beliefs are about. If we recall an agent $x$’s acquaintance set $\sigma$ in world $w$ is the set that contains all the individual-relations of acquaintance pairs $<y,R>$ such that $x$ bears relation of acquaintance $R$ to individual $y$ uniquely in $w$. Under this account de se beliefs are a special case of de re beliefs, in which an agent $x$ stands in the identity relation $I$ to $x$. Which means that the individual-relation of acquaintance pair $<x,I>$ is in $x$’s acquaintance set, but not in anyone else’s. For example, we know that Perry is acquainted to himself relative to the identity relation in $w$, and thus the individual-relation of acquaintance pair $<$Perry,$I>$ is a member of Perry’s acquaintance set in $w$, but not of anyone else’s.
One consequence of this account is that *de se* multi-centered contents turn out to be contents of limited accessibility\textsuperscript{70}. That is, *de se* multi-centered contents are such that only the individual having the *de se* belief can believe the *de se* content in question. For example, suppose Perry has the *de se* belief in \( w \) that he expresses by uttering “I am making a mess.” The content of his belief is the multi-centered content

\[
i = \{ <w', f'> : f' (\text{Perry, I}) \text{ is a Mess Maker in } w' \\}.
\]

Since Perry is the only individual who possesses the individual-relation of acquaintance pair \(<\text{Perry, I}>\) in his acquaintance set, it turns out that only Perry can believe \( i \). One thing to remember is that when Ninan (2013, p.318) defines what an acquaintance set is, he does so relative to a time and a world, which entails that an agent’s acquaintance set could change over time. But even when we take this into consideration, it still does not change the fact that only Perry is able to believe \( i \). The key to this consequence is the nature of the identity relation; given the necessity of numerical distinctness, it is metaphysically impossible for someone other than Perry to bear the identity relation \( I \) to Perry. To see exactly why \( i \) can only be grasped by Perry, and Perry alone, let’s look at the following argument provided by Ninan (2013, p.324).

Let’s assume that someone distinct from Perry believes \( i \) in \( w \). Let \( x \) be that individual. In addition, let \(<w', f'>\) be an arbitrary multi-centered world compatible with what \( x \) believes in \( w \). This means that the domain of \( f' \) is \( x \)'s acquaintance set in \( w \). Since Lewis believes \( i \), it means that \(<w', f'>\) is a member of \( i \). But \(<w', f'>\) is a member of \( i \) only if \(<\text{Perry, I}>\) is in the domain of \( f' \). Since Perry and \( x \) are not identical, given our initial assumption, it follows that \(<\text{Perry, I}>\) cannot be in the domain of \( f' \) (i.e. \( x \)'s acquaintance set). So we must reject our initial assumption that someone distinct from Perry can believe \( i \). Therefore, no one other than Perry can believe \( i \) in \( w \).

\textsuperscript{70} We borrow the term from Perry’s treatment of Frege’s *de se* contents. See Perry (1979).
Ninan is fully aware that his view entails that *de se* multi-centered contents turn out to be contents of limited accessibility. However, he maintains that this is only an issue that affects *de se* contents specifically.

According to Ninan, under his view, two individuals can come to believe the same *de re* multi-centered content. For example, suppose that two individuals Ralph and Lingens see Bernard Ortcutt walking down the beach looking suspicious wearing a brown hat. Let us assume that both Ralph and Lingens are acquainted with Ortcutt relative to relation of acquaintance $Q$, which is the relation $x$ and $y$ stand in just in case $y$ is the unique individual that $x$ sees looking suspicious wearing a brown hat. From this we can maintain that the individual-relation of acquaintance pair $<\text{Ortcutt},Q>$ is a member of Ralph and Lingens’s respective acquaintance sets. Now let us suppose that both Ralph and Lingens form the indexical belief that they individually express by uttering “he is a spy” (referring to Ortcutt). Let us say the content of their respective beliefs is

$$s = \{<w',f'>: f'(\text{Ortcutt}, Q) \text{ is a spy in } w'\}.$$  

Ninan wants to maintain that since $<\text{Ortcutt},Q>$ is in both of their respective acquaintance sets, both Ralph and Lingens can believe multi-centered content $s$ (2013, p. 324). So, it is *de se* contents specifically, whose accessibility is limited in the way described, and not *de re* contents, which is a consequence he is willing to live with (2013, p.324)

However, I will argue that under certain conditions two distinct individuals $A$ and $B$ may not be able to believe the same *de re* content, and this has negative implications.

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71 This would be the case even if we were to also maintain that all the multi-centered worlds compatible with what $x$ believes in $w$ are incompatible with all the multi-centered worlds compatible with what $y$ believes in $w$. As we will see, the key for this last claim is that for any two incompatible multi-centered worlds $<w'',f''>$ and $<w''',f'''>$ both $<w'',f''>$ and $<w''',f'''>$ can still be members of $s$, as long as $<\text{Orcutt},Q>$ is a member of the domain of tagging functions $f''$ and $f'''$. See the argument Ninan presents in (2013, p.325).
for indexical communication. As already mentioned, the reason \textit{de se} contents are contents of limited accessibility is because of the nature of the identity relation. When we say that \( x \) is identical to \( y \), we are making a very strong relational claim. The only way a \textit{de re} content can be of limited accessibility in a similar way to that of \textit{de se} contents is if a standard relation of acquaintance had the same relational strength as the identity relation. For example, in the case of Ralph and Lingens we would need a relation of acquaintance \( R' \) such that only Ralph can bear \( R' \) to Ortcutt in \( w \), and a relation of acquaintance \( R'' \) such that only Lingens can bear \( R'' \) to Ortcutt in \( w \). But it is highly unlikely that there are relations of acquaintance of this sort.

The unlikeliness of these sorts of relations of acquaintance ensure that \textit{de se} contents alone exhibit the sort of limited accessibility discussed by Ninan. However, Ninan’s view is still open to the possibility that two individuals \( A \) and \( B \) would not be able to believe the same \textit{de re} multi-center content, if they are not acquainted to the \textit{res} in question in the same way at the time of the belief. To see how this is the case, let us consider the following example. Suppose Lingens and Ralph know who Ortcutt is. However, they are both acquainted with him in different ways. Ralph is acquainted with Ortcutt relative to \( Q \), and Lingens is acquainted with Ortcutt relative to \( S \). Imagine Ralph and Lingens are at a pub talking about Ortcutt, and Ralph has the belief at \( t \) in \( w \) that he expresses by uttering “Ortcut is a swell guy”. We can represent the content of his belief as follows:

\[ e = \{<w',f'>: f' (\text{Ortcutt ,}Q) \text{ is a swell guy at } t' \text{ in } w' \}. \]

But now let us suppose that at \( t \) Ralph is not acquainted with Ortcutt relative to \( S \) and Lingens is not acquainted to Ortcutt relative to \( Q \). From this it would follow that
<Ortcutt, Q> is in Ralph’s acquaintance set at $t$ in $w$, but not in Lingens’s; and <Ortcutt, S> is in Lingens’s acquaintance set at $t$ in $w$, but not in Ralph’s. Given that <Ortcutt, Q> is not a member of Lingens’s acquaintance set at $t$ in $w$, unlike Ralph, Lingens cannot believe $e$ at the time of Ralph’s utterance. To establish this result let us look at the following argument, which is structurally similar to the argument Ninan provides for the limited accessibility of de se contents.

Let us assume Lingens believes $e$ at $t$ in $w$. In addition, let <$w', f'$> be an arbitrary multi-centered world compatible with what Lingens believes at $t$ in $w$. This means that the domain of $f'$ is Lingens’s acquaintance set at $t$ in $w$. Since Lingens believes $e$, it means that <$w', f'$> is a member of $e$. But <$w', f'$> is a member of $e$ only if <Ortcutt, Q> is in the domain of $f'$ at $t$ in $w$. However, given what was said above <Ortcutt, Q> is not a member of Lingens’s acquaintance set at $t$ in $w$. So we must reject our initial assumption. Therefore, Lingens cannot believe $e$ at $t$ in $w$.

This argument is not meant to establish that no one other than Ralph is able to believe $e$. It is only meant to demonstrate that Lingens can’t believe $e$ at time $t$. Presumably once Lingens updates his acquaintance set, he too will be able to believe $e$ as well. So why is this result important?

Well, suppose that Ralph and Lingens are having a conversation about Ortcutt at a time before Lingens updates his acquaintance set to include <Ortcutt, Q>. Let us assume that Ralph is trying to communicate pair-centered proposition

$$e' = \{<w', x', y'> | x' \text{ wants to let } y' \text{ know that } x' \text{ believes } e\}$$

relative to conversational sequence <Ralph, Lingens> where $x'$ represents Ralph, and represents $y'$ Lingens. We can imagine Ralph does this by uttering “I want to let you know that I believe that Ortcutt is a swell guy”. For Lingens to believe the pair-centered
proposition relative to this conversational sequence is for Lingens to be Ralph's addressee, and for Lingens to believe the following multi-center proposition

\[ e'' = \{ <w', f' > : f' (\text{Lingens}, l) \text{ is } f' (\text{Ralph}, K) \text{'s addressee in } w' \text{ and } f' (\text{Ralph}, K) \text{ believes } e \} \]

It seems reasonable to suppose that Lingens can come to believe, or even entertain multi-center content \( e'' \). But what role is \( e \) playing in Lingens’s belief of \( e'' \), given that \( e \) is a constituent of \( e'' \)? If the argument above holds, is Lingens able to believe \( e'' \) given that \( e \) is a constituent of the pair-centered content? It seems clear that he cannot.

To reiterate, the key to why Lingens can’t believe \( e \) at \( t \) is because Lingens is not acquainted with Ortcutt relative to \( Q \) at time \( t \) (the time of Ralph’s utterance). The argument above highlights a key requirement in Ninan’s view; that if two agents \( A \) and \( B \) are to believe the same \( de re \) multi-centered content about the same \( res \), then they must be acquainted with the \( res \) in question relative to the same relation of acquaintance at the time of the belief. However, as the example above demonstrates, this requirement is not always met. Which would entail, under Ninan’s view, that under certain circumstances \( de re \) multi-centered contents cannot be grasped by different individuals.

\section*{§7: Conclusion}

In this chapter I presented the standard Lewisian View. I showed the motivation for the Lewisian View in that it provides a solution to the problem of indexical belief. I then demonstrated the challenge the Lewisian View faces when attempting to account for indexical communication. I argued that in order to account for indexical communication, the Lewisian View would have to either (i) keep belief contents as they are, but provide an account of communication that would explain how indexical communication works, or
(ii) or account for indexical communication within a framework similar to TMC by re-characterizing thought content. I conclude by arguing that neither approach is completely satisfactory. Therefore, the Lewisian View cannot adequately deal with the problem of indexical communication.
CHAPTER FOUR

Belief States and Reflexive Propositions

§0: Introduction

In this Chapter we will look at John Perry’s (2001) Reflexive-Referential Theory of Belief. Similar to his (1979) Belief States Theory, at the core of the Reflexive-Referential Theory of Belief is a distinction made between the object of an agent’s belief, namely a proposition, and the belief state in virtue of which an agent believes a proposition. I begin by introducing and motivating the Reflexive-Referential Theory of Belief as a way to solve the problem of indexical beliefs. I also argue that singular propositions are necessary to properly characterize indexical beliefs. After introducing the Reflexive-Referential Theory of Belief, I turn the discussion to Manuel García-Carpintero’s (2016, 2017a) presuppositional account. García-Carpintero takes his account to be an expansion of the Reflexive-Referential Theory of Belief. I argue that García-Carpintero’s expansion not only provides a problematic account of the cognitive significance of belief, but that it is also poorly motivated. I end by demonstrating that the Reflexive-Referential Theory of Belief is perfectly able to handle the concerns that led García-Carpintero to develop his view.
§1: Singular Propositions and Millian Belief

As we saw in chapter 2, Fregean semantics maintains that the content expressed by a singular term, such as the proper name ‘Aristotle,’ is a sense which determines the referent of the singular term. Simple subject predicate sentences express structured Fregean propositions, whose constituents are the senses of the sentence components. For example, “Aristotle is a philosopher” expresses the Fregean propositions in which the sense of ‘Aristotle’ and the sense of ‘is a philosopher’ are constituents of the proposition. Direct Reference Theory, on the other hand, maintains that the semantic content of a proper name is just the referent of the expression. This view is sometimes called Millianism and is credited to John Stuart Mill (1874). Mill, like Direct Reference theorist, maintained that proper names only have denotation but not connotation. The difference between Millianism and Direct Reference Theory is that Millianism is a theory about proper names only, and says nothing about other singular terms like indexicals, or about propositions. Direct Reference Theory extends Mill’s insight to indexicals and other referring expressions. In doing so, Direct Reference Theory is able to provide a general analysis of the contextual and possible world truth conditions of sentences containing proper names and indexical.

Under Direct Reference Theory, the semantic content expressed by ‘Aristotle’ is just Aristotle himself. The same goes for indexicals at a context. The content of an indexical expression $i$ at a context $c$ is just the referent of $i$ at $c$. For example, the content of ‘I’ at the context in which Aristotle is the speaker will be Aristotle himself. Like Fregeanism, Direct Reference Theory maintains that the semantic content of a declarative sentence is a proposition. However, according to Direct Reference Theory, sentences that
contain proper names express singular propositions. Singular propositions are also structured propositions, but unlike Fregean propositions the constituents of singular propositions are the objects and properties expressed by the component parts of the declarative sentences. We represent singular propositions as n-tuples containing individuals, properties, and relations. For example, the semantic content of a sentence like “Aristotle is a philosopher” is the singular proposition <Aristotle, being a philosopher>, in which Aristotle himself, and the property being a philosopher are constituents of it.

§1.1: Problem of Indexical Belief for Millian Belief.

Recall from Chapter 1 that we defined the Traditional View of Belief (TVB) as follows:

\[ \text{TVB}_{\text{def}} = \text{an agent } A \text{ believes that } S \text{ iff } A \text{ stands in the belief relation to the proposition } P \text{ denoted by ‘that } S\text{,’ and } P \text{ has an invariant truth-value.} \]

Let us consider how TVB under a Direct Reference framework generates the problem of indexical beliefs. We’ll call the combination of TVB and singular propositions the Millian Belief account. Consider the Messy Shopper case again. If we recall, initially Perry held a belief about an individual he saw making a mess in the grocery store. Perry

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72 These propositions are also known as Russellian propositions. Russell (1911) held that some propositions, where structured entities that have objects as constituents. However, I will use ‘singular propositions,’ and later ‘referential propositions,’ over ‘Russellian propositions,’ to avoid any confusion about what proper names contribute to a propositional content. Russell (1905) held that proper names were disguised definite descriptions, so what they contribute to a proposition is not the referent but a set of properties or identifying conditions. On the other hand, direct reference theorist maintain that proper names only express the object they refer to. Thus, a simple subject predicate sentences like “N is F,” where ‘N’ is a proper name, will express a singular proposition in which the referent of ‘N’ and the property being F are constituents of the proposition.
expressed this belief by uttering “He is making a mess” while pointing at the reflection he saw of a man with a torn sugar sack on a display case’s mirror. Once he realizes that it is his reflection in the display case’s mirror he comes to have a new belief which he expresses by uttering “I am making a mess”. According to Direct Reference Theory, the proposition expressed by Perry’s utterance of “I am making a mess” is the singular proposition <John Perry, being a mess maker>. But this is also the same proposition that was expressed by his utterance of “He is making a mess” prior to his realizing that he was making the mess. If this is correct, then according to Millian Belief, Perry believes the same singular proposition before and after he realizes he is making the mess. But this is wrong, because we expect that Perry comes to believe something new after his epiphany that he is the one making the mess.

§2: Mediated Theories of Belief

As we saw above, merely coupling singular propositions with TVB rather than Fregean propositions or possible-world contents does not fare any better in characterizing the nature of indexical beliefs. John Perry (1979) argues that belief cannot merely be characterized as a two-place relation between an individual and a proposition. Rather, in order to adequately characterize belief, we also need to consider the way in which the individual believes a proposition. At the core of Perry’s claim, lies a distinction between what is believed by an individual and the way in which it is believed. We will refer to theories that make a distinction between the proposition believed and the way in which it is believed as Mediated Theories of Belief (henceforth MTB).
Different philosophers have presented different versions of MTB\textsuperscript{73}. Nathan Salmon (1986, p.111), for example, states that belief, call it $B_2$, is a two-place relation between a subject and a proposition, but is analyzed in terms of a three-place relation called $BEL$. $BEL$ is defined as a relation between a subject, a proposition, and a way of believing. That is, the belief relation is obtained from $BEL$ by existentially generalizing on the third relatum. When we say that an individual believes a proposition, there will be an intermediary, such that the agent will believe the proposition in question in virtue of standing in a relation to the intermediary that determines the proposition in question. Put formally, if we let $A$ be a subject, $p$ a proposition, and $w$ a way of believing $p$, we can say that $B_2(A, p) \iff (\exists w) \ BEL(A, p, w)$.

Others have maintained that the belief relation should be identified with something like $BEL$, rather than $B_2$. Whether we identify the belief relation with $B_2$ or something resembling $BEL$ need not concern us at this moment. All we need to keep in mind is that MTB theories maintain that we come to believe propositions via a medium, whether that medium is a belief states, mode of presentation, guises, sentential meanings or something else.

To get a better understanding of how characterizing belief along the lines of MTB attempts to solve the problem of indexical belief, let us take a look at John Perry’s (1979) Belief States Theory. Perry thinks that in order to adequately characterize indexical belief we should make a distinction between the object of belief and the individual’s belief state. The Belief States Theory’s distinction between objects of belief and belief states is

\textsuperscript{73} Other individuals who have defended some version of a MTB include Kaplan (1989), Richard (1990), Salmon (1986), Crimmins and Perry (1989), Crimmins (1992) and Braun (2002).
analogous to Kaplan’s (1989) distinction between character and content. So it will be
beneficial to examine Kaplan’s view first, in order to see the similarities.

Consider the following sentences.

(1) I am hungry.

(2) Obama is hungry.

Suppose that Barack Obama utters (1) and Donald Trump utters (2). In one sense, it
seems that they mean the same thing in the sense that they have both said the same thing,
namely that Obama is hungry. In a different sense, the sentences uttered by Obama and
Trump mean different things, in that the sentences they uttered have distinct linguistic
meanings. Kaplan maintains that cases like this suggest that we should make a distinction
between two types of meaning; character and content.

Character is the meaning of an expression that is determined by convention and
one that speakers of a language know in virtue of being competent speakers of that
language. Characters are the linguistic rules which determine the content of each
expression in every context\textsuperscript{74} of use. Kaplan (1981, p.505) represents the character of a
linguistic expression as a function that takes one from a context \( c \) to a content. Content,
on the other hand, is what is said or expressed by a linguistic expression at a context of
use. Content is represented as a function from a possible world, or circumstance of
evaluation, to an extension (Kaplan 1981, p. 502).\textsuperscript{75}

\textsuperscript{74} In his formal semantics, Kaplan (1989, p. 543) represents a context \( c \) as an n-tuple \( \langle a,t,p,w \rangle \)
composed of an agent \( a \) of \( c \), a time \( t \) of \( c \), a location or position \( p \) of \( c \), and a world \( w \) of \( c \).

\textsuperscript{75} This representation is similar to what Rudolph Carnap (1947) called intensions. Carnap
defined an intension as a function that yields for each term an extension, given the terms state-
description, where a state-description can be thought of as a possible world, or what Kaplan calls
a circumstance of evaluation.
Consider the indexical ‘I.’ According to Kaplan the character of ‘I’ is the conventionally determined rule that determines the agent of ‘I’ in every context. Following Kaplan, we can think of the character of ‘I’ as a function on contexts, whose value for any context is the agent of that context. So, the content of ‘I’ relative to context $c_1$ in which Obama is the agent will be Barack Obama himself. The content of ‘I’ relative to context $c_2$ in which Trump is the agent will be Donald Trump himself. The character of ‘now’ is a function on context, whose value for any context is the time of that context. The content of ‘now’ relative to 1pm will be 1pm, and the content of ‘now’ relative to 2pm will be 2pm. Given that the character of indexical expressions determine different contents relative to different contexts, Kaplan (1981, p.50) maintains that the character of indexicals is context-sensitive. Proper names on the other hand, have a fixed character. That is, the character of proper names determines the same content in all context of use. For example, the character of ‘Barack’ is a function that determines Barack Obama in every context. So the content of ‘Barack,’ in every context, will be Barack Obama himself.

The content/character distinction also applies to declarative sentences. A declarative sentence’s character will determine its content\textsuperscript{76} (i.e. proposition) relative to a context. The character of a sentences is not a constituent of the propositional content expressed by the sentences. Rather it is the rule that determines the propositional content of a declarative sentence at a context. Consider sentence (1) relative to context $c_1$ in which Obama is the agent, and relative to context $c_2$ in which Trump is the agent. In both cases

\textsuperscript{76} Kaplan at times described the content of a sentence as a singular proposition (1989, p.494) and at times as an intension, a function from circumstance of evaluation to an appropriate extension (1989, p. 502). For our purposes, when speaking of the content of a declarative sentence we will think of it in terms of a singular proposition.
contexts (1) has the same character, but expresses different singular propositions. The content of (1) relative to $c_1$ is the singular proposition $<$ Barack Obama, being hungry $>$. The content of (1) relative to $c_2$ is the singular proposition $<$ Donald Trump, being hungry $>$. Sentence (2), on the other hand, expresses the singular proposition $<$ Obama, being hungry $>$ in every context.

Analogously, under the Belief States Theory the object of belief, or the content of belief, for a singular belief turns out to be a singular proposition. So the Belief States Theory can be seen as an expansion of Millian Belief. A belief state, for lack of better words, is the way one comes to believe a proposition. While Perry doesn’t provide a clear picture in “The Problem of the Essential Indexical” (1979) of how we should understand what belief states are, what does seem clear is that belief states play an important role in our dispositions to utter sentences. So, one basic picture that arises from Perry’s discussion of belief states is that we can use the sentences that people utter to express their beliefs as means of individuating, or classifying, the belief states they are in (1979, p.18). So, we can say that for any sentence $S$ and $S'$, if individual $A$ is disposed to utter $S$ and not $S'$, then the belief state that $A$ is in when she is disposed to utters $S$ is not the same as the belief state $A$ is in when she is disposed to utter $S'$. Later, Perry (1980) goes on to specify that we can classify belief states by the character or role$^{77}$ of the sentences that said belief states cause people to utter. So, according to Perry, because the roles of sentences correspond to belief states, classifying belief states with the roles of the sentences they cause people to utter is sufficient to make distinctions between the

$^{77}$ Perry prefers to use his notion of role over Kaplan’s character in order to avoid any confusion as to whether character is a function from context to referent or intension. For Perry, role is a function that takes one from a context to a referent.
different belief states of an individual. Belief states are the psychological analogues to Kaplan’s characters. But it is important to note that while belief states are the psychological analogues to Kaplan’s characters, in his (1979) Perry never claims that belief states have role/character. It is only linguistic expressions that do.

Let’s see how Perry’s distinction is used to characterize indexical belief. Suppose that Obama has the belief he expresses by uttering “I am hungry.” According to the Belief States Theory, the content of Obama’s belief is the singular proposition < Barack Obama, being hungry>. The belief state Obama is in is the belief state that corresponds to the role of the sentence “I am Hungry.” The content of Trump’s belief when he utters “I am hungry” is the singular proposition <Donald Trump, being hungry>. The belief state Trump is in when he has this belief is the same as Obama’s, namely the belief state that corresponds to the role of the sentence “I am hungry.” Thus, according to Perry, while the contents of Obama and Trump’s respective beliefs are different, they still believe them in virtue of the same belief state. When Trump has the belief he expresses by uttering “Obama is hungry,” the content of his belief would be the same as the belief Obama has when he utters “I am hungry.” However, the belief state Trump is in would be different from Obama’s. Trump’s belief state would be the one that corresponds to the role of the sentence “Obama is hungry.” So, while the content of Obama and Trump’s beliefs is the same, they believe it in virtue of two different belief states.

With this distinction in mind, a solution to the problem of indexical beliefs becomes available to the Belief States Theory. Let us say that $t$ is the time at which Perry realizes that he is the messy shopper. If we recall, because Millian Belief characterizes belief states simply as a two-place relation between an individual and a singular
proposition, it finds itself without the resources to account for the new proposition Perry comes to believe after \( t \). This is because the proposition Perry comes to believe when he realizes that he is making a mess is the same singular proposition he believed before \( t \).

The Belief States Theory’s solution is to say that before \( t \) Perry believes the singular proposition \(<\text{John Perry, being a mess maker} \rangle\) in virtue of the belief state identified by the role of sentence “He is making a mess,” and not in virtue the belief state identified by the role of sentence “I am making a mess.” After \( t \) Perry comes to believe \(<\text{John Perry, being a mess maker} \rangle\) in virtue of the belief state identified by the role of sentence “I am making a mess.” So while Perry believes the same singular proposition before and after \( t \), he does so in virtue of two distinct belief states. What accounts for the indexical nature of Perry’s belief after \( t \) is not the propositional content of his belief, but rather being in a belief state that corresponds to the role of an indexical sentence.

§2.1: Token-Reflexive Contents

In *Reference and Reflexivity*, Perry (2001) presents his most sophisticated characterization of the Belief States view. He bases his theory of belief on his Reflexive-Referential Theory. In this work, Perry argues that an utterance\(^{78}\) \( u \) of a sentence \( s \) has two distinct types of contents.\(^{79}\) The first sort of content, which he calls a *referential content*, is the referent of an expression or sentence. For example, the referential content of ‘I,’ when uttered by Aristotle, is Aristotle himself. The referential content of ‘Aristotle’ uttered by anyone else is also Aristotle himself.

\(^{78}\) For Perry (2001, p.39) an utterance is an act that involves a toke, where a token is a physical event or object such as burst of sound or ink on paper. Under Perry’s account, one token can be used to make two distinct utterances (2001, p.37). For instance, suppose that I write on a Post-it note “I will be back in 5 minutes.” I can use this Post-it note on my office door every time I step out to let people know I will be back within 5 minutes. Thus, I can use this one token (i.e. the ink on the note) at different times to make different utterances.

\(^{79}\) Perry (2001, p. 39) calls the utterance of a declarative sentence a *statement*. 
Like Kaplan (1989), Perry (2001) maintains that simple subject predicate sentences express singular propositions, which Perry calls referential propositions. So, the referential proposition expressed by an utterance of “Aristotle is a philosopher” by any individual is the traditional proposition <Aristotle, being a philosopher> in which Aristotle and the property of being a philosopher are both constituents.

The Reflexive-Referential Theory departs from Kaplan in that it stipulates a distinct kind of content which he calls reflexive content. These contents resemble Hans Reichenbach’s (1947) analysis of the meaning of indexicals as token-reflexives. Reichenbach maintained that an adequate account of the meaning of indexical expressions requires reference to the token use of that expression in question. Similarly, Perry believes that the reflexive contents of the utterance of an expression, call it \( u \), should make reference to \( u \). In doing so, reflexive contents provide us with conditions for how to identify or determine the referential content of \( u \). For example, let’s suppose that ‘i’ refers to a token use of ‘I.’ According to the Reflexive-Referential Theory, the reflexive content of ‘i’ is something like the speaker of i’. Suppose that ‘A’ refers to a token use of ‘Aristotle.’ We can say that the reflexive content of ‘A’ is something like the person to whom the use of \( A \) refers (Perry, 2001, p.12).

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80 Henceforth I will also refer to singular propositions as referential propositions. I do this to make a distinction between traditional singular propositions, and reflexive positions, which turn out to be a type of singular proposition as well. Reflexive propositions are singular positions whose constituents include a token of the expression or mental representation in question.

81 Perry is providing a theory of utterance meaning, not of expression meaning. That is, Kaplan provides a theory of expression meaning, where the meaning of an expression is determined at a context, and where a context is a formal structure in an abstract semantic theory. Perry on the other hand, is providing a theory of utterance meaning, where an utterance expresses two types of contents in a context, and where a context is defined as a complex situation that includes the utterance itself.
In addition, Perry (2001, p.10) maintains that utterances of declarative sentences can be associated with reflexive propositions as well as referential propositions. The reflexive proposition of an utterance of “Aristotle is a philosopher” is something like *the person to whom the use of A refers is a philosopher*. The reflexive proposition associated with Aristotle’s utterance of “I am a philosopher”, where *i*’ is Aristotle’s token use of ‘I,’ is something like *the speaker of i’ is a philosopher*. But Aristotle’s utterances of “Aristotle is a philosopher” and “I am a philosopher,” express the same referential proposition. In essence, the reflexive contents of an utterance *u* is always going to be about *u* itself. Since reflexive contents specify what an individual has to know about an utterance in order to determine the utterance’s referential content, it is reflexive content that accounts for the mode of presentation of expressions and thus their cognitive significance (Perry, 2001 p.74). According to Perry (2001 pp. 19-20), what is asserted or what is said with an utterance *u* of a sentences *s* is a referential content. So while, utterances have reflexive contents associated with them, they are generally not what is asserted or said with an utterance *u* of a sentences *s*.

Perry extends his distinction between referential content and reflexive content to characterize beliefs. We will refer to this view as the *Reflexive-Referential Theory of Belief* (henceforth RRTB). Perry still maintains, under RRTB, that a distinction between objects of belief and the way they are believed is required to adequately characterize beliefs. The departure from the Belief States Theory comes in that RRTB uses reflexive propositions, in addition to referential propositions, to classify different components of a belief (2001, pp. 20-24). For instance, objects of belief are still said to be identified with referential propositions. But, rather than classifying belief states with the role of the
sentences agents are disposed to utter, Perry (2001, p.24) suggests that we should classify belief states with the reflexive propositions associated with the agent’s belief state. In doing this, Perry thinks that RRTB provide a better theoretical method of individuating the way in which individuals believe propositions in terms of the semantics of beliefs themselves, and not the role/character of the sentences believers are disposed to utter.

By the time he developed RRTB, Perry had already provided a more developed picture of how to characterize belief states. For Perry (Crimmins & Perry 1989, Perry 2001 p.23, Perry 2006) beliefs are cognitive particulars or mental representations in an agent’s head. These are structured entities \(<o, \varphi>\) composed of a ‘mental singular term’ \(o\) and a ‘mental predicate’ \(\varphi\), whose content is a referential proposition.\(^{82}\) So, while two individuals can believe the same thing (i.e. referential proposition), their respective beliefs are unique to them. Consider belief \(b\), this is the belief that A would express with “I am hungry.” Let \(p\) be the referential content of A’s belief, which is the singular proposition \(<A, being\ hungry>\). Perry suggests that we can classify A’s belief state with truth-conditions about \(b\) itself, or \(b\)’s reflexive content. Let \(r\) be \(b\)’s reflexive content. This is the proposition we would express with “the believer of \(b\) is hungry”.\(^{83}\) Suppose

\(^{82}\) Perry (Crimmins and Perry 1989, Perry 2001 and 2006) refers to these mental representations as notions and ideas. However, for our purposes the terminology is irrelevant. What is important is that mental representations are cognitive particulars in an attitude holder’s head. Some mental representations, notions for example, or what I’m calling ‘mental singular terms,’ represent objects, and some, ideas, or what I’m calling ‘mental predicate’, represent properties and relations. Perry (1989, 2001) seems to suggest that the reference of notions is determined along the lines of character like rules. For a robust analysis of how the reference of these sorts of mental representations can be determined see Joseph Levine (2010).

\(^{83}\) Perry (2006, p.217) agrees that \(r\) is similar to Stalnaker’s (1981, p.139) diagonal propositions, where the diagonal proposition expressed by a sentence \(s\), is the proposition that says that \(s\) is true. In other words, the diagonal proposition of a sentence \(s\) is true at a context \(c\) iff the proposition expressed by \(s\) in \(c\) is true at \(c\). But, rather, than thinking of \(r\) as a set of possible worlds, the way Stalnaker does, Perry thinks of \(r\) as a structured proposition with \(b\) as a constituent.
that B has the belief she would express by uttering “I am hungry”. Call this belief \( b' \). Let \( p' \) be the referential content of B’s belief, which is the singular proposition \(<B, being hungry>\). Since \( b' \) is a different belief than \( b \), it would have a different reflexive content. Let \( r' \) represent \( b' \)'s reflexive content. This would be the proposition we can express with “the believer of \( b' \) is hungry”. Thus, we classify A’s belief state with reflexive proposition \( r \), and B’s belief state with reflexive proposition \( r' \). So while A and B believe different referential propositions, they believe them in similar ways. We can capture the similarity between \( r \) and \( r' \) in the following way: For all beliefs \( \beta \), if \( \beta \) is a belief that x would express with “I am hungry,” then the reflexive proposition of \( \beta \) is \(<\text{the believer of } \beta, being hungry>\). By using \( r \) and \( r' \) to classify A and B’s belief states, we are able to capture what doxastic similar between both beliefs, namely that both beliefs will be true only if the belief holders are hungry at the time of the belief.

One important thing to note is that while token-reflexive contents characterizes the cognitive significance of beliefs, they are not what is believed by an agent. That is, agents don’t generally believe reflexive propositions.\(^{84}\) Under most standard settings, agents are generally said to believe referential propositions. According to Perry (2006, p. 218), reflexive propositions are merely a better classes of abstract object that help us classify the sort of belief state an individual is in when they have the specific belief in question. These classifications help us predict behavior amongst different individuals, by helping us identify doxastic similarities or differences.

\(^{84}\) Perhaps unless the reflexive proposition becomes part of a referential proposition, or what Perry at times calls official content.
§2.2: Referential Content of Belief

While the rest of this chapter will be dedicated to belief states, and how their cognitive significance plays a role in how agents rationalize their behavior, it is important to say something about why referential propositions are important in characterizing beliefs. So, I want to give a few reasons for why I think referential propositions are necessary in characterizing beliefs in general, but indexical beliefs in particular. In addition, I want to say something about recent attempts at trying to characterize beliefs without the aid of referential propositions.

First, referential propositions can serve as fine-grained contents of beliefs. Suppose that the contents of our beliefs were possible-world contents. That is propositions construed as sets of possible worlds, such that a possible-world content \( p \) is true at a world \( w \) iff \( w \) is a member of \( p \). A commonly known problem with possible-world contents is that they are too coarse-grained to characterize the content of our beliefs. For example, on a standard account of possible-world contents, the sentence “\( 4=4 \)” semantically expresses the same proposition that “\( 16/4=2^2 \)” semantically expresses. This is because the propositions they express are true in the exact same worlds, namely all of them. Let’s say that the proposition expressed by “\( 4=4 \)” is \( p \). If I have the belief I express by uttering “\( 4=4 \)”, then I would simultaneously have the belief that I could express by uttering “\( 16/4=2^2 \)”, given that \( p \) is also the set of worlds in which “\( 16/4=2^2 \)” is true. But this seems wrong.

It seems plausible that an individual could come to believe that \( 4=4 \) but but not that \( 16/4=2^2 \). Thus one thing that this suggests, is that we need a more fine-grained characterization of belief content in order to better characterize and individuate beliefs.
Referential propositions are a good candidate to do just that for this type of case. Of course, referential propositions are not the only candidates that can be used to individuate belief content in a fine-grained manner. For example, some sort of conceptual or descriptive propositions can do the same job. However, as Kripke (1980) and Kaplan (1989a) have demonstrated, propositions which involve the referent of the sentences that expresses them in a direct way, such as referential propositions, are preferable for other reasons besides individuating beliefs in a fine-grained manner.

For example, referential propositions seem to be better suited than conceptual or descriptive propositions to account for the counterfactual truth-conditions of belief content. Suppose Perry has the belief he expresses with “I am in Los Angeles” in world $w_1$. Furthermore, let us assume that Perry is in Los Angeles, making what he believes in $w_1$ true. It seems that his belief could have been false. What does it mean to say that his belief could have been false? Well that the content of his belief is false in some counterfactual situation. Let’s say that $p$ is the content of Perry’s belief in $w_1$. Let us also assume that $w_2$ is a world where Perry is not in Los Angeles. Given that the counterfactual truth value of $p$ is determined by whether Perry is or is not in Los Angles in a counterfactual situation, there has to be something about $p$ which ensures that it is about Perry. If $\phi$ was a conceptual constituent of $p$ such that $\phi$ picks out Perry only if Perry satisfies the conceptual condition $\phi$, then it would not be enough to ensure that $p$ is about Perry. Suppose that in $w_2$ it is David Lewis, and not Perry, who satisfies the condition $\phi$. Then, in evaluating $p$ in $w_2$, we would not be considering what is going on with Perry, since Perry does not satisfy conceptual condition $\phi$ in $w_2$. Instead we would be considering what is going on with the individual that satisfies conceptual
condition $\phi$ in $w_2$, namely David Lewis. And this seems false. This suggest that $p$ must involve Perry directly. Identifying $p$ as a referential proposition will guarantee that $p$ involves Perry directly.

Finally, referential propositions give us a better way to characterize what indexical beliefs are about. Suppose I have the belief I express by uttering “I am hungry” and Bob has the belief he expresses by uttering “I am hungry”. It seems that what we believe is not the same, given that what I believe can be true, and what Bob believes can be false. This suggests that the contents of our beliefs are distinct. If they are distinct, then there has to be something that distinguishes them. Since my belief can be true because of me, and Bob’s false because of him, then it seems that our respective beliefs are about Bob and I in a direct way. Referential propositions involve the ‘who they are about’ in this way, and thus are suited to account for the aboutness of indexical beliefs.

Nothing that has been said so far is meant to imply that referential propositions are sufficient to fully characterize beliefs, or that they are the only candidates to account for the three phenomena discussed above. For one, the problem of indexical beliefs and other Fregean puzzles have shown us that referential propositions alone are not sufficient to characterize and individuate beliefs. Second, we have not gone over the array of theories that give an account of the nature of propositions, nor how these are used in characterizing beliefs. I merely mean to make the point that referential propositions can serve in characterizing belief and indexical belief in particular.

Recently, there have been philosophers who have proposed theories in which thought content can be solely individuated with a conceptual or phenomenally based theory of content. These philosophers not only maintain that referential propositions are
not sufficient, but also not necessary for thought individuation. The most extreme of these is David Pitt’s (2004, 2013) account, in which each thought type has a proprietarily cognitive phenomenology which individuates the thought in question. According to Pitt, when Perry and I have our respective beliefs which we express by uttering “I am hungry,” we are both having the exact same belief, because we both have the exact same thought content with the same phenomenology. The fact that my belief can be true, and Perry’s false, is not because there is a difference in belief content, according to Pitt. Rather it is because my belief refers to me, and Perry’s belief refers to him (Pitt, 2013).

In order to account for how two individuals can have the same \textit{de se} thought content, but differ with respect to truth-value, Pitt appeals to a relativistic conception of content context-sensitivity, similar to that presented by John MacFarlane (2009) in his article “Non-Indexical Contextualism.” The view that MacFarlane proposes states that it is possible for the semantic content of a sentences to vary in truth-value not just across possible world parameters, but also across contexts within a possible world. According to MacFarlane (2009, p. 232), a sentence can be context sensitive insofar as the propositional content expressed varies in extension whenever features of the context vary. While this can be a contentious thesis, it seems even more contentious when applied to indexical sentences and indexical belief, which is a move that not even MacFarlane seems to make.

Second, it is not at all clear that a purely phenomenally based theory of content can be sufficient to individuate belief content. Consider the belief I express by uttering “275,934,797,347,592,374,759,745,456,464 > 275,934,797,347,592,174,759,745,456,464” and the belief I express by uttering
“275,934,797,347,592,374,759,745,456,464 >
275,934,797,347,592,174,757,745,456,464.” It is not clear how we can individuate these thoughts based on their phenomenology alone. I would be inclined to say that from my first person perspective, the phenomenology of these two beliefs are practically indiscernible, if not identical. However, they are in fact different thoughts given that they involve different numbers. Thus, individuating them on a proprietary phenomenology is not sufficient. Accounting for the difference in thought content may require the incorporation of the numbers themselves, which leads us back to needing referential propositions or something like them.

§3: Belief States and Their Cognitive Significance

While I take RRTB to provide the best characterization of indexical beliefs, and belief in general, it has lost popularity over the years. Part of this has to do with the fact that the Lewisian View appears to provide a more elegant framework with which to characterize the fine-grained nature of agents’ de se belief states with a single entity represented as sets of centered worlds. In characterizing belief states in this way, the Lewisian is able to provide a simple solution to the following questions; How does an agent rationalize their behavior? And how does the cognitive significance of that agent’s belief state factor in this reasoning process? Lewisians answer these two questions as follows; they identify the cognitive significance of a belief state with the sets of centered worlds they believe, and explain how agents rationalize their behavior in terms of the centered contents they bear attitudes towards. RRTB theorist, on the other hand, can’t merely appeal to the propositions believed by an agent in order to explain the cognitive significance of their belief states or how they rationalize their behavior.

85 See Chapter 3 for a list of individuals who adopt a Lewisian View of belief.

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Let us consider Millian Belief. Suppose that there is some goal $G$, which $A$

wishes to achieve. Let us say that $p$ is a referential proposition that if believed by $A$ it

would motivate $A$ to behave in such a way to try to achieve $G$. The problem of indexical

beliefs has shown us that merely believing a referential proposition $p$ is not sufficient to

motivate $A$ to try to achieve $G$. $A$ can have two beliefs $b$ and $b'$ with the same referential

content $p$, yet one of these can turn out to be suitably appropriate to motivate $A$’s

behavior in achieving $G$ and not the other. MTB theorists claim that the reason Millian

Belief can’t provide an explanation for the reasoning that motivates $A$ to achieve $G$ is

because we have to specify the way in which $p$ is believed by $A$.

RRTB accounts for this by saying that when $A$ has $b$ and $b'$, she is in two different

belief states. The difference in these belief states is such that it would make a cognitive

difference in how $A$ believes $p$. Thus, it would be safe to assume that the cognitive

difference between $b$ and $b'$ plays a direct role in what motivates $A$ to pursue $G$ when she

has one of those beliefs rather than the other. So, the question that remains for RRTB is

the following: how does the cognitive significance of a belief state, in addition to the

referential proposition believed, factor into how agents rationalize their behavior?

Recently, Manuel García-Carpintero (2016, 2017a) has developed a theory in the

vein of RRTB that attempts to provide an answer to this question. García-Carpintero

concedes that RRTB has the resources to answer the question above, however, he

maintains that the theory suggests an unwelcome instrumentalist stance (2016, p.185,

2017a, p.257). Additionally, García-Carpintero is of the belief that RRTB does not

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86 García-Carpintero does not make it clear what he means by “an unwelcome instrumentalist

stance.” What he seems to have in mind is that using reflexive propositions as classificatory tools,
suggests that the rationality of thought and talk is not fully determined by the propositions
really say much about the cognitive significance of a belief states and how they play a role in an agent’s reasoning process (2016, p.185, 2017a, p.269). He writes (2017a p.269):

“The problem with [Perry’s] proposal lies in properly understanding the relationship between official content given of a state, and the [reflexive content] also correlated with it that helps provide the significant rationalization in first-personal cases.”

In essence, according to García-Carpintero, it is Perry’s appeal to belief states, rather than contents, that renders RRTB unable to explain an agent’s reasoning process. He maintains that rationalizing is essentially explained in terms of the contents an agent bears an attitude relation towards (2017a, p. 269). In order to properly explain how the cognitive significance of a belief state fits into an agent’s reasoning process, García-Carpintero thinks that first-personal contents modeled as reflexive propositions are needed (2017a, p.269). So, under García-Carpintero’s proposal, reflexive propositions are not just meant to classify belief states, but are constitutive components of a belief itself. Reflexive-propositions, which characterize the cognitive significance of a belief state, are contents agents bear attitudes towards, and are part of the picture that help explain how an agent rationalizes their behavior. In the following section I present García-Carpintero’s account and demonstrate that if true it entails counterintuitive consequences. I then conclude by demonstrating that his motivation for developing his view is misguided, and that in fact RRTB can provide a perfectly adequate account of how the cognitive significance of a belief state plays a role in an agent’s reasoning process.

towards which one has attitudes. Ultimately García-Carpintero wants the propositions towards which one has attitudes to fully determine rationality.
§3.1: Token-Reflexive Presuppositions: The Linguistic Account and The De Se Account

Philosophers have given accounts that attempt to explain the role presuppositions play in semantics and pragmatics. For example, in an attempt to respond to the idealist of his time, Frege appealed to the presuppositions that are made when one makes an assertion. Frege writes (1892, p. 156):

“You talk, without further ado, of the Moon as an object: but how do you know that the name ‘the Moon’ has any Bedeutung?... I reply that when we say ‘the Moon’, we do not intend to speak of our idea of the Moon, nor are we satisfied with the sense alone, but we presuppose a Bedeutung. To assume that in the sentence “The Moon is Smaller than the Earth” the idea of the Moon is in question, would be flatly to misunderstand the sense...Now we can of course be mistaken in the presupposition, and such mistakes have indeed occurred...in order to justify mention of the reference of a sign it is enough, at first, to point out our intention in speaking or thinking.”

Frege suggests that when using a referential singular term, we make a presupposition about the referent of the term, namely that it exists. Thus, when we assert “The Moon is smaller than the Earth,” we presuppose that the Moon exists and that the Earth exists. Otherwise, our initial assertion would not make sense. While philosophers from P.F. Strawson (1950) to Robert Stalnaker (1972) disagree about how to characterize presuppositions, they agree that in typical uses of some sentences, speakers presuppose certain propositions. In addition, the information that is presupposed influences how one thinks of other related information. Manuel García-Carpintero follows in this tradition. He argues (2000, 2006, 2017b) that sentences pack up informational content in distinct ways. That is, the informational content of some sentences presupposes a further proposition. For example, consider “Victor made a cake” and “it was Victor who made a cake”. While both sentences express the same referential proposition <Victor, making a
cake>, the latter sentence presupposes a proposition that the former does not. What is presupposed by “it was Victor who make a cake” is that someone made a cake.\(^\text{87}\)

García-Carpintero, like Frege, maintains that names and indexicals don’t just refer, but have a type of sense that determines or fixes the reference of these singular terms. García-Carpintero takes these senses to be reflexive contents. The reflexive content of a singular term is not just a reference fixing property of the term, but it is what he calls an ‘essential ingredient’ that is presupposed, which serves as a mode of presentation of the referent (García-Carpintero 2000, pp115-116). Since the reference fixing property of a singular term is a reflexive content, the reference fixing property is not assigned to expression types, but rather expression tokens, given that a referring token is a constitutive component of the reference fixing conditions.

García-Carpintero (2000, p.137) maintains that generally speaking for any utterance of “\(t\) is \(F\),” where \(t\)’ is a token of a referring singular term ‘\(t\)’ in an utterance \(u\)’ of “\(t\) is \(F\),” the utterer of \(u\)’ will have a mental dossier/file labeled the \(\phi\) which the speaker associates with \(t\)’. Thus, the reflexive content of the token \(t\)’ in \(u\)’ will be something like the unique \(\phi\) to whom/which \(t\)’ refers. For example, consider A’s utterance \(u\) of “He is hungry,” while pointing at B, where \(h\) refers to the token of ‘He’ in \(u\). Let us assume that the reflexive content of \(h\) is something like the most salient male picked out by \(h\). Under García-Carpintero’s account, the referential content expressed by \(u\) is simply the referential proposition \(<B,\ being\ hungry\>). But the referential content of \(u\) is expressed in

\(^{87}\) By using the ‘negation test’, we can show that “It was Victor who made a cake” and not “Victor made a cake” presupposes that someone made a cake. By placing a negation operator on each sentences, we can see that the presupposition follows naturally (or is projected) from the first sentence and not the latter. For example, “It was not Victor who made a cake” presupposes that someone made a cake, while “Victor did not make a cake” does not presuppose that someone made a cake. For more on presuppositions and these cleft sentences see Atlas & Levinson (1981) and Delin (1995).
a context in which another singular proposition is presupposed, namely <B, being the most salient male picked out by h> (García-Carpintero 2017b). Presupposing the reflexive content of h is essential in fixing, or identifying, the referent of h, but not in providing its semantic meaning.

García-Carpintero has recently (2016, 2017a) sketched a way in which the picture he presents for indexical sentences can be extended to de se thoughts. That is, García-Carpintero (2017a, p. 271) maintains that a similar distinction between assertions and presuppositions, in speech acts, can be made for mental acts. The distinction would be one between beliefs or judgments, and relevant presupposed background beliefs. In this way García-Carpintero follows Robert Stalnaker’s (1973, 1974) intuitions in that presuppositions are a type of attitude towards a proposition. Thus, it is agents that do the presupposing not sentences or propositions. García-Carpintero’s account of presuppositions differs from Stalnaker’s to the effect that García-Carpintero thinks of presuppositional attitudes as constitutive parts of some mental acts like beliefs or judgments (2006, p. 186, n. 16).

Consider the Messy Shopper case. García-Carpintero (2017a, p. 271) writes:

“When [Perry] after the epiphany makes the judgment that he would express by uttering ‘I am making a mess,’ he is consciously aware of his thought being about himself. He is thereby consciously aware of a feature of the representing state he is in: its having a first-personal character.”

García-Carpintero maintains that when Perry has the belief he expresses by saying “I am making a mess” he not only believes the traditional referential proposition <Perry, being a mess maker>, but accesses the referential proposition in question by presupposing a proposition about the first-personal nature of his own mental state, which determines the referent of the referential proposition believed. According to García-Carpintero, Perry’s
first-person mental representation can be thought of as a mental dossier/file $m^i$ whose label is a token-reflexive content akin to the description of a Kaplanian character for ‘I,’ which could be articulated as the owner of the first-personal token mental dossier $m^i$ (García-Carpintero 2017a, p. 271). The content of the proposition Perry presupposes when he has the de se belief in question is the token-reflexive proposition $<\text{Perry, being the owner of the first-personal token mental dossier } m^i>$ which has Perry as a constituent and is said to meet the condition of being the owner of the token mental dossier in question. Perry is said to access the referential proposition $<\text{Perry, being a mess maker}>$ in virtue of the content of the presupposition in question, in that the presupposition identifies him, Perry, as the person who the token mental representation $m^i$ is about.

Two things should be noted about García-Carpintero’s handling of the Messy Shopper case; first, the presupposition made by Perry serves as a mode of presentation of his belief. By identifying Perry as the person that satisfies the condition of being the referent of the first-personal mental representation in question, the content of the presupposition imposes a restriction on how Perry can think of the referential proposition $<\text{Perry, being a mess maker}>$. Second, García-Carpintero takes the token reflexive reference-fixing presupposition to be a constitutive part of the belief itself, in that it is a requirement in determining the reference, or the owner, of the de se belief in question (2016, p. 194).

We can provide a general characterization of García-Carpintero’s account as follows; When an agent has a de se belief, she utilizes a first-personal mental dossier $m$ which refers to herself. Mental dossier $m$ is labeled with a token-reflexive content, akin to the description of a Kaplanian character of ‘I,’ and the label serves as the mode of
presentation for the *de se* belief in question. The first-person mental dossier refers to the agent who the *de se* belief is about through a presupposition that identifies the agent as the owner of *m*. Suppose x has a *de se* belief *that she is F*. Under, García-Carpintero’s account, x would utilize a first-personal mental dossier *mI* whose label is something like *the thinker of mI* to refer to herself. While x has this *de se* belief, she presupposes a token-reflexive proposition in which x is said to be the thinker of the first-personal mental dossier *mI*. The presupposition is a constitutive part of the belief in question. So x’s *de se* belief, under García-Carpintero’s account, can be characterized as follows; when x has the *de se* belief she expresses by uttering “I am F”, she is believing a traditional referential proposition <x, *being F*> in which x and the property *being F* are consistent, but does so while presupposing the reflexive proposition <x, *being the thinker of mI*>, which is a constitutive part of the *de se* belief itself.

§3.1.1: Concerns with García-Carpintero’s Account

As was already mentioned, García-Carpintero takes himself to be expanding on the insight of RRTB. Given that he takes token-reflexive presuppositions to be constitutive parts of beliefs themselves, he has the resources to explain the difference between what an agent believes, and the way in which they believe it. In addition, García-Carpintero seems to provide a way of explaining how the cognitive significance of a *de se* belief can play a role in an agent’s reasoning. However, as I will argue below, it is not clear that his view can be extended to account for belief in general. García-Carpintero presents his view in terms of *de se* beliefs, but maintains that if his view is true, then it should apply to beliefs in general (2016, p.191, p. 194). I want to argue that
when we extend his account from *de se* belief to *de re* belief, his view entails some counterintuittive consequences.

Suppose Perry sees the reflection of an individual who is spilling sugar on a display case mirror, and has the belief he expresses by uttering “he is making a mess” while pointing at the reflection. However, unbeknownst to Perry the reflection is of himself from an angle that makes it difficult for him to recognize himself. Now, let \( h \) be the token mental dossier that is meant to refer to the image of Perry, when Perry has the belief he expresses by uttering “he is making a mess.” According to García-Carpintero the content of Perry’s belief is \(<\text{Perry}, \text{being a mess maker}\>\), but is grasped in virtue of presupposing the reflexive proposition \(< \text{Perry, being the most salient male picked out by } h \>\). It is the token-reflexive presupposition that serves as the mode of presentation, and thus the cognitive significance of Perry’s *de re* belief.

But can this be an account of what happens when Perry has the *de re* belief he expresses by uttering “He is making a mess” while pointing at an image of himself? I would be inclined to say no. In fact, the way García-Carpintero construes the content of presuppositions, it seems clear that they cannot be the type of propositions presupposed by agents during belief. At least not in a way that makes sense in the case in question. In this case, Perry is not only unaware of who the person in the mirror is, but is even less aware that it is himself. So, suppose that after Perry expresses his belief someone were to ask him whether he was assuming that he has a mental event in his head that consist of a mental dossier \( h \) that refers to John Perry? In other words, whether he was assuming the following reflexive proposition \(<\text{Perry, being the most salient male picked out by } h\>\)? Surely not. It would be odd to say that Perry would presuppose such a thing while having
the *de re* belief in question. However, in order to make sense of Garcia-Carpintero’s description of Perry’s *de re* belief, we would have to maintain that Perry was presupposing that his mental representation referred to himself. But again, this seems false. Even if he believed that his mental states consisted of mental representations that referred to objects in the world, prior to his epiphany, when Perry points at the mirror and utters “he is making a mess,” he is not aware that he is referring to an image of himself. So, it would not make sense to say that he is presupposing a reference fixing reflexive presupposition whose content includes Perry himself.

Perhaps one could say that the concern above only occurs because García-Carpintero seems to maintain that the content of presuppositions includes the individual who the belief is about as a constituent. For example, in the case above, the content of the presupposition Perry makes when he has his *de re* belief includes Perry himself. But if García-Carpintero could construe the content of presuppositions to not include the individual who the belief is about as a constituent, then perhaps the concern presented above would not affect García-Carpintero’s account. For example, in the case in question, rather than having Perry as a constituent, we could have a descriptive content that represents Perry, and identifies the person that satisfies the descriptive content as the person referred to by the mental representation in question. In the case at hand, rather than having the content of Perry’s presupposition be <Perry, *being the most salient male picked out by h*>, we could have something like <The ϕ, *being the most salient male picked out by h*>, where The ϕ is a descriptive content that represents Perry.

However, even if García-Carpintero were to construe reflexive propositions in this way, I would still maintain that this would not alleviate the concern presented above.
In fact, it sheds light to a more general worry regarding García-Carpintero’s account. In my view, it not only seems strange to say that having a belief requires that an agent make presuppositions of who they take their mental representations to be about, but it seems even stranger to say that agents have to make presuppositions about their own mental representations in general. It is not obvious that when one has a belief, one presupposes things about their own mental representations. So, in order for García-Carpintero to make a case for his view, he would first have to make a case for why it would make sense to say that people systematically presuppose propositions about their own mental representations when they have a belief.

§3.2: García-Carpintero’s Motivations & Why RRTB Provides a Satisfactory Account of Indexical Belief

Why is García-Carpintero led to the view that rationality must be explained in terms of the propositions that characterize the cognitive significance of the thoughts in question? Frege puzzles in general suggest that the cognitive significance of beliefs play an important role in the reasoning process that motivates one’s behavior. If this is the case, then an account that explains belief should explain how cognitive significance fits in belief holders’ reasoning processes. As we have seen in this dissertation, some theories characterize the cognitive significance of a belief in virtue of the belief content of the belief in question. Under these views, the content of a belief not only serves to individuate beliefs, but also serves to account for their cognitive significance.

While García-Carpintero takes his view to be an expansion of RRTB, he seems to share Frege’s intuitions that an explanation of how an agent rationalizes their behavior should be done in terms of the cognitive significance of the propositions an agent bears a cognitive relation towards. Thus, by maintaining that agents bear a cognitive relation to
reflexive propositions that characterizes the cogitative significance of beliefs, García-Carpintero is able to provide an explanation of agents’ reasoning processes completely in terms of the propositional content of their attitudes. However, as we saw above, García-Carpintero’s account faces some serious challenges. But in addition to these challenges, I also want to maintain that García-Carpintero’s account seems unnecessary, given that his concerns can be fully explained within the RRTB framework.

Recall that rather than identify a belief with the proposition an agent bears a cognitive relation towards, Perry identifies a belief with a cognitive particular that exist in the belief holder’s head (Crimmins and Perry 1989, p. 688, Perry 2001, p. 20-21). For Perry, a belief is a complex mental representation that is composed of mental singular terms and mental predicates, whose content is a referential proposition $p$. Under RRTB, when an individual has a belief that $p$, we say that said individual believes referential proposition $p$ in virtue of having a mental representation $m$ whose content is $p$. Relating this in terms of Salmon’s (1986) relation $BEL$, we can say that mental representation $m$ is the guise, mode of presentation, or way by which the agent believes referential proposition $p$. On this analysis, when an individual has a belief about $p$, they do so in virtue of bearing a cognitive relation to mental representation $m$, whose content is $p$. It should be noted that with RRTB Perry is attempting to provide a naturalistic account of belief which is grounded in what is going on inside of an agent’s head. So, since mental representations are modes of presentation in virtue of which one grasps referential propositions, RRTB provides a naturalistic account of how the cognitive significance of a belief plays a role in how an agent rationalizes their behavior; and it does so without
requiring that the mode of presentation of the belief in question be a constituent of the propositional content believed.

García-Carpintero’s major gripe with RRTB was that under RRTB reflexive propositions are only used to classify belief states, depending on explanatory purposes. And this suggests, according to García-Carpintero, an unwelcome instrumentalist stance (2016, p.185). However, García-Carpintero does not make it clear why an agent’s reasoning process should have to be fully explained in terms of the propositions they bear attitudes towards. Of course, he is not alone in holding this position. Traditionally Fregeans and Lewisians have also attempted to fully determine the rationality of thought in terms of the propositions towards which one has attitudes. But a stark difference between García-Carpintero’s case and the Fregean and Lewisisan case, is that Fregeans and Lewisians attempt to characterize a thoughts and its cognitive significance with only one proposition. Presumably the motivation to do this is to maintain a level of elegance in the theory. But in that García-Carpintero, like RRTB, appeals to multiple types of propositions to characterize a thought, this level of elegance is sacrificed. So, it is not clear why, unlike RRTB, he finds it necessary to have to fully determine the rationality of thought in terms those propositions. Especially given that RRTB provides a coherent and adequate explanation of the rationality of an agent’s thought, without the need to incorporate the cognitive significance of a belief into the propositional content which the agent bears attitudes.

Furthermore, it is true that under RRTB reflexive propositions are primarily used to classify the belief states of agents. But is not as if the relation between an agent’s belief states and the reflexive propositions used to classify them is arbitrary. Suppose that Q is a
reflexive proposition that is used to classify an agent A’s belief \( b \). Thus, Q would have \( b \) as a constituent. Q is a reflexive proposition such that it is made true when A’s belief state is true. Thus, while A does not bear a cognitive relation to Q, A does bear some other significant relation to Q. We can perhaps call this a *grounding relation*. This can be thought of as a relation that holds between Q and A’s belief \( b \), such that the truth of Q is necessary (and perhaps sufficient) for A to have belief \( b \). Furthermore, reflexive propositions in particular are meant to give us insight into how the belief state an individual is in influences their behavior and how they rationalize their behavior. Why is this the case? Because Perry-style reflexive propositions, in that they are about an individual’s belief, will have as constituents the mental representations that are in the individual’s head.

Consider the *de se* belief A would express by uttering “I am hungry.” Let us refer to A’s belief as \( b \). A’s belief \( b \), has as a part a mental singular term \( i \) that is about A herself. Mental singular term \( i \) is part of the mental representation whose referential content is \(<A, \text{being hungry}>\); \( i \) is part of the intermediary in virtue of which A is able to grasp \(<A, \text{being hungry}>\). Let us refer to the content of A’s belief as \( p \). Proposition \( p \) is used to not only classify the content of A’s belief, but also to give us insight into what A believes. Similar to the object of A’s belief, A’s belief \( b \), has truth-conditions which can be characterized with the reflexive proposition \(< \text{the thinker of } i, \text{being hungry}>\). Let us call this reflexive proposition Q. Insofar as \( b \) is the mental representation by which A accesses \( p \), Q can be used to tell us about A’s belief state, and how A rationalizes her behavior.
Thus, while Perry appeals to belief states rather than propositional content to account for cognitive differences in beliefs, RRTB seems to provide a perfectly coherent and adequate account for how an agent is able to rationalize their behavior. If García-Carpintero wants to maintain that one can only explain how an agent rationalizes their behavior in terms of the propositions an agent bears attitude relations towards, he needs to provide further reasons for why this is so.

§4: Conclusion

In this chapter we looked at John Perry’s Belief States Theory and Reflexive-Referential Theory of Belief. We then looked at García-Carpintero’s theory of de se beliefs. I argued that García-Carpintero’s theory of de se beliefs is problematic in that it leads to some counterintuitive consequences. I then argued that his theory is poorly motivated. Finally, I explained why Perry’s Reflexive-Referential Theory of Belief is perfectly capable of accounting for the concerns that led García-Carpintero to develop his theory. In the following chapter I will characterize a model of communication that accommodates RRTB, and provides a solution to the problem of indexical communication.
CHAPTER FIVE

Communicating Indexical Beliefs

§0: Introduction

In this chapter we continue our discussion of the Reflexive-Referential Theory of Belief (RRTB). We will discuss the challenges RRTB faces in providing an account of indexical communication. To do this, we look at Robert Stalnaker’s (1981) concerns with the Belief States Theory’s inability to characterize the informational content of an indexical belief. After providing some evidence which suggests that communication consists in the transmission of a belief content from speaker to hearer, I argue that Stalnaker’s concerns demonstrate that in order to provide an adequate account of indexical communication within an RRTB framework, one needs to explain (i) the relation between the speaker’s belief state and the sentence used to express said belief, and (ii) the relation between the sentence used by the speaker to express their belief and the hearer’s belief state after they accept what the speaker asserted. I sketch a model of communication that addresses these two issues, and then defend the model against some possible concerns.

§1: Communication and The Reflexive-Referential Theory of Belief

Recall that according to RRTB, in order to adequately characterize indexical beliefs, we need to make a distinction between objects of belief, where an object of belief is a referential proposition, and agents’ belief states, which are the ways in virtue of
which agents believe referential propositions. RRTB maintains that agents can believe a single referential proposition in different ways, or in virtue of different belief states. One can individuate belief states in virtue of a reflexive proposition that provides the truth-conditions of the belief in question. However, while reflexive propositions are used to individuate belief states, generally speaking they are not what is believed or asserted by agents. That role is designated to referential propositions.

Given that referential propositions are identified as the objects of belief and assertion, a *prima facie* case can be made that RRTB has the resources to uphold both principles of TMC\(^{88}\). If we identify the content of a speaker’s assertion and belief with the same referential proposition, then *the mind-to-speech principle* is upheld. Assuming a hearer accepts what the speaker asserted with their utterance then *the speech-to-mind principle* is upheld. This, can be illustrated when we look at a standard conversation\(^{89}\) in which the speaker communicates the content of a non-indexical belief. Suppose, Perry believes that Donald Trump is President, and communicates this to David Lewis by uttering “Trump is President.” Let us call this belief \(b\) (Recall from the previous chapter, that under RRTB when speaking of ‘beliefs’ we mean the state of believing a proposition,

\[^{88}\text{As was mentioned in Chapter One, TMC can be characterized by the following principles (Weber, 2013):}\]

\(\begin{align*}
(I) \quad \text{The mind-to-speech principle:} & \text{the content of the utterance is identical to the content of a belief the speaker expresses.} \\
(II) \quad \text{The speech-to-mind principle:} & \text{the content of the utterance is identical to the content of a belief the hearer acquires.}
\end{align*}\)

\[^{89}\text{For the sake of simplicity, when speaking of a hearer, we will assume that the hearer is credulous and is inclined to believe anything the speaker says. Of course, having the hearer believe the same proposition the speaker asserts in not a necessary condition of successful communication. Perhaps all that is required is that the hearer at least grasp or entertain the proposition asserted by the speaker, and maybe even the proposition that the speaker said that }P.\text{ In any case, what is important for our purpose, is that there is a transfer in the proposition believed by the speaker to the hearer, whether the hearer ultimately comes to believe the proposition or entertain the propositions is not important for our purposes.}\]
and not the proposition believed). Assuming Lewis accepts what Perry says, we can characterize this exchange as follows under RRTB: Perry believes the referential proposition $<\text{Donald Trump}, \text{being president}>$ in virtue of a belief state that can be classified with the reflexive proposition which one could express with “$b$’s owner’s token ‘Donald Trump’- mental singular term refers to someone that is President.” Perry asserts “Trump is President” to express his belief. So, what is asserted by Perry’s utterance is the referential proposition $<\text{Donald Trump}, \text{being president}>$. Once Lewis hears and accepts Perry’s utterance, he too comes to believe that Donald Trump is President. Let us call Lewis’ belief $b'$. What Lewis believes is the referential proposition $<\text{Donald Trump}, \text{being president}>$ in virtue of a similar belief state that is classified with the reflexive proposition which one could express with “$b'$’s owner’s token ‘Donald Trump’- mental singular term refers to someone that is President.” If Lewis were to express his belief, he too would do so by asserting “Trump is President.” Thus, both principles of TMC are upheld.

Robert Stalnaker (1981) has expressed concerns regarding Perry’s Belief States Theory’s inability to capture what is communicated during indexical communication. Stalnaker (1981, p. 147) claims that the Belief States Theory is not able to represent what he calls the informational content of what is expressed when one attempts to communicate their indexical beliefs. While Stalnaker’s concerns target the Belief States Theory directly, and our focus is on RRTB, given that both theories focus on a fundamental distinction between objects of belief and belief states, we will take Stalnaker’s concerns as something that RRTB has to address.

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90 I say ‘similar’ here because strictly speaking the belief states are different in that they are concrete particulars that exist in individuals’ heads.
This problem can be highlighted, according to Stalnaker, when we view how the Belief State Theory functions within a model of communication similar to TMC. According to Stalnaker, neither element of the Belief States Theory (i.e. object of belief or belief state) will be able to adequately represent the informational content of what is expressed when one communicates an indexical belief. Stalnaker (1981, p. 148) writes:

Perry describes his distinction between objects of belief and belief states in a similar way [to Kaplan’s content/character distinction] as a distinction between what is believed and the way it is believed. But the point of Perry’s distinction must be different, since the lesson of the examples of essentially indexical belief – the examples that motivate Perry’s account – is that indexicals are essential to the information itself and are not just part of the means used to represent it. So, on Perry’s account, objects of belief cannot be the same as the informational content of a belief, or as the information that is exchanged in conversation.

Stalnaker appears to suggest that the informational content (i.e. what is believed) of an indexical belief must have an indexical component as a constituent. That is, Stalnaker seems to claim that the lessons drawn from cases like the Messy Shopper or Lingens the Amnesiac is that there are propositions that have an element which captures the indexical component of what an agent believes and communicates with an indexical expression.

According to Stalnaker, when Perry, in the Messy Shopper case, changes his behavior and stops looking for the messy shopper, he does so because the informational content of his belief is such that he, and not John Perry, is making a mess. What Lingens learns (i.e. the informational content) from Ortcutt’s utterance of “You are Rudolph Lingens” is that he is Rudolph Lingens, not that Rudolph Lingens is Rudolph Lingens. So which element of the Belief States Theory (i.e. objects of belief or belief states) represents the indexical informational content?
Consider how the Belief States Theory accounts for the data in *Lingens the Amnesiac*. According to the Belief States Theory and TMC, the content of Ortcutt’s assertion of “You are Rudolph Lingens,” and Lingens’s belief after accepting Ortcutt’s assertion are identical. The content in questions is the referential proposition \( \langle \langle \text{Lingens, Lingens} \rangle, \text{Identity} \rangle \). However, according to Stalnaker, this proposition cannot be the informational content conveyed by Ortcutt to Lingens during the exchange, given that Lingens is already said to believe this proposition. He was said to believe this referential proposition after reading and accepting “Lingens is Lingens.” Thus, objects of belief (i.e. referential propositions) cannot be identified as the informational content of what is conveyed during indexical communication. This leaves belief states as the only other candidate. However, according to Stalnaker (1981, p.148), belief states cannot represent informational content either because they are not what is believed nor what is communicated when one asserts an indexical sentence. The reason for this is that belief states are the subjective state one is in when one has a belief.

§1.1: On Stalnaker’s Concern

First, we should note that the lessons drawn from examples like *the Messy Shopper* or *Lingens the Amnesiac*, according to Perry (2006, p.213-214), are not that indexical beliefs must be characterized with a content that has an element which captures the indexical component of what an agent believes and communicates with an indexical expression. Rather, the lessons drawn from these cases are that the use of indexical expressions are ‘essential’ in reporting one’s beliefs because they help explain and predict certain behavior. For instance, Perry uttering “I am making a mess” rather than
“John Perry is making a mess” is better suited for him to explain why he stopped looking for the messy shopper.\textsuperscript{91}

Regardless of this misunderstanding, Stalnaker’s comments do appear to shed light on the fact that The Belief States Theory, and in turn RRTB, are not immune to the problem of indexical communication. As we have already seen, TMC is not sufficient to adequately characterize successful indexical communication. Recall that RRTB accounts for the indexical component of indexical beliefs in terms of belief states, which means that generally speakers and hearers will not come to believe the same referential proposition in virtue of similar belief states during successful indexical communication. For instance, Lingens cannot believe the same referential proposition Ortcutt asserts with “You are Rudolph Lingens,” in virtue of the same belief state as Ortcutt. So, what RRTB has to do is explain how a hearer comes to be in her respective belief states once she hears an indexical sentence. In order to explain this, RRTB needs a model of communication that provides an explanation of (i) the relation between the speaker’s belief state and the sentence used to express said belief, and (ii) the relation between the sentence used by a speaker to express their belief and the belief state the hearer comes to be in during successful communication. Before looking at why RRTB needs a model of communication that explains (i) and (ii), I want to look at some cases which suggest that speakers do in fact believe the same content they assert, and that hearers do come to grasp the same content asserted by speakers.

\textsuperscript{91} It may be worth noting that while the indexical ‘I’ is better suited for Perry’s explaining his own behavior, others who wish to explain Perry’s behavior can use any other name or appropriate indexical to refer to Perry.
§1.2: Linguistic Evidence for TMC

While it should be clear at this point that TMC is not sufficient to account for indexical communication, I want to take the time and provide some evidence which suggests that both principles of TMC are well motivated. Let us begin with the mind-to-speech principle. First, to the extent that sentences express propositions, propositions have served as powerful theoretical tools that have allowed us to predict, understand and influence human behavior. Under the assumption that speakers use language to sincerely express what they believe, then it is safe to assume that the content of an agent’s belief is identical to the content expressed by the sentence they use to express said belief. Namely, the proposition expressed by a speaker’s assertion. It is not unreasonable to think that the content believed by an agent is identical to the content the agent asserts with a sentence that expresses their belief given how often we infer what individuals believe, desire and expect from the content of their assertions. For instance, suppose that during a Super Bowl LII party an individual shares her belief that the New England Patriots will win the Super Bowl by uttering “The Patriots will win the Super Bowl.” At the end of the game, after the Philadelphia Eagles defeated the Patriots, you see that this individual is exhibiting behavior that is consistent with someone who is upset and disappointed. At this point it would be safe to assume that this individual really believed what she said, namely that the New England Patriots will win the Super Bowl. I take this to be good evidence to suggest that speakers believe what they assert92.

92 Some philosophers within the Lewisian tradition reject the identity between content believed and content asserted. However, as far as I can tell, this rejection does not come because of a rejection to the sort of the data provided above, but rather because of a commitment to characterize the content of attitudes with centered contents. See Egan (2007), Feit (2008, p 109), Torre (2010), Ninan (2010), Moss (2012).
Next let us consider *The speech-to-mind principle*. It seems reasonable to suppose that cases in which there is agreement or disagreement between individuals’ assertions provide *prima facie* evidence to suppose that a hearer comes to grasp the content asserted by a speaker. Consider the following exchanges between John and Mary.

A) John: “The Patriots should trade Tom Brady.”
Mary: “No, I disagree.”
   “The Patriots should not trade Tom Brady.”

B) John: “I should have water rather than soda.”
Mary: “I agree.”
   “You should have water rather than soda.”

If one thinks of disagreement as a contradiction in the content of two thoughts or assertions, then we have reason to believe that in exchange (A) Mary’s disagreement is possible only if she first grasps what John said with his utterance. After assessing it, Mary then believes and asserts a sentence that contradicts the content expressed by John’s assertion as a way to express her difference in belief. Similarly, if one thinks of agreement as the acceptance of the content asserted by a speaker on the part of a hearer, then we have reason to believe that in exchange (B) Mary’s agreement is possible only if, once again, she first grasps what John said with his utterance in order to assess it, and then accept it.

Further support for *The speech-to-mind principle* can be found in cases of says-that reports. Consider the following cases involving Mike, Dan and Bob.

C) Mike: “I love the Patriots”
Dan: “Bob, did you hear what Mike said?”
Bob: “Yes. Mike said that he loves the Patriots”

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93 I want to thank Matthew Davidson for helpful discussions on these issues. For further discussion on the type of linguistic data discussed above see Capplelen and Hawthorne’s (2009).
D) Mike:  “I love the Patriots”
            “Did you hear what I said?”
Bob:     “Yes. You said that you love the Patriots”

Similar to the agreement and disagreement cases, it appears that Bob’s reporting of what
Mike said can easily be made sense of under the assumption that the content of the
sentence that Mike uses is identical to the content that Bob comes to acquire during
communication. Thus, cases like (A), (B), (C) and (D), I think, give us reason to think
that the content of an utterance and the content acquired by a hearer during successful
communication, are numerically identical. This in turn supports the speech-to-mind
principle.

§2: Modes of Presentation and Shifts in Belief States

Now that we have seen some support for both principles of TMC, as was mentioned at
the end of section 1.1 in order to make sense of indexical communication, within a RRTB
framework, we need a model that explains (i) the relation between a speaker’s belief
states and the sentences used to express said beliefs, and (ii) the relation between the
sentences used by a speaker to express their beliefs and the belief states a hearer comes to
be in during successful communication. In the following sections I want to say more
about why a model of communication that accommodates RRTB needs to provide an
explanation of these relations.

§2.1: Speaker Belief States, Sentence Uttered and Linguistic Meaning

In this section I want to argue that the modes of presentation that account for the
cognitive significance of beliefs and linguistic expressions are of two distinct kinds.
Given that they are of two distinct kinds, it is not prima facie clear what the relation is
between agents’ belief states and the sentences they use to express their beliefs. Thus, an
explanation of the relation between agents’ belief states and the sentences they use to express their beliefs is required to provide a complete picture of indexical communication.

As was mentioned in the previous chapter, there are similarities between RRTB’s object of belief/belief state distinction and David Kaplan’s (1989) content/character distinction. For Kaplan an expression’s content at a context is what is said by a linguistic expression at a context of use. Characters, on the other hand, are properties of expression types. They are traditionally taken to be an expression’s linguistic meaning. These are the conventionally established rules that determine what is said by a linguistic expression at a context of use. Where contents provide the truth-conditions of a linguistic expression, character is the feature in Kaplan’s theory that accounts for an expression’s cognitive significance.

Under RRTB, objects of belief, like the contents of declarative sentences, turn out to be singular or referential propositions. Belief states are taken to be properties of the psychology of believers. They are ways in which an agent grasps a proposition, or in the case of believing, they are ways of believing a proposition. As such, they are a kind of mode of presentation. Belief states are the feature in RRTB that explains cognitive differences and similarities between beliefs, and thus the rationality of agents’ behavior.

Given that philosophers[^94] often introduce RRTB by comparing it to Kaplan’s theory, and given the similarities between both theories, it may be tempting to identify the cognitive significance of belief states with the role/character[^95] of the sentences one uses to express them. However, as mentioned in the previous chapter, Kaplan at times thinks of content as a referent and at times as an intension. For our purposes I take roles and characters to amount to the same thing. They are functions that take one from context to context. But as was mentioned in the previous chapter, Kaplan at times thinks of content as a referent and at times as an intension. For

[^95]: Henceforth I will only use ‘role’. For our purposes I take roles and characters to amount to the same thing. They are functions that take one from context to context.
beliefs. The temptation to make this sort of identification can be founded on the following kind of reasoning; just as the sentences “I am making a mess” and “He is making a mess” differ in cognitive significance because they differ in role, so too must the belief states Perry is in when he asserts “I am making a mess” and “He is making a mess” differ in cognitive significance because they differ in role. This position can be made plausible when one considers the upshots that come with this sort of identification. First, given that there would only be one sort of entity (i.e. roles) that function as mode of presentation, identifying the cognitive significance of belief states with roles allows one to have a parsimonious theory. Identifying the cognitive significance of belief states with roles also provides an apparent link between belief states and the sentences used to express said beliefs. Finally, not only would roles account for the cognitive significates of belief states, they would also provide the mechanism that explains how belief contents are determined.

It should be made clear, however, that this sort of identification is not something that is entailed by RRTB. Nor is it something that that Perry proposed, though it may have been suggested by some of his comments. So why are we considering it? The reason we are considering it is because showing that this identification should be avoided reveals that an explanation of the relation between agents’ belief states and the sentences they use to express their beliefs is needed.

So why should we avoid the sort of identification that is being discussed? I follow François Recanati (1993) in this matter. Recanati (1993, pp. 63-77) maintains that there

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this reason, we stick with Perry’s definition of role, where role is a function that takes one from context to referent.

96 See Crimmins, Mark & Perry, John (1989, p. 691).
are systematic differences between what he calls linguistic modes of presentation (e.g. role, character) and psychological modes of presentation (e.g. belief states). These differences can be ascertained by looking what Kaplan and Perry say about linguistic modes presentation. For instance, Kaplan (1989a p. 505) says about character:

The character of an expression is set by linguistic convections and, in turn, determines the content of the expression in every context. Because character is what is set by linguistic conventions, it is natural to think of it as meaning in the sense of what is known by the competent language user.

Perry (1977, p. 479) says about role:

But what we know when we understand how to use “today” doesn’t seem to change from day to day…When we understand a word like “today,” what we seem to know is a rule taking us from occasion of utterance to a certain object.

From this we get two features that are representative of roles: First, roles are linguistic rules established by conventions. Because they are established by convention, and are what is known by competent users of a language, roles are modes of presentation that anyone who is a competent speaker of the language can use to grasp or access a content. Second, because they are established by convention, the role of a linguistic expression remains constant from context of use to context of use.97 That is, where the content of an expression may vary from context to context, as in the case of indexicals, the role of an expression remains the same in every context. Thus, as we will see, roles exhibit two characteristics that belief states do not; first, roles are modes of presentations that are established by linguistic conventions, and second, roles remain constant with the use of a linguistic expression from context to context.

As Stalnaker (1981 p. 148) indicated, belief states by their very nature are not public things that just anyone can have access to. Rather, they are subjective properties of

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97 This assumption is challenged by Quentin Smith. See his (1989).
an agent’s psychology. So they are dissimilar to roles in this way. In addition, belief states, unlike roles, don’t seem to be modes of presentation that remain constant from context to context. We can use Kripkes’s (1979) ‘Paderewski’ case to demonstrate this. Suppose that Peter learns of an individual named ‘Paderewski’ who is said to be a famous pianist. Thus, Peter comes to form the belief he would express with “Paderewski is a musical talent.” Later that day Peter comes to meet an individual named ‘Paderewski’ who happens to be a Polish nationalist leader. Skeptical of his musical abilities, and thinking that, while contemporaries, the man who is a Polish nationalist leader is not the same as the famous pianist he heard about earlier that day. Consequently, Peter forms the belief he would express with “Paderewski is not a musical talent.” Thus, Peter simultaneously believes that Paderewski is a musical talent and that Paderewski is not a musical talent. As long as Peter believes these proposition under different modes of presentations of Paderewski, his beliefs can be deemed rational, even though they are contradictory. So what kind of modes of presentation can these be? According to what Stephen Schiffer (1978, p. 180) calls “Frege’s Constraint,” the modes of presentation under which Peter

98 Frege’s Constraint is characterized by Schiffer (1978, p. 180) as follows:

Necessarily, if $m$ is a mode of presentation under which minimally rational person $x$ believes a thing $y$ to be $F$, then it is not the case that $x$ also believes $y$ not to be $F$ under $m$. In other words, if $x$ believes $y$ to be $F$ and also believes $y$ not to be $F$, then there are distinct modes of presentation $m$ and $m'$ such that $x$ believes $y$ to be $F$ under $m$ and disbelieves $y$ to be $F$ under $m'$.

Schiffer seems to maintains that this is a condition that has to be satisfied by anything that qualifies as a mode of presentation. However, cases like Perry’s (1977, p. 483) Enterprise case and the Paderewski case above, seem to suggest that this is only a condition that can be satisfied by psychological modes of presentations like belief states, and not linguistic modes of presentations like role/characters. However, perhaps one way of maintaining that Frege’s Constraint can be satisfied by linguistic modes of presentations like characters, is by making a distinction, following David Braun (1996), between linguistic meanings and characters. Perhaps by making this distinction a case can be made that one of these entities (either linguistic meaning or character) exhibits the properties mentioned above, while the other entity satisfies Frege’s
is thinking of Paderewski cannot be the role of ‘Paderewski’ since its role is constant on both occasions of use and it determines the same individual. Nevertheless, Peter seems to be rationally thinking of Paderewski in different ways. This entails that roles are not what accounts for the cognitive differences of Peter’s beliefs.

Thus, while it is tempting to identify the cognitive significance of a belief with a role, the differences between them should give us hesitation to do so. But if this distinction does in fact hold, then an explanation of the relation between the speaker’s belief state and the sentence used to express said beliefs is in order. Providing this explanation is particularly important in providing an adequate model of communication that accommodates RRTB.

§2.2: Sentence Uttered and Hearer Belief States

In order to have an adequate model of communication that accommodates RRTB we also need to provide an explanation of the relation between the sentence used by a speaker and the belief state the hearer comes to be in during successful communication. As we have seen in the previous chapters Fregeans and Lewisians, in trying to account for indexical communication, seem committed to giving up the idea that the content believed by a speaker is preserved (from speaker to hearer) during successful indexical communication. In other words, according to Fregeans and Lewisians, the content that a hearer would come to grasp during successful indexical communication would turn out to be different than the content the speaker believes. RRTB avoids this consequence by identifying the content believed with referential propositions. This gives the appearance

Constraint. It is important to note that Braun proposed this distinction in his analysis of true demonstratives like ‘that,’ in order to make sense of sentences like “That is bigger than that,” where both occurrences of ‘that’ refer to the same object. For more on this distinction see Braun’s (1996).
that under RRTB a speaker would be able to directly communicate her beliefs without the need of a hearer having to infer the content expressed by a speaker. However, this may not turn out to be the case. Even though RRTB upholds both principles of TMC, this does not mean that the communication of indexical beliefs turns out to be a direct endeavor. The reason for this is because even when a hearer comes to grasp the same content as the speaker, she has to do so in virtue of a different belief state than the speaker.

For instance, consider belief $b$, this is the belief Lewis would express with “You are making a mess” while addressing Perry. Thus, the referential content of Lewis’ belief and utterance is <Perry, being a mess maker>. We’ll call this referential proposition $p$. Furthermore, let us say that the reflexive proposition that classifies Lewis’ belief state is $r$. This is the proposition we would express with “$b$’s owner’s token ‘you’-mental singular term refers to someone who is making a mess.” Assuming Perry accepts Lewis’ assertion, and has the epiphany that he is making a mess, we would expect Perry to believe $p$ in virtue of a different belief state, and thus have a different belief than Lewis. We can call this belief $b'$, which is the belief Perry would express by uttering “I am making a mess”. The content of Perry’s belief is $p$. The reflexive proposition that classifies Perry’s belief state is $r'$. This is the reflexive proposition one would express with “$b$’s owner’s token ‘I’-mental singular term refers to someone who is making a mess.” Given that Perry believes $p$ in virtue of a different belief state than Lewis, we need to ask how Perry came to be in his belief state after he accepted what Lewis asserted. More generally, one needs to explain the communicative effect hearing an indexical sentence (or non-indexical sentence) has on the hearer’s doxastic states and
their disposition for verbal behavior. Following Dirk Kindermann (2016) we will call this *the hearer challenge*.

Kindermann (2016) argues that any model of communication that wants to account for indexical communication will have to allow some form of ‘indirectness’ element in communication. In other words, all models of communication must posit what he calls a ‘shifting operator,’ or what we’ll refer to as a *shifting process*. The shifting process is the element in a model of communication that helps explain the hearer challenge (Kindermann, 2006 p. 319). The shifting process is the process that explains how the hearer comes to be in their cognitive state during successful indexical communication. What this means for a theory of communication that accommodates RRTB is that it will have to explain the relation between the sentences uttered by a speaker and the belief states the hearer comes to be in during successful indexical communication.

§3: The Belief States Model of Communication

Now that we have seen why a model of communication that can accommodate RRTB needs to explain (i) the relation between the speaker’s belief states and the sentences used to express said beliefs, and (ii) the relation between the sentences used by a speaker to express their beliefs and the belief states the hearer comes to be in during successful communication, I want to begin sketching a model that does exactly that. I follow Dirk Kindermann (2006) in maintaining that any model of communication that is able to

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99 A similar shifting process will have to be provided when characterizing how agents preserve beliefs as time passes and as they move through space. Perry discusses some of these issues in his (1980).

100 Perry (2006, p.219) himself has hinted at the sort of model that I will sketch, but never explicitly characterizes it. As far as I am aware, he also does not situate RRTB within the larger discussion of indexical communication.
account for indexical communication needs to present a shifting process that provides an explanation to the hearer challenge. The shifting process is meant to account for how the hearer comes to be in their respective belief state during successful indexical communication. Because RRTB accounts for the indexicality of beliefs in terms of belief states and not contents of belief, the shift that needs explaining, for a model of communication that accommodates RRTB, will have to come at the level of belief states. I will refer to the model I will sketch as the Belief States Model of Communication (henceforth the Belief States Model).

The Belief States Model is considered an expansion of TMC in that it also upholds both principles of TMC. The expansion comes in that the Belief States Model attempts to provide an account of the role the speaker and hearer’s belief states play during communication, and in particular indexical communication. Before we look at how individuals come to be in their respective belief states during successful indexical communication, let us first take a look at the barebones of the model.

As was already mentioned The Belief States Model, like TMC, maintains that successful communication entails a preservation\(^{101}\) of content from the speaker to a hearer. The content in question is a referential proposition. This is because RRTB maintains that, generally speaking, agents only believe and assert referential propositions. But, as we saw in the previous chapter, referential propositions are not sufficient to characterize indexical beliefs, and in turn what happens during indexical communication.

\(^{101}\) I say ‘preservation’ and not something like ‘direct transfer’ because I take the direct transfer of content to suggest that nothing has to be done on the part of the hearer to grasp the content asserted by a speaker. However, as we will see, in order for the hearer to believe what the speaker asserted, in virtue of an appropriate belief state, the hearer may have to do something to infer that content.
Thus, RRTB appeals to agents’ belief states in order adequately characterize indexical beliefs. This entails that during indexical communication we can expect speakers and hearers to be in different belief states even though they believe the same referential proposition. For instance, suppose that an agent A has a *de se* belief she expresses with a sentence containing ‘I.’ Under RRTB this entails that A is in a first-personal belief state. After accepting what A asserts, B too will be said to believe the same proposition as A, but cannot be said to believe it in the same way. B would have to believe the referential proposition that A believes in virtue of a different belief state (i.e. a non-first-personal belief state).

In section 2.1 we saw that there was a need to provide an explanation of (i) the relation between speakers’ belief states and the sentences they use to express said beliefs, and (ii) the relation between the sentences used by speakers to express their beliefs and the belief states hearers come to be in during successful communication. Explaining these will help us fill in some conceptual gaps that are necessary to make sense of indexical communication within an RRBT framework. We move to address each of these in turn.

Recall that the role of a linguistic expression is a conventionally established rule that determines the content of the expression in question at each context of use. Thus, knowing an expression’s role entails that one knows how to use the linguistic expression in question. For instance, knowing that for any context $c$ ‘I’ refers to the agent of $c$, entails that one knows how and when to use ‘I.’ If one knows how and when to use a linguistic expression, then one would know which linguistic expression to use to express a belief. For instance, if one knows how and when to use ‘I,’ then when one has a *de se* belief one would know to use a sentence with ‘I’ as a constituent to express said belief.
Thus, while belief states and roles are different modes of presentation, there is still a significant relation that holds between them given the type of belief states and facts about the language one is acquainted with.

A similar account explains the relation between hearers’ belief states and the sentences they perceive from speakers who express their beliefs. This will consist of an explanation of the shifting process that occurs during successful indexical communication. We can do this by taking a look once again at the role of the linguistic expression used during verbal communication. Suppose that a speaker A expressed their *de se* belief by uttering “I am lost.” Upon perceiving this, a hearer B, knowing the role of the sentence uttered, understands that the sentence used is conventionally used to express a first-personal thought. In addition to this, B knows that she is not the producer of the utterance and thus the utterance is not about her, but rather the person who produced the utterance, namely A. This information leads B to believe what A asserted, namely that A is lost, but does so in virtue of a distinct belief state. This is a belief state that would not dispose B to utter “I am lost” in order to express the belief. The shifting process that occurs in the Belief States Model can be explained as follows; A hearer who perceives an utterance with an indexical expression, say the first-personal pronoun ‘I,’ will know the role of said expression. In addition, recognizing that she is the speaker’s addressee the hearer would come to form a belief state (i.e. a non-first-personal belief states) that is appropriate for grasping the content asserted by the speaker. To this effect, if the hearer were to express her belief, she would use a sentence that does not contain the first-personal pronoun ‘I.’
So, while both a speaker and hearer come to believe the same referential proposition during successful communication, the Belief States Model is also able to capture the fact that different things are happening at their respective ends. A speaker believes a referential proposition in virtue of a specific belief state. Being in her respective belief state, in addition to her knowledge of the language she speaks, will dispose her to utter a sentence that is appropriate to express her belief. When a hearer perceives the sentence uttered by a speaker, her knowledge of the language, in addition to her knowledge that she is the speaker’s addressee\textsuperscript{102}, will cause her to be in a belief state that is appropriate for grasping the referential proposition asserted by the speaker. Thus, the Belief States Model provides explanations of (i) the relation between agents’ belief states and the sentences they use to express their beliefs, and (ii) the relation between the sentences used by speakers to express their beliefs and hearers’ belief states after they perceive the sentences used by speakers. While the model I sketched is an oversimplification of what occurs during standard conversational contexts, it still allowing us to see how conversational participants’ belief states, contents of belief and sentences used during communication are related. In addition, presenting a model, such as that of the Belief States Model, allows us to position RRTB within the debate concerning indexical communication.

\textsuperscript{102} It is not generally required that a hearer realize that she is the speaker’s addressee for her to be in a belief state that enables her to believe the same proposition as the speaker. We can imagine a situation in which our respective hearer is merely eavesdropping on the speaker’s conversation, and nevertheless comes to believe the same proposition asserted by the speaker. Capturing this data would of course require some explaining, which I think can be accomplished within the Belief States Model. However, for our purposes, we will put eavesdropper cases aside and continue on with standard conversational contexts in which the hearer is credulous.
§4: Addressing Some Concerns with the Belief States Model

As we saw the Belief State Model not only accounts for indexical communication, but has the added benefit of maintaining an identity between the content believed and asserted by a speaker, and the content acquired by the hearer. As I attempted to show in section 1.2 there appears to be some linguistic evidence which suggests that in fact there is a preservation of the content asserted by a speaker and the content believed by a hearer during successful communication. The fact that the Belief States Model captures these features is taken to be an advantage of the model and a strong reason to accept it.

However, some philosophers have rejected this claim. Some, like Dirk Kindermann (2016), reject that preservation of content should be taken as a reason to accept a model of communication over models that don’t accomplish this. Others, like Anne Bezuidenhout’s (1997, 1998), are skeptical that successful communication entails the preservation of a single content from a speaker to a hearer. In the following sections I will address both concerns.

§4.1: The Requirement of a Shifting Processes Concern

Dirk Kindermann (2016) has recently argued that given the phenomena of indexical communication, any adequate model of communication must posit a shifting process. If this is the case, then a model that captures the preservation of content from speaker to hearer cannot be taken as a reason to prefer it over other models that don’t capture it. Thus, a choice between any model of communication (e.g. the Re-Centering Model, The Belief States Model) will turn out to be a matter of theoretical taste or prior commitments, and not have anything to do with indexical communication itself (Kindermann, 2006 p. 309). So the Belief States Model does not hold any added benefits
because it captures a preservation of content, given that any theory should be able to account for the data of indexical communication, insofar as it posits an adequate shifting process.

My concern with Kindermann’s comments is that they only seem to hold weight under the assumption that all shifting processes are of equal theoretical importance. For instance, the models of communication that accommodate theories of belief such as Fregean Belief and Lewisian Belief appeal to a shifting process at the level of content. The Belief States Model instead appeals to a shifting process at the level of an agent’s understanding of their respective language and this understanding’s relation to their belief states. The Belief States Model is appealing to, or relying on, the fact that competent speakers of a language understand how linguistic terms are used in their language with respect to different contexts. That is, The Belief States Model relies on the fact that when a speaker is in a belief state whose content is \( p \), the speaker, as Jerry Fodor (1975, p. 106-107) puts it, will manage the task of finding a suitable sentence to express \( p \) in virtue of being a speaker of the language in question. The hearer has to determine the propositional content encoded by the sentences used by the speaker in virtue of her knowledge of the language in question. Thus, insofar as the hearer is a competent user of the language in question, what she knows about her language will most of the time be enough to determine what is asserted by a speaker of the language.

So, while the Belief States Model, like models of communication that accommodate Fregean Belief and Lewisian Belief, appeals to a shifting process, the Belief States Model avails itself of features that we expect to see of competent language users. Models that accommodate Fregean Belief and Lewisian Belief have to provide a
story of how a hearer comes to infer a completely different, but somehow equivalent, belief content that is adequate to constitute successful communication. So, the fact that the Belief States Model makes use of features having to do with our expectations of how verbal communication functions\textsuperscript{103}, should be taken as a reason to think that it is on the right track, and as reason for why it should be preferred over other models that posit more exotic shifting processes.

§4.2: The Preservation of Content Concern

Anne Bezuidenhout (1997, 1998) has argued that the preservation of content cannot be a necessary condition of successful communication, because there is evidence to suggest that hearers don’t come to grasp the same content asserted by speakers. According to Bezuidenhout this becomes apparent in the context of indexical communication.

Following Stalnaker (1972)\textsuperscript{104}, Bezuidenhout argues that grasping the content of an expression generally requires one to rely on features other than the syntactic and linguistic meaning of the expression itself. According to Bezuidenhout (1997 p. 210), successful communication generally involves an inferential and interpretation process on the part of the hearer based on the hearer’s linguistic knowledge and background beliefs, in addition to considerations of pragmatic and contextual features of the conversation at hand. For instance, Bezuidenhout (1997, p. 206-207) considers a situation in which two individuals A and B are looking at a boy in front of them, while at the same time looking at a picture of the same boy. However, given that the boy in the flesh looks so different

\textsuperscript{103} This includes considerations discussed in section 1.2 that speakers appear to assert the content of their beliefs, and that hearers appear to grasp the same content asserted by speakers.

\textsuperscript{104} While she thinks that pragmatic features are essential in grasping what is asserted (not just what is implied) by a speaker, contrary to Stalnaker, Bezuidenhout takes a very psychologistic approach to pragmatic.
from the boy in the picture, B is not able to recognize that they are the same boy. In an attempt to inform B that they are in fact the same boy, A utters “this boy [in the flesh] is this boy [in the picture].” Thus, B regards A’s utterance of the sentence as saying something informative, even though each occurrence of ‘this boy’ in A’s utterance refers to the same boy and has the same linguistic meaning. Bezuidenhout claims that in order to grasp what the speaker is attempting to convey, the hearer has to depend on pragmatic and contextual features, and not just the syntax or linguistic meaning of the sentence uttered.

Bezuidenhout (1997, p. 210) claims that if successful communication requires these pragmatic and contextual considerations, then it follows that the content grasped by a hearer could not be identical to the content encoded by the sentences uttered by a speaker. Bezuidenhout goes on to make a stronger claim. She claims that if we restrict ourselves to what is going on with hearers, then it seems clear that the outcome of successful communication is that hearers comes to grasp a new and distinct content than what a speaker asserts. The reason for this conclusion, according to Bezuidenhout, is because what the example above suggests is that in order to make sense of why A’s utterance of “this boy is this boy” is informative, we need to say that each occurrence of ‘this boy’ is associated with a different mode of presentation (1997 p. 206). Furthermore, she claims that these modes of presentation are contextually and pragmatically determined constituents of the content expressed by the speaker (1997, p. 206). Given that pragmatically and contextually determined modes of presentation are constituents of content believed and asserted, and these can vary from person to person, a hearer is not likely to grasp the same content with the same modes of presentation as the speaker.
Thus, it follows that the preservation of content from speaker to hearer cannot be considered a necessary condition of successful communication.

My reservation with Bezuidenhout’s conclusion comes in that it seems to be a consequence of her stance that contents have modes of presentation as constituents. That is, if one insists on incorporating modes of presentation into the contents believed or asserted, then I would agree that the chances of a speaker and hearer coming to believe that same content during indexical communication is very unlikely, if not impossible. In fact, as we have seen in this dissertation, this is exactly the issue Fregeans and Lewisians have had to deal with in attempting to explain what successful indexical communication looks like under their theories. However, what is not so clear is why consideration of pragmatic and contextual features during communication is suppose to entail that the contents under consideration must have modes of presentation as constituents.

Furthermore, I think that the Belief States Model is consistent with the fact that communication might involve an inferential and interpretation process on the part of the hearer. And that at times, if not most of the time, pragmatic and contextual features have to be considered by the hearer. All of this can be the case while at the same time maintaining that the content believed by a speaker is transmitted to a hearer during successful communication. In other words, while pragmatic and contextual features can be said to play an important role in how a hearer comes to grasp the content she does during successful communication, it is not clear why this content cannot be the same as what a speaker asserts. I think it is perfectly reasonable to say that even while a hearer has to make use of contextual and pragmatic features of the conversation in order to get at what the speaker is trying to say, the hearer can nevertheless come to grasp the exact
same content asserted by a speaker. Even if grasping what a speaker asserts has to be done in a different way. And it is only when a hearer grasps what a speaker asserts that communication is considered successful.

I mentioned that a hearer grasping the same proposition that was asserted by the speaker is necessary for successful communication. But of course given what has been said about indexical beliefs and communication it cannot be deemed sufficient. A hearer has to believe a proposition in virtue of an appropriate belief state. However, what we have not talked about is whether there are any constraints on the type of belief states hearers must be in in order to believe the propositions asserted by speakers. It seems that there are. For instance, when a speaker says “I am lost” while addressing a hearer, it seems obvious that in order for communication to be deemed successful the hearer cannot believe the proposition asserted by the speaker in virtue of a similar first-personal belief state. However, must it be the case that a hearer believe the proposition asserted by a speaker in virtue of a de te belief state? That is a belief state that would dispose the hearer to respond with “you are lost”? We can suppose that this is not required, especially in cases in which the hearer is eavesdropping, or mistakenly thinks that she is not one of the speaker’s addressees. So what belief states should the hearer come to be in? What I have said so far does not make it clear. And a response to this concern is in order.

Unfortunately, due to time and space constraints, this issue has to be put aside for future work.\textsuperscript{105}

§5: Indexical Beliefs and Communication

Traditionally it has been thought that successful communication involves transmitting a single belief content from speaker to hearer. But works on de se or indexical attitudes has

\textsuperscript{105} The same concern can be presented for the speaker when a belief is not de se.
brought into question whether successful communication can be this simple. Perry (1979) provided us with examples in which people use indexical sentences to express what appeared to be a particular kind of thought, namely indexical thoughts. Perry coined the phrase ‘essential indexical,’ to suggest that there is something unique about indexical thoughts. He argued that when we replace an indexical term in a sentence that is used to express an indexical thought with a non-indexical term that refers to the same object or individual, then it seems like we are no longer talking about the same thought.

Philosophers following Frege (1918), Lewis (1979) and to some extent Stalnaker (1981), have taken cases like the *Wounded Dr. Lauben*, the *Messy Shopper*, and *Lingens the Amnesiac* to suggest that essentially indexical thoughts should be characterized with a distinctly indexical content.

The claim that indexical thought is characterized by a distinctly indexical content has turned out to be very appealing and influential. Particularly, amongst descendants of Lewis. So much so that philosophers who accept this claim, are easily willing to give up the idea that successful communication involves transmitting a single belief content from speaker to hearer. The line of reasoning can more or less be represented as follows:

P1) We use indexical sentences to express indexical thoughts.

P2) Indexical thoughts are best characterized by a distinctly indexical content an agent bears an attitude towards.

P3) We expect successful communication to consist of a speaker and a hearer having beliefs with the same truth-value.

P4) Distinctly indexical contents can vary in truth-value from context to context.

C) Thus, successful indexical communication cannot be the transmission of a single belief content from speaker to hearer.
As we have seen in this dissertation, Fregeans and Lewisians, motivated by the idea that adequately characterizing indexical beliefs requires a distinctly indexical content, accept this conclusion. However, I have found these theories problematic in that they not only lead to counterintuitive consequences of what we think about belief, but in addition they come at the heavy price of having to reject that successful communication consists of the transmission of a single belief content from speaker to hearer. Thus, I take this dissertation, in part, to be a denial of premise 2.

The denial has come in various forms throughout the dissertation. For instance, we have seen arguments against Fregean and Lewisian views that maintain that characterizing indexical beliefs by means of a distinctly indexical content leads to some counterintuitive consequences, such as contents of limited accessibility. We have seen that even when a suitable characterization of indexical content is provided, it is still difficult to property characterize what is asserted by an agent, and what is grasped by a hearer that perceives and accepts a speaker’s assertion.

As a substitute for theories that characterize indexical beliefs with a distinctly indexical content, we provided RRTB. RRTB did not require a distinctly indexical content in order to characterize indexical beliefs. Instead, RRTB maintains that belief contents are traditional referential propositions, which individuals believe in virtue of being in a specific belief states. It is belief states that characterize the indexical aspect of indexical beliefs. This view, as I hope to have demonstrated, has the benefit of providing an adequate characterization of indexical belief while maintaining that successful indexical communication can consists of the transmission of a belief content from speaker to hearer. The full picture of indexical communication was given by providing a
model that accommodated RRTB. This model helped explain the relation between a speaker’s belief state and the sentence used to express the belief, in addition to the relation between the sentence used to express the belief and the hearer’s belief state during communication. My ambitious goal in this dissertation was to defend a theory of belief, namely RRTB, that adequately explained the data presented by cases like the Messy Shopper, and Lingens the Amnesiac, and to show that this view does it better than Fregean and Lewisian theories of belief. My more modest goal in this dissertation was to at least demonstrate a viable alternative to the more popular Lewisian theories of belief.
References


