UNIVERSIDADE ESTADUAL DE CAMPINAS

INSTITUTO DE FILOSOFIA E CIÊNCIAS HUMANAS

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REFLEXIVE CONTENT AND INFORMATIVENESS

CONTEÚDO REFLEXIVO E VALOR INFORMACIONAL

CAMPINAS

2018

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Dissertation presented to the Institute of Philosophy and Human Sciences of the University of Campinas in partial fulfilment of the requirements for the degree of Master in Philosophy.

Dissertação apresentada ao Instituto de Filosofia e Ciências Humanas da Universidade Estadual de Campinas como parte dos requisitos exigidos para obtenção do título de Mestre em Filosofia.

Orientador: Marco Antônio Caron Ruffino

ESTE TRABALHO CORRESPONDE À VERSÃO FINAL DA DISSERTAÇÃO DEFENDIDA PELO ALUNO GUSTAVO BERTOLINO FERREIRA, E ORIENTADO PELO PROF. DR. MARCO ANTÔNIO CARON RUFFINO.

CAMPINAS
2018

Ficha catalográfica
Universidade Estadual de Campinas
Biblioteca do Instituto de Filosofia e Ciências Humanas
Cecília Maria Jorge Nicolau - CRB 8/3387

Informações para Biblioteca Digital

Título em outro idioma: Conteúdo reflexivo e valor informacional
Palavras-chave em inglês:
Language - Philosophy
Semantics (Philosophy)
Epistemology
Área de concentração: Filosofia
Titulação: Mestre em Filosofia
Banca examinadora:
Marco Antônio Caron Ruffino [Orientador]
Giorgio Venturi
Ludovic Soutif
Data de defesa: 28-09-2018
Programa de Pós-Graduação: Filosofia

A Comissão Julgadora dos trabalhos de Defesa de Dissertação de Mestrado Profissional, composta pelos Professores Doutores a seguir descritos, em sessão pública realizada em 28 de setembro de 2018, considerou o candidato Gustavo Bertolino Ferreira aprovado.

Prof. Dr. Marco Antônio Caron Ruffino
Prof. Dr. Giorgio Venturi
Prof. Dr. Ludovic Soutif

A Ata de Defesa, com as respectivas assinaturas dos membros, encontra-se no SIGA/Sistema de Fluxo de Dissertações/Teses e na Secretaria do Programa de Pós-Graduação em Filosofia do Instituto de Filosofia e Ciências Humanas.

ACKNOWLEDGEMENTS

ABSTRACT

My aim is to analyze the proposal conceived by John Perry in his book *Reference and Reflexivity* so I can see how this proposal accounts for the informative value of sentences containing co-referential terms and empty terms. Informativeness problem is about how to explain the informative value of sentences containing those terms when semantics, at first glance, seems unable to do it. My aim is to use the toolbox that Perry's proposal provides to show how we can answer, via semantics, the problems I present in each chapter so that I can make a case for semantics.

Key-words: language; semantics; epistemology.

RESUMO

Meu objetivo é analisar a proposta trabalhada por John Perry em *Reference and Reflexivity* para lidar com o valor informacional de sentenças contendo termos co-referenciais e termos vazios. O problema da informatividade é sobre explicar como sentenças contendo tais termos transmitem informação quando, à primeira vista, essa explicação é inviável se apelamos a seus conteúdos semânticos. Meu objetivo é usar o ferramental proposto por Perry para dar resposta aos problemas que apresento em cada capítulo e mostrar que é possível resolvê-los via semântica.

Palavras-chave: linguagem; semântica; epistemologia.

SUMMARY

Introduction

It is not hard to see that speakers exchange information in several circumstances of their lives. It is a matter of fact also that this information is extremely helpful for them to drive their actions and, thus, build their thoughts and believes, whatever might be their daily routines. But it is not obvious that semantics is the responsible for doing this job of accounting for the informative value encoded in linguistic expressions. Speakers mean things by using language, they aim to communicate to each other to achieve some goal.

The informative value is the information that the speakers convey by means of words. Babylonians believed that the planet Venus was in fact two different celestial corpuses, which made them deploy two different names to convey different information, namely, *Hesperus* and *Phosphorus*. If you are addicted in Ancient stories and anecdotes, or are used to stop by in channels like *National Geographic*, you certainly know that Babylonians knew from far away that it was a single object.[1] But for the sake of the argument, suppose that they indeed believed that there were two corpuses and use *Hesperus* to refer to Venus during the morning, whereas *Phosphorus* to refer to the same planet during the evening. If this is the case, they did it not because they simply wanted to name one thing with different names, but because they truly believed that they were in front of two different corpuses. But where does informative value come from when we are dealing with names that refer to the same thing? More precisely, what different thing would a speaker be saying using *Hesperus* instead *Phosphorus* if both of them stand for the very same object? If you feel stuck by these questions, you probably got the troubling idea behind them. This is the problem involving informativeness.

Giants of philosophy of language since the seminal paper *Sense and Reference*[2] have argued for and against the role of semantics over informative value of expressions. The developments in semantics over the years though provided us

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[1] Waerden, Bartel (1974). *Science awakening II: the birth of astronomy*, p. 56.
[2] Frege, (1892/1948). *Sense and Reference.*

with interesting results and give us tools to argue in favour of the role of semantics in accounting for informative value.

Put the Babylonian example aside for a while and think about the following situation. Two friends are talking to each other when one of them sees a guy with a peculiar haircut crossing the street and one of them, let's call him *Wally*, says "that dude needs a haircut" and the other friend, let's call him Zach, looks at the guy's direction but ended up seeing another guy, with a strange haircut also. In the case of this speaker, Zach, referring to an individual who he thinks that is the same one his friend Wally referred to, is there any semantic device which guarantees that the referent has been preserved in this conversation, even given the fact that Zach made a mistake when he uses the referring tools to refer to the right guy. In other words, are we able to preserve information even in cases in which one of the speakers confusingly deploys referring expressions? Specifically regarding the conversation above, what kind of information is preserved and shared with each other?

Now think about this other situation. You are dad and your daughter tells you that she loved the gift she earned from Santa Claus. In this case, the similar question comes around again: what is preserved in the conversation so that your daughter is able to form her belief despite no Santa Claus really exists and, thus, no origin of information could be attained?

In my work, I will analyze Perry's proposal of reflexive contents and show how it can account for issues concerning informativeness. My aim is to argue, with the help of technical literature, that the toolbox provided by Perry's proposal can help us to account for difficulties involving the informative value of expressions using what Perry calls *reflexive content*. I divided my analysis in three chapters, which I brief in the following lines below.

In the first chapter, I present the background on which the discussion of the following chapters will be based. I explain what is reflexive content and its difference from referential content, and also the concepts of cognitive route and what Perry calls *notion*. Then, in the second chapter, I present a special kind of co-reference, which the technical literature calls *co-reference* de jure. My aim is to assess two opposite views about the characterization of co-reference *de jure* to present my objections with the help of the toolbox provided by Perry. First, I explore

Fine's proposal of co-reference *de jure* to show how it faces problems with the help of Recanati's critiques. According to him, the way Fine characterizes co-reference *de jure* is not a good way to characterize co-reference *de jure* because it doesn't hold in cases involving empty names and confusion of reference. Recanati's strategy is to weaken the relation upon which co-reference *de jure* relies so that it holds even in those problematic scenarios he brought.

Next I focus the analysis on Fine's notion of coordinated proposition and how it helps us to understand what is behind co-reference *de jure*. I brought Recanati's proposal of mental files to show his critique on Fine's notion of coordination as based on semantic features. According to Recanati, we should actually base coordination upon cognitive constraints. I disagree with both readings that Recanati provides and the last section of this chapter is dedicated to show why these readings are wrong.

Finally, in the third chapter, I turn my analysis on Perry's proposal of reflexive content to tackle the problem of empty terms. My aim is to continue to use the toolbox that he provides to assess cases involving this kind of term. In this step, my aim is to show how Perry's proposal could answer the question of what is expressed by utterances containing empty terms and, thus, what information is conveyed, if anything, in those cases in a way that the answer, which appeals to a kind of identifying condition, can resist over Kripke's modal argument attacks and, at the same time, maintain the status of what is said by the very utterances at stake. To do so, I analyzed other two proposals, Salmon's and Russell's response, to show their fails and, thus, their inability to handle the problem.

1.The background

1.1 Type/token and utterance-sentence distinction

One thing that we have to establish is what type of semantics we are dealing with and what expressions are at stake in order to analyze the problems we aim to. I want to present some concepts and establish the some basic terminology which will be useful for us to start the discussion.

Types, tokens and utterances are three distinct concepts we will work with. Type-token distinction is an easily conceivable distinction people can find many times: type is any replicable pattern and token is the replicated pattern physically instantiated. Sentences and utterances mirror this relation. So if a sentence is any combination of words (organized according to a given syntax) which express something meaningful, utterances are physical instances of sentences by which speakers seek to mean something. If I say "my pants are black" and other person says "my pants are black", both of us produced two utterances of the same kind, of the same type. I said what I said by using a token and he said what he said by using other token.

In many circumstances we produce tokens to make utterances in a way that both cannot be duplicated. But whereas utterances and tokens cannot be repeated in any circumstance, the same token can be used to produce different utterances, which means that there is a subtle distinction between tokens and utterances. Suppose I go to the library and I find a piece of paper saying "I'm using this seat" over a book that lies upon one of the desks in the library. The guy who is using that seat comes back and leaves that note upon his desk. I approach and ask him if I can borrow that note because I have to leave my seat for a while to have lunch. I leave the note upon my desk and then and go out to have lunch. What I did is to use the same token to produce an utterance which differs from that one that guy produced because they ultimately express different contents.

Tokens can be seen as tools to represent utterances, but not always they do that job. Suppose you hear a parrot is shouting out loud sounds that look like "The sky is blue". The act of reproducing this stream of sounds doesn't amount to a

production of an utterance, because those sounds are not reproduced as an act of an agent aiming to mean something. Once the parrot is not able to use them aiming to express something meaningful, the token he reproduced are not utterances. There should have an intentional act of standing for something in order for that token to be considered an utterance.

Many physical marks that we find daily we infer that they are tokens of utterances though. If I find a piece of paper saying "you're funny" at the library, I infer that someone produced an utterance using that token, that is, I infer that that piece of paper with those marks represent an utterance produced by someone who had the intention to do so. Likewise any inference we make daily, there are facts in the world which allow us to link them to that token and draw conclusions. So the fact that that token was upon the desk in a library, and that there was someone who took a seat in that desk allows me to conclude that there was someone there who wrote that note and left it there upon that desk with a certain purpose of communication. Same thing with the sounds and other signals we hear and see all our daily life long, we suppose that a great amount of them are derived from utterances.

Tokens can also be used to produce utterances with different meanings. I can take a signal saying "You must stop now" to warn people of an accident on the road, but also to make kids stop speaking during a guessing game. This token can be used twice to represent different utterances with subtle, but important different meanings. Using an example Perry gave can fill my lack of creativity:

> Suppose there is a sign in a flying-school, intended to warn would-be pilots: 'Flying planes can be dangerous.' The flying school goes bankrupt; the manager of a park near the airport buys the sign and puts it next to another sign that prohibits walking on high tightropes. In its new use, the sign is a token of a type with a different syntax and a different meaning than in its original use.[3]

So the same token can represent different utterances. These utterances can represent sentences of the same meaning, but also of different meaning, which means that these utterances with different meanings are instantiations/replications of

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[3] Perry (2012), p. 46

different type-sentences. In the case above, we can see that those utterances express different propositions because they belong to different types of sentences.

Those contents, which we call *propositions*, are contents which utterances express, whereas meaning is something that belongs to sentences. A sentence is associated with a proposition only when it is instantiated as an utterance, given a certain place and a certain time. Nothing happens if a sentence doesn't make itself concrete by being instantiated, no proposition is expressed unless its utterance occurs given a context of use. Even though the all explanation above was done to distinguish sentences and utterances, I will use them interchangeably in the following chapter in some circumstances for the sake of simplicity. The clarification I've done aims to show the subtle differences between one and another and make clear that this difference exists. Putting this difference in perspective, context is the factor which makes it possible and, thus, the stage from which semantic features like propositions and truth-values can arise. That's what we will focus on next session.

1.2 The use of context

Perry distinguishes three uses of context: pre-semantic, semantic and content-supplementing. Here I assume a pre-theoretic definition of context, which is the situation, individualized by a given time and location, in which an utterance occurs and in virtue of which a proposition can be determined. By holding this feature, utterances are said *context-dependent*, that is, they depend upon time and location in order to express a propositional content. However, there are some of uses of context just for getting rid of any confusion about the use of the expression, whereas others have the context-dependence as part of what defines their meaning.

Demonstratives and indexicals, expressions like 'I', 'you', 'now', 'that man' and so on are expressions which share this context-dependence feature: given a context, those expressions will take a element of the context as their referent, according to the linguistic convention/rule that governs their uses. And these rules are given in terms of these elements of context. If we look at the meaning of the indexical *I,* we will notice that its meaning involves the mention of the very agent who is tokening the indexical at stake. We will see later that this characteristic allows

Perry to establish reflexive content: the kind of content whose constituents are about the expressions tokened themselves. In the case of the token of the indexical *I* above, the context dictates what is its referent. Names are not like that though. If I was named *Gustavo*, the baptizing act provides the place and time in which the convention used to fix its referent was established, but once it's been established *Gustavo* will refer to me *regardless* the context in which it occurs. So contexts are used with different purposes. We will analyze each one in order to clarify those different uses that context presents.

The first use concerns with pre-semantic use of the context. This one is responsible for identifying which convention is being used with respect to an utterance. Suppose that I meet a note saying *Gustavo, your solution is right!* upon my desk at the library. Something tells me that that name refers to me, since some hours ago I helped a friend of mine to solve a tricky arithmetic puzzle from his weekly math assignment. The context helps me to figure out what convention is being applied concerning the use of that token of *Gustavo*. If I'm not wrong, the convention applied is that one which links me to that token and the context was responsible for providing me with facts which allows me infer this conclusion.

The speaker looks for justifying the beliefs he has towards the utterance so that he can ground the actions he plan to take. For this reason any fact that surrounds the existence of the token is important for the speaker to achieve his aim of figuring out which convention is being used that *justifies* the existence of that token under that circumstance. So the particular color of the ink and the way the words were written may provide me with information to infer that was indeed my friend I helped out some hours ago who wrote that note to thank me for the favour. Other way to obtain information is asking him directly and find if that token is really used to refer to me. However, not always we are not so privileged to acquire sufficient information to guess what meaning is being used. The point is that facts and events of the world drive my representations since they encode information to dictate how my beliefs and thoughts about the object represented will be. The information that facts and events encode can provide me with grounds to think about how the world

should be so that those facts and events hold.[4] In other words, they *indicate* or *show* us how something should have happened in order for them to be obtained. So telling us how the world should operate provides us with valuable information to uncover what those facts and events actually signify.

As I've mentioned, the color I'm familiar with is usually used by my friend and the fact that I recognize the marks as being pretty similar to his allows me to infer that the person who wrote that note containing the token *Gustavo* is written by my friend. Those facts that surround the note in question helped me to eliminate some possible scenarios and allowed me to shrink the range of possibilities about which I had to think. So it helped me to discard the possibility of such note appearing suddenly from nothing upon my desk, which means that given the existence of that note under that circumstance, the belief I produced is driven by the assumptions on how the world operates so that those things I believe could hold in that way.[5]

So, in many circumstances, context is like a footprint which allows speakers to find out what meaning is being applied in the situation in which the utterance occurs. Among thousands of uses of the name *Gustavo*, that one is applied to refer to me. Context, in this case, aims to disentangle something which seems ambiguity, but in fact, it is *homonymy.* All the tokens of *Gustavo* which refer to me are of the same type, for all of them are governed by the same convention. Nevertheless, tokens of *Gustavo* which refer to the Brazilian swimmer Gustavo Borges are all tokens of other type, that is, the type which establishes and governs the uses of the tokens which refer to Gustavo Borges. Our names are homonymy: they refer to different individuals and present different meanings, although they are typographically indistinguishable. The context, in this case, help speakers to figure out which type is being used.

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[4] Perry (2012), p. 23

[5] As Perry exemplifies, the fact that there's a newspaper in front of my door imposes restrictions over me on how world *should be* to such a thing can happen. Such a fact gives him information that dictates and conducts my belief, as if the constraints the world presents (social and physical ones) restrict the assumptions I make about how the world is and what beliefs I'm (legitimately) in position to hold. So the fact Perry sees that newspaper in front of his door tells him that someone left it there, that this person left it there intending to do so, that it was not dropped by an airplane and so on, which means that it provides him with information that allows him to infer that a person such as the newspaper guy was at door to leave it to him.

This use of context is like solving misunderstandings we might have during trivial situations. Suppose you take back your car after almost one month in the mechanic and suddenly see other car parked on your vacancy in your condominium and you decide to complain about it with the person who you suppose that is the car's owner. So when you asked him why he parked his car there he simply answered your question saying "well, because that vacancy is mine now". That doesn't sound much promising and now you got stuck by the fact that you were sure that vacancy is yours but your neighbor is saying that it's his. Something that you didn't realize is that the condominium manager relocated your vacancy in order to fix problems concerning the growth of people who have just moved there. And as you were not using your car for a while you didn't pay attention to that change and, in addition to that, you didn't read the email notifying you that your vacancy was changed. So after talking to the condominium manager you figured out what happened and realized that the use of your car vacancy was changed because the *rule* that legislates its use has changed. So the conflict has been arisen from the fact that you didn't know which *rule* was governing the use of that car vacancy.

Same thing with pre-semantic use of context. Its use aims to disentangle misunderstandings generated by homonymy. In the case of the word *tip*, we don't know what it means if we are not informed (explicitly or by the context) which meaning is being used. If I'm in a restaurant and in the bill is written "tips are 15%", the fact I'm having lunch in a restaurant allows me to infer that the word *tip*, in this case, means the money waiters and waitresses earn for doing their job. But if I'm in a company doing a job interview and the interviewer says to me "a good tip for a newbie programmer is to practice as much as it is possible", facts that surround that token of *tip* informs me that, in that context, *tip* means the same thing as *advice.* So I'm unable to figure out what that token of *tip* means unless I grasp those contextual facts surrounding the existence of that token. Likewise, I'm unable to figure out which name is being used unless I grasp facts related to the token *Gustavo* which inform me what meaning is governing its use. So it's the context which will inform me what is the meaning that is governing the utterance I meet. Its use is pre-semantics because the meaning is only given when the facts which are part of the context are taken into account.

The second use cares about expressions whose meaning has already been established. This is the case of indexicals and demonstratives. The role that context plays is to help those expressions to accomplish their task of determining its referent. In this case, the meaning of the indexical tokened uses the context to exploit it and the object to which the indexical refers is an element of the context. Its meaning is directly connected with what kind of role the object plays in comparison with the agent of the utterance, that is, the role that an object plays in the context is linked to the meaning the indexical tokened has. Each element/component of the context plays a specific role on the agent's cognition and the mechanics of the indexical is the correlation between those two distinct but closely connected roles:

> [...] linguistic roles are closely associated with other roles that objects play in our lives. The speaker of the utterance I hear is often the person I am looking at; the place an utterance is made is usually the place the speaker occupies, and usually near the place the listener occupies. So, when I learn that an object plays a linguistic role relative to an utterance I hear, I learn about other roles that it plays.[6]

The use of context in this case is semantic because given the meaning of the indexical tokened, the indexical will always refer to a certain element of the context. So the use is not for disentangling issues relative to meaning, but enabling the meaning of the indexical exploits the elements of the context in order to determine its content. No doubt when hundreds of speakers utter *I* when using it in an utterance, each one of us end up expressing totally different propositions. But each token of *I* determine its referent by exploiting the same linguistic role. When you and me say *now*, the meaning of this indexical drive our tokens to determine the object that plays the same role, in this case, the time or instant in which my utterance and yours occur. The meaning of *I* and *now*, thus, govern their tokens in a way that each one refers to objects which are part of the context and whose existence plays a certain role upon our cognitive life. It means that this use of context is useful for discovering what kind of role a certain object play upon us when a certain indexical is tokened.

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[6] Perry [1997], p. 3

Suppose I'm walking on the street in Rio and I see someone opening the door and saying "Yes, I live here!" to the postman. Let's call this utterance *u*. So the meaning of the indexical *I* drives that token to a specific element of the context of *u*, which plays a specific role on my cognition, in this case, it informs me that its referent is the speaker of *u*. So by hearing *u* I figure out that the speaker of *u* lives in the place in which *u* is uttered, which allows me to infer that the speaker of *u* is the same person who is in front of me and the place in which *u* occurs is the place where I'm looking at. Suppose that guy is actually Zeca Pagodinho, who I couldn't see early because my vision was blocked by a truck parked near his house. In addition to that, suppose I figure out the street I stopped by is called *Rua do Catete* and his address number is 155. So in the end of this process, with the help of the information provided by the indexicals in *u*, I can achieve the belief that Zeca Pagodinho lives in Rua do Catete 155 .[7]

The third use is the *content-supplementing* use. In this use, the context provides the content which will complete the propositional content that is missing. It's supplementing because the meaning and the content of each word (including indexicals) tokened in the utterance have already determined, but the utterance cannot determine a proposition unless that the speaker infers the missing component from the context. Suppose that you turn on your TV and tune it to a news channel in which the reporter is adding comments on the weather forecast report by saying

(3) The weather is cloudy and cold now.

All those expressions in (3) are meaningful and present their referents. But nothing in the expressions contained in (3) tell us the place at which (3) was uttered. If we take for granted that any proposition expressed by an utterance should have place and time as its constituents, so without the determination of place and time (3) cannot be associated with a proposition. Take for granted also that time is given by

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[7] In the case of anaphoric use of indexicals, the role that defines the use of such expression is played by other expressions in the same utterance. That expression establishes a relation of antecedence with the deictic in question, and not things that are not words. So in "Bob Dylan is a great songwriter, he wrote lots of beautiful songs", the meaning of *he* is provided by its relation with the name *Bob Dylan*, which is placed early the occurrence of *he*. Cf. Perry (2012), pp. 46-7

the indexal *now*. So the only thing has been missed is the place at which the weather is such and such. The answer to this is that this missing element is something provided by the context: the audience infer that the news reporter aimed to inform them about the weather situation from *his* perspective, that is, his goal is to say something about the place at which he is bringing the news when he utters (3).

Notice that what the audience infer is crucial. As we've seen, speakers infer from facts and events how the world should be so that those facts and events can hold in that world. If I'm on my phone, for example, and I asked my dad why he didn't come home for dinner yet and my dad says "I got completely stuck by the traffic jam", I can infer from the context that my dad aimed to say that the place at which he was at the moment of that utterance is place where the traffic was stuck. So taking as a fact/event that my dad wouldn't utter such a thing unless he had a reason to do so, I infer from it how the world should be to that utterance be meaningful in that situation. In the case of (3), the best strategy to interpret and explain the fact that (3) has been uttered is assuming that the news reporter aimed to say something about weather condition of the place where he was at that moment he uttered (3). The context, in this case, enables speakers to make inferences from facts that surround the utterance produced so they can grasp the element that is not articulated in any part of the utterance, but whose existence is relevant for the determination of the proposition.[8]

Suppose, for example, I'm in a party and I call my friend in a local in which he cannot hear the bands and the sound outdoors. It's an untypical day and in my friend's mind it's not expected that I'm in such a place. Before letting him say something I say it in advance: "Hey man! The party is awesome!". There's nothing available for him from which he can infer that in the place in which I'm located is happening a party. So it's reasonable to think that my friend would ask something like "what party?" or "where? What are you talking about". However, if he could hear bands playing and people talking aloud, those facts would enable him to infer that the place in which I was located was happening a party and, thus, he could complete what is said by my utterance with the missing element. The sound he listen to is the

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[8] Perry [2012], pp. 48-9.

relevant information that context provides him to explain what my utterance is about is the party that is happening in the place I'm located. In short, this use of context is to deal with cases of *unarticulated constituents.*

So Perry distinguishes two main situations in which unarticulated constituent can arise:

1. The first one is is those cases in which there's nothing wrong with the syntax and the meaning of the utterance and its parts, but the utterance cannot determine a proposition unless the unarticulated constituent comes out with the help of the context. This case can be exemplified by the party example and also by circumstances in which one speaker wants to check with respect to what the utterance can be said true or false, such as when he asks "with respect to what Starbucks's services are good?" when he hear another speaker saying "Starbuck has good services". It sounds like a pedantic use of *content-supplementing*, as Perry explains, because the speaker intuitively knows that the predicate *is good* is not an absolute predicate, but a relational one, which means that something is good always *in relation* or *in comparison* with something else fixed as the standpoint, and in trivial communication routine speakers are not used to ask those questions. In both of them the utterance itself is not syntactically incorrect neither incomplete, but the speaker needs to appeal to the context so that its content can be completed.[9]

2. The second one concerns with cases in which there's nothing articulated in the logical form of the utterance that provides the existence of the missing element and the utterance is not syntactically complete. However, the unarticulated content and the syntactic element can be inferred from the context. This cases involves utterances the speaker says something syntactically incomplete and then with (at least) one unarticulated constituent, but the audience grasp what the speaker means by elements present in the context itself. So if the teacher wants to check if a certain student did the

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[9] Perry (2012), p. 71

homework, he asks "Nicolas, did you do your homework ?". If Nicolas says something like "I didn't", the utterance is syntactically incomplete, but the missing syntactic components are easily grasped by the teacher by the fact that those elements can easily be inferred by the teacher from the context. So the grammatical object of Nicolas's utterance is implicitly present in his utterance because the teacher, in that context, asked him about the homework which is scheduled to be done. So the audience do the job of completing the missing parts in order to provide the utterance with the proposition.[10]

I won't get into details about this topic. My aim is just to clarify the idea of context and it works, and mainly, explain the different uses that speakers can make of it.

1.3 Cognitive routes

Let's begin with an example. As I go to my university, I'm used to see places from which I build an idea in my mind, that is, a representation. Maybe years later I can go back there and see lots of changes, and then the representation that I had in mind can be compared with the perceptions I have at this moment that I see those objects again. All those representations Perry says that they contribute to the speaker form what he calls *notions*. My notions can be attached to my perceptual representations or detached from it. My notion of the library of the department I built from the perception I had when I used to study there and it was attached to that perceptions I had at the university. I can gather information about the library and add it to my notion of it so I can think about the object at stake more accurately. I can be told that the library was relaunched in 2014, that now it has three floors, that its colour was changed to white, and so on. Years later I can take that notion and use it to recognize it as the same building where I used to do my research.

Those notions that speakers build apart from the object are said *detached* from it and characterize lots of representations that speakers bear in mind. In the absence of objects we create notions that help us to drive ourselves in the world and

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[10] *Ibidem*, p. 71

plan our course of actions in a way that they let us take accomplish our actions. We can think about the times I told my mom that I was studying at that library while I was talking to her. In those moments, my mom built her notion of the library and stored all information about it in that notion so that she can organize her beliefs. Next time she could be told again about the library, she would grab all the information she was told and compare them with those stored in her notion to see whether it was about that library specifically. All information about the library that my mom gathered in her notion helps her to drive her actions. My notion of the library is certainly different from hers, but both are helpful tools to coordinate our actions and achieve what we aimed in our daily lifes. As our notions are composed by different ideas and perceptual representations, the more accurate are those ideas and the descriptions associated with the perceptual representations, the easier our notions can be communicated to our audience.

Think about Perry's example which I present, but just modified a little.[11] A boy aims to take his father's attention so he can see what the boy is seeing: a McDonald restaurant. He and his brothers are in the back of the car while his father drives alongside his mother while they are going to his grandpa's house. Suddenly the boy, let's call him *Nicolas*, sees a McDonald's near the gas station at some point of the road. Nicolas is hungry and, for this reason, he really wants his father to stop the car so that he can order a Big Mac. To do so he has to make a plan and choose what expressions are better to employ in order to convey the information he wants to achieve his goal. Maybe simply tokening *that building* in his utterance could be promising. Nicolas points out the building he's looking at and says to his father: "Look, dad! I'm hungry and that building is a McDonald's". His father turned his head on the direction Nicolas pointed out but he ended up seeing just a dirty car repair building because the gas station had already gone when he looked at the direction his son pointed. He ended up seeing other building instead and all the plan Nicolas had fell apart. Nicolas failed to communicate what he planned because he wasn't lucky enough in deploying the linguistic tools available to him and necessary to

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[11] Perry (2012), pp. 59-60

succeed in his plan. He aimed to drive dad's attention towards the building where McDonald's is located, but he couldn't make it by using the expression *that building*.

In this example, Nicolas had a notion of the McDonald's restaurant and applied when he saw the building. His notion, which was detached from his perception at first moment becomes attached to it. But once he needed to communicate the information he gained and encoded by his notion, he could not succeed to make his father acquire the information his notion encodes. His father certainly has also his own notion of McDonald's, but the way Nicolas conducted him by deploying *that building* didn't allow his father to apply his own notion at the moment he heard Nicolas's utterance. The transmission of information failed and it prevented his father from turning the car's maneuver towards the direction intended by his son.

Perry exploits the concept of *source* and *applicandum*, which I think it's helpful also. As he explains,

> An information game involves the acquisition and later application of a belief about an individual. That is, at some time one comes to believe something about some person or object. Then, later, that belief guides one's behavior towards that object or at least an object that one takes to be the same as it. I call the object about which one acquires the belief the *source*. I call the object to which one applies the belief—the object one takes to be the source—the *applicandum*. In any information game, one faces the problem of making reasonably sure that the source is the applicandum.[12]

In the case we've exploited, Nicolas in some moment of his life created his notion of McDonald's restaurants, which plays the role of the source in this terminology, and he applied it to an object he takes to be as the same as the source. He wanted to make sure that his father achieves the same belief. His father also acquired a notion of McDonald's at some moment of his life, and was inducted to apply it when Nicolas made his utterance containing the token *that building*. But when his father applies his notion, the object he gets perceptually, the *applicandum*, has nothing to do with his notion McDonald's that he has in mind.

Indexicals like *that* and variants are good instruments to refer and succeed in this kind of information game. Suppose I'm at my university and I'm looking for the

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[12] Perry [1997], p. 10

new library that is going to be inaugurated next week in the institute of biology (IB). I grab information about it, such as its colour, its shape and so on and I learn that its main colour is green, that its architecture is inspired in the DNA molecular structure and that there's some *replicas* of animals in the front of its entrance. So I invite a friend and both of us decided to go there by bike. As we get there closer, I focus on the buildings around to try finding out IB library. Suddenly I see it and I point to it using my finger and I utter

(*ut*) That building is the IB library (let's call it *ut*).

I make sure that my friend can follow my finger and verify what I was pointing out at the moment I utter *ut*. I check that nothing is blocking his vision from his standpoint and then he answers "Yes, that building is where people study plants and animals" and change his direction towards the IB as well as I do. It means that he grasped the information I aimed to convey by my utterance. My utterance produced changes in my friend's behavior in a way that he did what I planned for him to do. My token of *that* was effective and did its job of helping me to convey the information I aimed to my friend.

In this example, some things happened. First I had a notion of IB, and I keep it in my mind. I could add information to it that might be relevant to the characterization of this object. The object from which I derived my notion is the source. Then based on the information stored in my notion I applied it later to an object that I believe it is the same as the source. This is the applicandum. And finally I planned to coordinate my friend's notion and by using the token *that* I expected that he could achieve the same object I did. As we see, all this information game is about is to assure that the source is the applicandum. What was crucial was to make sure that the object I aimed to refer to was salient to him. By doing it I guarantee that the information encoded in my notion can flow and drive my friend to the right object. With the information in his hands, he can double-check with what he grasped from his perception in order to assure that the object in question is IB indeed. When the information flows and drives him to the object I aimed, I gave the opportunity to my friend to figure out that a certain object that plays a certain role in his life at the

moment I tokened *that building* is IB library. This process influenced his decision to take the course of actions which resulted in directing his bicycle towards IB library.

In the end of the day, my token of *that building* created a cognitive route for him to apply the notion he has and achieve the object at which I aimed. The way I planned my strategy to construe the cognitive route determines how successful the flow of information will be. In the McDonald's example, Nicolas failed because he didn't plan very well the path to provide his father with the appropriate cognitive route. The token he employed didn't allow his father identify any object similar to a McDonald's restaurant out of the cognitive route Nicolas has created. The information which flows from this cognitive route drove him to another object and it was bad for Nicolas's hunger.

1.4 Reflexive Content and Referential Content

Reflexive content is the one of main contribution among the semanticists who wants to account for problems concerning informativeness, specially Frege's Puzzle cases. Perry's aim is to take some elements from Kaplan's and Burk's proposal about different aspects of an utterance with respect to meaning and create his own proposal in order to account for the impact of the utterance on the speaker's cognition. He sums up what, according to Burk, comprehends five aspects concerning an utterance of an indexical, as follows:

The token that is produced and which occupies a certain spatio-temporal point and belongs to a certain type;

1. The relations the token holds with the elements of the context;
2. The type meaning associated with the expression, that is provided by the type;
3. The indexical meaning, which is the result of the combination between the type meaning and the token;
4. The information conveyed (or proportionated) by the token.[13]

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[13] Perry (2012), p. 36-7

I will focus on item 5 because it's where Perry's innovation takes place. Perry implements some changes in this taxonomy. What Burks calls *type meaning* Perry calls simply *meaning* and what Burks calls *indexical meaning* Perry calls *reflexive content.* In Burk's taxonomy, the information conveyed would be what Perry ascribes to *what is said*, or the content we intuitively ascribe to any given utterance, that content the technical literature usually calls *singular proposition*. Perry labels this content *referential content*. However, the main idea is that the reflexive and referential content play a role in the speakers' cognition and, for this reason, both of them matter to map the information conveyed by an utterance.

Suppose that Nicolas and I say, at the same time, "I'm going home now". Let's call my utterance u^1 and his u^2 and focus on the indexical *I* tokened by me and Nicolas. The meaning of the token is the rule which governs its type, in this case, the rule whose content gives the token the following commandment: given the utterance *u*, *refer to the agent of u*. The reflexive content is the combination of the meaning of *I* and the tokens in u^1 and u^2. So the reflexive meaning of the *I^1 and I^2* is *the agent (or the speaker) who uttered I^1* and *the agent who uttered I^2*, respectively. Those contents contain the tokens themselves as part of their content and, for this reason, they are taken to be reflexive. It means that the reflexive content of u^1 and u^2 are different because each one contains different tokens, although their meaning are the same. On other hand, the referential content is when a singular proposition can be expressed by u^1 and u^2. And, in addition to it, the information conveyed is the result of this process and is different because u^1 is an utterance about me and u^2 is an utterance about Nicolas, that is, u^1 is true only if Gustavo (me) is going home at the time t^1 and place p^1 and u^2 is true only if Nicolas (my friend) is going home at the time t^2 and place p^2. It means that the information conveyed is different because u^1 and u^2 encode different truth-conditions.

The innovation, however, is that the information conveyed may not be just the referential content but it can also be derived from the reflexive content. This multi-level approach allows us to account for situations in which referential content demands too much from the speakers to be in position to have a belief about the singular proposition, if anything, in their conversational/communicational practice. In the case of my utterance u^1, the reflexive content associated with it is this:

(Pr1) The speaker of u^1 is going home at the time and place of u^1.

It's quite different from the referential content, which is the content resulted from the application of the conditions presented in Pr1:

(P1) Gustavo is going home at 4:03 pm, May 1 2017.

Both are propositions that embody truth-conditions of u^1. Perry defends that instead of thinking the truth-conditions of an utterance as a single content, he argues that they should be relativized to different facts related to the utterance. So, in hi s view, the right way to approach an utterance in terms of its truth-conditions is not asking "what are the truth-conditions of this utterance?" but "what are the truth-conditions of it *given* such and such facts?".[14] Pr1 and P1 proportionate different truth-conditions because they're connected with different facts about u^1. Pr1 encodes the condition in which u^1 would be true given the fact that u^1 is an utterance, given that the agent of the context is going somewhere at the time of u^1. P1, however, encodes the condition in which u^1 would be true given the fact that Gustavo is the referent of *Gustavo* and he is going home at 4:03 pm in May 1 2017. Truth-conditions, thus, are important tools to enable speakers to achieve different levels of understanding when they are in face of utterances.

The reflexive content is not, of course, the best candidate for what is said, because it is not speakers' goal, in their communicative practices, to say something like Pr1 when I uttered u^1. But it's a valuable content which helps speakers to achieve such understanding state of utterances they are used to meet in contexts of communication. Suppose that you're a foreign guy in Germany who don't know a single word in German and you stopped by in front a store with a huge picture of Pelé fading away the goalkeeper and almost scoring against Uruguay in 1970 World Cup. Suddenly some guy stop nearby you also and says:

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[14] Perry (2012), p. 87

(6) Ich sah Pelé an diesem Tag spielen.

You got stuck by it and in order to avoid making things worse you just nod your head. You don't know anything about German, but given facts which surround his utterance and which rise from the context, like his gesture of pointing to the picture and thumbing up when he uttered (6) indicates that he's saying something about Pelé.

The question to be answered, then, is "what are facts in virtue of which (6) could be true?" and the answer it's the provision of truth-conditions for the utterance given the facts that the context proportionated. Since there are levels of contents speakers can grasp, you know at least that the following conditions have to be accomplished in order that (6) comes to be true:

(T6*) Given that he is linguistically competent speaker and aimed at meaning something true by uttering (6), (6) will be true iff the person represented by the picture he pointed out satisfies what is attributed to him by means of those words the German guy employed in (6).

Maybe more details might be added to T6*, but we can say that the conditions it comprehends are part of the *minimal* requirements for the truth of (6) to be obtained. Of course the German guy didn't mean T6* when he uttered (6). But it provides those conditions for (6) to be true *given* the fact that (6) is an utterance, which is valuable for someone who doesn't know anything about (6) except that it's an utterance. This diversity of truth-conditions mirror the variety of facts which surround the utterances speakers can entertain. If I see the same German guy reproducing some sounds near me, I assume that those sounds are words in German and that he's a German competent speaker who means something using those sounds. The truth-conditions I would have access would be quite similar to T6*. But if I knew few words in German so that I could understand what he uttered, I would know that he was saying that he was in person at the match Pelé was depicted by that photo. Your knowledge of the language plus the knowledge about football facts allows you to grasp the following condition:

(T6**) (6) is true iff that German guy saw Pelé playing during a specific day.

But if we restrict truth-conditions of (6) to conditions like T6**, a great deal of speakers' understanding will be threaten. Only who are epistemically privileged will be considered as capable of understanding utterances like (6). But the idea is that other less privileged speakers are also able to access truth-conditions which explain their belief attitudes toward the utterances they meet.

Let's explore it a bit more. Let's take the English version of (6) doing few adaptations which doesn't compromise what is said:

(7) I saw Pelé playing that day.

Any competent English speaker who listens to (7) knows that (7) is an utterance made in English containing words from which no important ambiguities arise. As competent speakers, the first content they are able to grasp is the content which embodies the conditions about the utterance itself, which says that 7 is true only if the following is satisfied:

(T7*) The agent of the context saw a person who is referred by the name *Pelé* playing at a given time *t* and place *p*.

The more speakers get informed of relevant facts about the utterance, the more they enhance their understanding about it. Further steps could be made at this level and show how more accurate truth-conditions can be built as those facts get into the stage. Suppose that the German guy is called *Heinrich.* So if some speaker who is his friend and knows lots of things about football, including the fact that Pelé played that World Cup, then he would have access to the content (T7*r) if he were in that situation of Pelé's picture:

(T7*r) Heinrich saw Pelé playing that day.

Those speakers achieve a level that allows them to grasp the singular proposition expressed by (7). But not everyone is privileged epistemically in a way that they achieve such a level. In fact, in many circumstances our level of understanding is limited to the reflexive content. So even though there are lots of circumstances in which speakers face poverty of information, they still have to be able to build truth-conditions in order to achieve some understanding. In other words, there should be *minimal* truth-conditions available for speakers so they can be able to produce a belief, otherwise they couldn't even be able to produce any believe if they were before an utterance. If there are many truth-conditions which speakers are not even to grasp single component of it because they are ignorant of real world facts, the best explanation for being able to produce a belief even in these circumstances is to hold the capacity of grasping truth-conditions which simply rely on their linguistic competence and reflexive content plays an important role for this task to be accomplished.

1.5 *That is That* and the concept of notion applied

Let me use a similar example that Perry uses in *Reference and Reflexivity.* Suppose I'm walking on the street and suddenly I see something which looks like a dog behind a column in a way that I can only see the head and the tail of the dog. So I say:

(9) That dog is that dog

At first glance, someone could say that the informativeness of (9) depends on the objects the expressions tokened refer to. So, in this view, the information conveyed depends on how many dogs are referred to. Suppose I pointed out the dog twice, first into the head and second into the nail using each demonstrative at time. In this scenario, I say something true, so nothing wrong with my utterance of (9), but (9) would be trivially informative, because

a) Despite I pointed out two different parts of the animal (thus tokening two different sub-utterances towards different directions) the expressions I tokened encode the same information, which is the dog in question;

b) What I ended up saying is that that dog I'm pointing out is identical to itself, which says nothing relevant in terms of information value.

If there were two dogs though, (9) would be false and quite absurd, for I would be saying that two different dogs are one and the same animal, which is something inconsistent. The transmission of information would fail then.

In the first scenario, if there was only one dog, I would end up saying something true, but again, something trivially true, which means that nothing really informative is conveyed by (9) in this case. If there were two dogs though, in a second scenario, nothing promising comes out as well, because I would be saying something false. Let's call the dog I pointed out to the nail and the head *Fido.* So, when I uttered (9), I expressed something trivially true, as follows:

(P9*) Fido is Fido, which can be rephrased as, (P9*) Fido is identical to itself.

But when I utter (9) in the case in which each part belongs to different dogs, let's say Fido and Dido, the individual I ended up pointing out using one of the demonstratives is not Fido any longer, but Dido, and the information conveyed is different because the proposition expressed is pretty different from (P9*), which looks like this:

(P9**) Fido is Dido.

So the moral of this little story is that taking these two scenarios informativeness is not achieved because, according to this semantic view, either I ended up conveying something trivial or something completely absurd. So if informativeness were tied to the singular proposition, we couldn't explain the relevance of employing two different demonstratives in (9).

An example we can exploit a bit more is what Perry calls *Austin's tubes*.[15] I will give my own version of the example in order to make things easier to explain. Suppose Nicolas is looking at the landscape with his binocular and he focus his eyes on in a way that he sees a bunch of trees but by means of its lens and, thus, from different perspective, and the middle of it there is a little group of skyscrapers in front of his vision. Then, just to double-checking what he knows, he says

(10) This is this (referring to the bunch of trees that appears on his right and);

(11) That is that (referring to the bunch of tree that appears on his left)

He points to the bunch he sees through the lens using one demonstrative and the other he uses when he looks at the bunch without the binocular. Suppose that there's no trouble with his directing intentions, which means that the referring mechanics of the demonstratives tokened works fine. Nevertheless, unbeknownst what he's actually seeing is the same bunch of trees because the position his binocular stays makes him think he is in front of two very similar bunches of trees. Thus, Nicolas doesn't believe (12)

(12) This is that

Let's call the bunch of tree *Tree-Bunch* just for making the explanation easier. Said that, the following facts seem to be the case:

a) If any speaker who utters *u* believes what *u* express, then Nicolas believes what he utters when he utters 10 and 11.
b) If Nicolas utters 10, Nicolas believes that Tree-Bunch is Tree-Bunch
c) If Nicolas utters 11, Nicolas believes that Tree-Bunch is Tree-Bunch
d) The proposition expressed by 12 is that Tree-Bunch is Tree-Bunch

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[15] Perry (2012), p. 100 and following pages.

e) Then if Nicolas believes what 10 and 11 express, Nicolas would also believe what 12 expresses.

f) Nicolas doesn't believe what 12 expresses.

As we can see, a-f is an incompatible set of statements, which means that not all of them can be jointly true. It could be the case that Nicolas figures out, even easily, just few seconds later, that (10) and (11) is in fact about the same object, which would lead him to give his approval to (12) too. But those few seconds he got stuck by thinking that (10) and (11) are true but (12) false (or at least doubtful) is enough to put him in trouble and make him conclude that (10) and (11) don't express the same content. If Nicolas believes (10) and (11) are true, he doesn't do it by the same reason, because if he had done it by grasping the same content he wouldn't deny that (12) is true either. It means that his behavior towards (12) is the footprint for us to figure out that he didn't believe in (10) and (11) convey the same information, which entails that he grasp different truth-conditions from them.

However, there's no room for some difference among (10), (11), and (12) to arise at the referential level, because if we appeal to the singular proposition **TB**

(TB) The Tree-Bunch is the Tree Bunch

All the utterances encode exactly the same content and, thus, each one embodies the same truth-conditions. The referential content of (10), (11) and (12), thus, don't bring anything interesting to us in terms of information, because all of them are equally saying that a tree bunch is identical to itself. Nevertheless, at the reflexive level we can find different contents, which can be represented as follows:

(Pr*10) That the object pointed out by *this¹* in 10 is the object pointed out by *this²* in 10;

(Pr*11) That the object pointed out by *that¹* in 11 is the object pointed out by *that²* in 11;

(Pr*12) That the object pointed out by *this³* in 12 is the object pointed out by *that³* in 12.

As we see, the reflexive content of (10), (11) and (12) are different and can be useful for account for the different informative values conveyed by (10), (12) and (11). Notice that (10) has two different tokens of *this*, each one is associated with a different demonstration, which means that the reflexive content of (10) is built upon different components. Likewise (11) contains two different tokens of *that*, which means that at the reflexive level (11) conveys something quite different from (10). And the same also occurs with (12), since the reflexive content it expresses contains different constituents from (10) and (11). Moreover, because each token is individually associated with a specific demonstration, we can say that each token is linked to a different mode of presentation, or so to speak, to a perceptual mode of presentation. I will use the term *perceptual buffer* to characterize the perception that the speaker has when each demonstrative is tokened in a certain utterance. So when Nicolas utters (10), he produces two different buffers r_1 and r_2, where r_1 is associated with the token *this$_1$* and r_2 with *this$_2$*. And the same process occurs with (11) and (12). The lesson we learn from it is that Nicolas has created two distinct cognitive routes for each utterance he produced and, for this reason, the reflexive content of (10), (11), and (12), based on the tokens they contain, are informative.

But how can we explain the fact that Nicolas even though taking (10) and (11) as conveying different pieces of information, he takes (10) and (11) individually as trivial? The concept of *notion* is useful here to handle this issue. The tokens of *this* in (10) are associated each one with a specific demonstrative act and, thus, with a distinct perceptual buffer. And the same thing also occurs in (11): the tokens of *that* in (11) are associated (each one) with a specific perceptual buffer and a specific demonstration. However, those two perceptual buffers are stored in the same notion *n* and *n** respectively by Nicolas. The perceptual buffers (r_1, r_2) that Nicolas produced by uttering (10), are gathered in the same notion *n*, whereas the perceptual buffers (r_1*, r_2*) he produced by uttering (11) are gathered in *n**. So the reflexive contents based on the notions which Nicolas has are:

(N*10) That *n* is *n*
(N*11) That *n** is *n**

(N*12) That n is $n*$

Despite (10) has two different tokens, *this¹ and this²*, and then, with each one associated with a singular perceptual buffer, they are stored in the same notion n, which explains why Nicolas takes it trivial. The notion n merges the two cognitive routes created by the buffers linked to *that¹* and *that²* in a single information pack, which makes Nicolas understand it as conveying the same information. Same thing occurs with (11), the tokens *that¹* and *that²* and their buffers are gathered with $n*$ and, for this reason, Nicolas ended up taking those tokens in (11) to convey the same information. Nevertheless, since the notions in N*12 are different, Nicolas got stuck at giving approval to (12). The notions n and $n*$ creates two different information packs, which makes Nicolas produce different belief attitudes towards the tokens contained in (12).

Notice that the difference N*10 and N*11 is fine-grained enough to distinguish (10) from (11) and to accommodate the triviality embodied by (10) and (11) taken one by one. As utterances can encode several truth-conditions, (10) and (11) can present different levels of reflexive content as well. The Pr*10 and Pr*11 provide us with the reflexive contents which Nicolas has before merging the perceptual buffers r_1 and r_2 into n and r_1* and r_2* into $n*$.

Now we can go back to the dog's case. The aim is to explain the informativeness that can raise from (9). The issue is to explain the relevance behind (9) so that we can provide the explanation for Nicolas conveying something informative by means of (9). First we can take the reflexive content based on the tokens. The first is to look at the reflexive content of (9). As (9) has two tokens of the demonstrative *that dog*, the reflexive content involving them will be as follows?

(Pr*9) That the individual pointed by *that dog$_1$* is the individual pointed by *that dog$_2$*

Each token is associated with a specific demonstration and, thus, for each token Nicolas has produced a distinct perceptual buffer: one to the token *that dog$_1$* and other to the token *that dog$_2$*. Let's call them b and $b*$. since *that dog$_1$* is

individualized by *b* and *that dog$_2$* is individualized by *b**, the information value of (9) comes from those distinct buffers that the tokens *that dog$_1$* and *that dog$_2$* are based on. But how can Nicolas take (9) as being trivial? This is done by taking notions into account.

The second move is to provide the reflexive content in terms of the notions Nicolas has produced. In this case, as Nicolas considers that there is only one dog, he connects the two tokens of *that dog* in (9) with the same notion, which is responsible for store information. By doing it, he merges the buffers *b* and *b** into a single notion *n* and the truth-conditions given in terms of the notion Nicolas has entertained get this form as follows, where *m* is this notion Nicolas entertains in his mind:

(M9) That m is m.

As this reflexive content containing *m* has no different constituents beyond *m*, it explains the Nicolas's attitude of taking (9) as trivial.

But now consider a second speaker, João, who is looking at Nicolas seeing things on his binocular. The demonstratives Nicolas tokened provide João with distinct cognitive routes. Nicolas, as a speaker who seeks to collaborate to the conversation he engage with, wouldn't decide to utter something if it weren't something relevant to the conversational environment in which he is. So if he uttered (9), he should have meant something informative. However, as far as we can see, M9 seems innocuous to explain his act of uttering (9) attempting to convey something informative. The explanation is that João creates two different notions *m* and *m**, each one associated with one demonstrative tokened in (9), as follows:

(M*9) That m is m*

João, differently from Nicolas, keeps the buffers *b* and *b** separated and it makes João not treating the first token of *that dog* as providing the same information as the second one. As Nicolas wouldn't have said anything if he hadn't seen something relevant in saying (9), there should be a content Nicolas had access that

explains the informativeness encoded by (9). M*9 is the truth-conditions whose constituents differ from each other, which means that M*9 is the truth-conditions containing the two different notions responsible for *that dog* tokens being individuated.

So now we have the following architecture: m and m* are each one associated with different perceptual buffers, namely b and b*. Each token of *that dog* causes different cognitive impact on João's cognition because each one is connected with a different notion. Those notions create different information pack and keep the different cognitive routes separated. Thus, those cognitive routes provide *that dog¹* and *that dog²* with different cognitive significance and allow us to explain why (9) can be informative for João.

Many times the audience are not able to achieve such content, neither the speaker, but informativeness continue to be present and, for this reason, there should be a content, available for the speaker to fill the gap left by the referential content. The moral of the story is that the information conveyed is not always provided by what is said.

2. Co-reference *de jure*, Factivity and Mental Files

2.1 Factivity and its counter-examples

In *Semantic Relationism,* Fine proposes a special case of co-reference, which he calls *strict co-reference,* which can be defined as the type of co-reference in which the speaker cannot reasonably doubt about the very relation of co-reference that the terms he meets hold with each other. Strict co-reference is given in virtue of the meaning of the terms involved only, so it should be part of the speaker's linguistic competence that any two co-referential terms are so if they strictly co-refer. For example, if the speaker uses the name *Cicero* to refer to the Roman author and then applies it again (producing a second token of it) with the intention of referring to the same person referred to by the first token, then the speaker has the plan of continuing the chain of reference created by the introduction of the *Cicero*. So, in this case, it is part of the speaker's linguistic knowledge that those two tokens of *Cicero* refer to the same person, regardless of whether the speaker knows what person they specifically and truly refer. Fine says that the relation of co-reference in this case rests upon the linguistic meaning of the terms involved only in the sense that the only content needed to be aware of the fact of co-reference is the linguistic rules which govern the terms deployed. So roughly it's this sense that Fine takes to be that feature of being co-referential only in virtue of linguistic meaning and by which he characterizes strict co-reference.[16] So strict co-reference is the co-reference which speaker knows in virtue of his linguistic competence.

Strict co-reference presents another feature. It is factive. It means that the relation of co-reference cannot fail to hold, otherwise strict co-reference couldn't be characterized as knowledge and this very relation would be flaw. The idea behind the factive feature is that since the relation of strict co-reference is a kind of knowledge, it cannot be about falsehoods because knowledge is only about truths. If we assume, for the sake of the argument, that the definition of knowledge as the justified true belief is correct, then truth is a necessary condition to knowledge. For example, the act of discovering involves the agent and the object of discovery, which is a

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[16] Fine (2007), p. 40; p. 43

proposition if we interpret this relation as a propositional attitude. In this case, it doesn't make sense to say that I discover that the moon is made of green cheese, because we can only discover things which are true. So discovery, like knowledge, is factive in that sense: it's not possible that an agent S discovers that p and p is false.

The factive aspect of strict co-reference is labeled as *Factivity* by Recanati (2017) and is given by the following clause:

(Factivity) If two terms strict co-refer then they co-refer[17]

Factivity is an important feature of strict co-reference because co-reference is a necessary condition to two terms strictly co-refer according to this characterization. But there are cases in which the terms don't co-refer, although the speaker internally takes them to be co-referential by applying them with the intention of continuing the same chain of reference. Those cases are presented by Recanati in his *Mental Files in Flux* and *co-reference de jure* is the way he call strict co-reference, that is, the type of co-reference whose knowledge is guaranteed by the linguistic competence of the speaker. So what Fine calls *strict co-reference* Recanati calls *co-reference de jure*. Recanati argues that these cases threaten Factivity and suggests that the way Fine characterizes co-reference *de jure* is not a good way for defining it. Recanati works on two cases, one involving fictional terms and the other involving terms which the speaker is confused about their reference.

Suppose that I talking about Sherlock Holmes's adventures and say something like (0):

(0) Sherlock Holmes is very smart. He uses inductive reasoning to make surprising discoveries.

In (0) I used a token of the name *Sherlock Holmes* (*SH*) and its reference does not exist. However, as a competent speaker, if I used the pronoun *he* anaphorically, I have no doubts that they co-refer. But since *SH* does not refer, how

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[17] Recanati (2017), p. 15.

can we say that they co-refer? When fictional terms are deployed the speaker casts no doubts about the relation of co-reference between those terms, nevertheless they don't co-refer because they don't refer at all, since they are fictional names. This is the first problem Recanati casts on the way Fine defines co-reference *de jure*. The other case also involves anaphora, but the difference is that it involves two speakers and one of them is confused about the reference of the terms deployed. In the follow section I will work on this second case.

2.2 Anaphora and Wally-Zach's case

In *Mental Files in Flux*, Recanati works with a example which involves two speakers in a dialogue. Suppose that there's a dialogue between two guys, Wally and Zach, two English competent speakers, when Suddenly Wally sees his friend Udo crossing the street and he says

(1) He really needs a haircut.

Zach looks at the little manifold of guys crossing the street at that time and targeting another guy who also catches his attention because of hair issues he says

(2) He sure does.[18]

In this case we have two different uses of the pronoun *he:* the first employment, made by Wally, is a demonstrative use and the second, made by Zach, is also an demonstrative, but at the same time it works as an anaphoric pronoun also since its purpose is to take the referent of Wally's token of *he*, whatever it comes to be. It would be a perfect anaphoric use if Zach hadn't misled the referent of the Wally's token of *he* on which his anaphoric relies. Internally, the co-reference is taken for granted by Zach, but the problem is the referent they attain according to which speaker's intention we take into account. In scheme below the coordination of the Wally's and Zach's tokens is presented:

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[18] Recanati (2017), p.16.
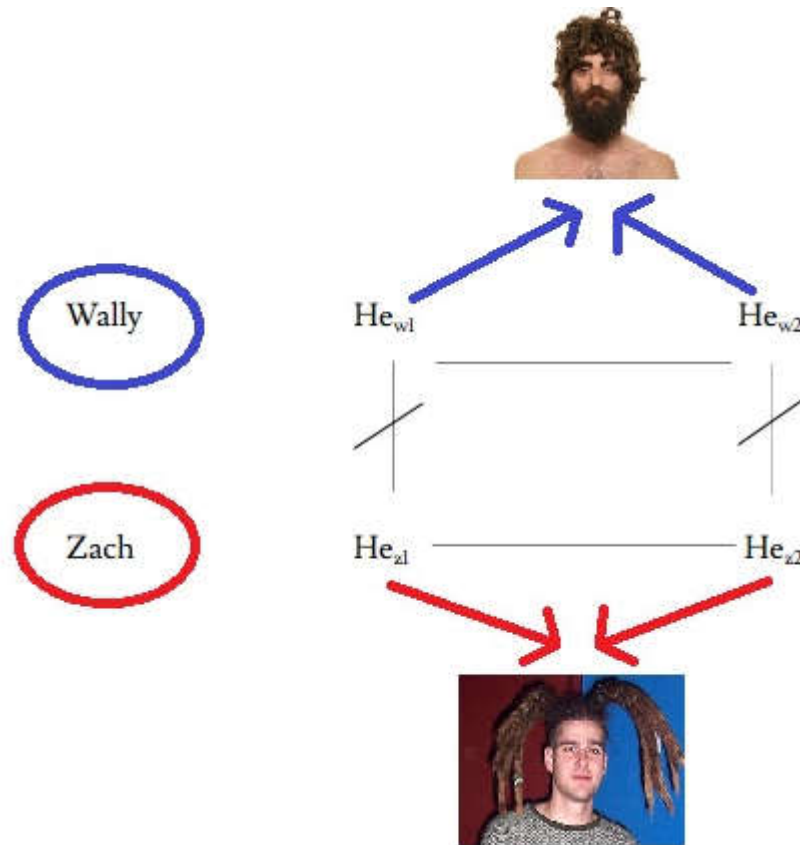
Take he_{w1} and he_{w2} the way Wally represent in his mind the terms tokened in (1) and (2) and he_{z1} and he_{z2} the way Zach represent the same tokens in his mind. Wally takes them to be co-referential *de jure*, meaning that Wally cast no doubts on whether they are co-referential or not. Internally, in Wally's perspective, they co-refer *de jure*. The same thing with Zach's perspective: they are co-referential *de jure.* But the pairs in which the lines are crossed out in the picture above are those pairs of tokens that are not co-referential because their referents are different, because whereas the pair (he_{w1} he_{w2}) refer to Udo the pair (he_{z1} he_{z2}) refer to other person he thought it was Udo. But if we have a situation in which speakers cast no doubts on whether the terms co-refer, nevertheless these terms don't actually co-refer, we are in trouble, according to Recanati, because it is mandatory that the speakers' tokens be co-referential to co-reference *de jure* to hold based on the way Fine characterized it.

Recanati's idea is that co-reference *de jure* should be independent of whether the co-referential terms really co-refer or not. He thinks that this relationship can hold even when no actual co-reference holds. So, how come? Recanati argues

that there are other relations of co-reference than actual co-reference that can work as the model for the base relation on which the notion of co-reference *de jure* should rely.

He separates co-reference *de jure* from the mere internal state in which the speaker is when he takes two terms to be co-referential *de jure* by calling it *internal co-reference*. According to him, internal co-reference can be rendered in terms of *CDJ* state (co-reference *jure* state), which can be stated as follows:

> (CDJ state): an agent is in CDJ state with respect to two expression M and N just in case the agent takes M and N as to be co-referential and disposed to trade the reference of those terms upon identity.[19]

As we've seen, there're cases in which the agent is in a CDJ state even when no actual co-reference exists. In other words, in these situations the speakers would only hold belief about the co-reference, but not knowledge of this relationship. However, Recanati argues that the speaker can know something even if he is in the CDJ state in cases of emptiness and confusion of the reference, as he says

> There is, I claim, something which the speaker in the CDJ state (and anyone who understands the discourse) knows about the relation in which the two terms stand to each other. More precisely: there is a relation R such that, when the speaker is in the CDJ state with respect to a pair of terms M and N, he or she (and anyone who understands the discourse) knows that M and N stand in relation R.[20]

The base relation R is the co-reference relation about which the speaker would have knowledge even in cases in which the speaker is confused about their referents. In other words, whatever the base relation R might be, it should be knowable if we want to characterize co-reference *de jure* using it. This is a definition of co-reference *de jure* given by Recanati:

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[19] Recanati (2017), p. 17
[20] *Ibidem,* p. 19

M and N are co-referential *de jure* =$_{def}$ the speaker is in a CDJ state with respect to M and N and anyone who properly understands the discourse involving M and N knows that M and N are under the base relation R.[21]

The base relation should be transparent to the speaker, since co-reference *de jure* contains the co-reference relation which the speaker must know it holds. But in this excerpt below Fine seems to throw it away when he differs co-reference *de jure* from merely internal co-reference.

> Suppose we take two singular terms to be putatively co-referential if it is a putative semantic requirement that they co-refer. Then the relation of putative co-reference is likewise not factive; two terms can putatively co-refer without co-referring. And so there is no obstacle - or, at least, not the same obstacle - to taking this relation to be the relation of internal co-reference in cases of confused reference.[22]

Of course this strategy allows Fine to keep co-reference *de jure* away from the threat raised by emptiness or confusion of reference, because what he's saying is that co-reference *de jure* holds just in case the referential terms involved actually co-refer. But doing so, he ended up assuming that there are cases in which the speaker *doesn't* know whether he is before a case of co-reference relation or not. The speaker thinks that there's strict co-reference when there's not. What Fine can guarantees then pursuing this strategy is just a partial transparency, which can be put as follows:

> (Partial Transparency) If M and N strictly co-refer, the speaker knows that they co-refer.

But once the kind of co-reference relation we are looking for is totally transparent for the speaker, and not only partially transparent, the following condition is not held by co-reference *de jure* as Fine has defined it:

> (Full Transparency) For any M and N,

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[21] *Ibidem*, p. 19.
[22] Fine (2010), p. 497

a) if M and N co-refer *de jure*, the speaker knows they co-refer

b) if M and N don't co-refer *de jure* , the speaker knows they don't co-refer.

It doesn't hold because there are cases in which (b) are false, as Fine himself admits.

So if the speaker, in any situation in which he is linguistically competent, must be able to evaluate whether any two expressions co-refer if they are co-referential *de jure*, the way Fine defined co-reference *de jure* based on Factivity principle is not a good strategy, according to Recanati. His job, thus, is to find other base relation R rather than actual co-reference.

2.3 Weakening the base relation R

Take a look at this second characterization that Recanati gives:

M and N are co-referential *de jure* $=_{def}$ the speaker is in a CDJ state with respect to M and N and anyone who properly understands the discourse involving M and N knows that they co-refer *if they refer at all*.[23]

This definition of co-reference *de jure* has a conditional as its base relation R now and there's a discussion about existential import behind the inclusion of this conditional which is due to Fine. Fine gives a more promising response when he notices that co-reference can be defined using different quantifiers. One way is defining co-reference between M and N *existentially* as $\exists x(Ref(N, x) \wedge Ref(M, x))$, where *Ref* denotes the property of an expression referring to something, another is defining it *universally* as $\forall x(Ref(N, x) \Longleftrightarrow Ref(M, x))$. Given that the referent is the same when M and N are co-referential, both definitions are the equivalent when those terms co-refer.[24] But the definition which uses universal quantifier has an advantage over the other definition. In the case of empty names, the better way to

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[23] *Ibidem*, p. 21
[24] Recanati (2017), p. 21.

talk about the co-reference relation is using the universal version because it doesn't have existential import. It's promising because it's able to deal with cases involving empty names.

The statement **<< M and N co-refer if they refer at all, for any referent of M and N >>**, which is the translation of the co-reference with universal quantifier, is a conditional which has truth-conditions specified by classical logic. Let's call this kind of co-reference *conditional co-reference* and let's abbreviate the statement above to **CR** and its antecedent and consequent **c** and **r** respectively. So the truth-table of CR follows below:

Let **c:** <<if M and N refer>>,

r: << M and N co-refer>>, for any referent of M and N.

c	r	CR
V	V	V
F	V	V
V	F	F
F	F	V

Because of it, if M and N are empty at most its antecedent **c** will be false, which doesn't interfere in the truth of the conditional **CR**, because it continues to be true even when **c** is false. Moreover, it's not possible for the consequent **r** to be false while the antecedent **c** is true. The reason is that if M and N are empty, they don't refer neither co-refer, since if they don't actually refer they also don't co-refer. It means that whenever **c** is false, **r** will necessarily be false as well. On the other hand, the speaker will always know the truth expressed by **CR** if M and N refer at all. Thus,

this knowledge doesn't need that the terms involved in fact co-refer in order to be held.

But the case involving confusion of reference keeps tough to handle, because it is the case in which the terms refer, but they don't hold co-refer, which leads us to a scenario in which **c** is true and **r** is false, entailing that **CR** is false. If we rephrase **CR** in formal language, we can put it as follows:

$$\forall x(Ref(N, x) <==> Ref(M, x)).$$

When we apply this definition to the Wally-Zach case and the pronouns tokened we can have the follow formal statement:

$$\forall x(Ref(he_w, x) <==> Ref(he_z, x)),$$ where he_w is the token of Wally and he_z the token of Zach

As he_w doesn't refer to the same individual as he_z refers, but to different person, it makes **CR** false and put in risk the possibility of **CR** works as the base relation for co-reference *de jure*.[25]

The strategy presented by Recanati includes a little modification in the reading of **CR**. According to him, **CR** will be true if we read the antecedent **c** as meaning **<< if they *both* refer at all >>**. The inclusion of *both* forces **c** to be true just in case all the referring expressions refer and false in all other possible situations, which means if one of the the referential expressions fails to refer, it is enough to make **c** and guarantees **CR** to be true.[26] If we can show that in Wally-Zach example one of the pronouns in fact fails to refer, we can guarantee that **CR** is true even in this scenario. So CR as the new base relation R aims to deal with the following scenarios involving M and N and their different co-reference relations:

1. M and N refer to the same object
2. M and N are empty

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[25] Recanati (2017), p. 22
[26] *Ibidem*, p. 26-7.

3. M refers and N fails

4. M refers to one object and N to another

The scenarios 1 and 2 we already know that **CR** holds, since in these cases its antecedent **c** will inevitably be true 3. In the scenario 3, **CR** is also true if we accept the reading of **c** we explained above. The only scenario that remains troubling is 4. The world given by 4 is ruled out by **CR** since the terms M and N can refer but standing for different things. In that world, the antecedent **c** is true but the consequent **r** is false, which makes **CR** false and it threats the possibility of co-reference *de jure* if this scenario is not neutralized. But according to Recanati, 4 shouldn't really scare us as a problem because it's impossible to occur when the speaker is in a CDJ state.[27]

If we take this issue more carefully, it seems it's not possible to a speaker to be in a CDJ state with respect to M and N and those terms refer to different things. If the speaker is in a circumstance in which he fails in the use of a referring expression that he takes to be co-referential *de jure*, that expression it's deployed exactly to continue the chain of reference. It entails that if the term M is introduced and the speaker uses the term N with the intention of continuing the chain of reference, but he ends up referring to other person, N is considered as a failure in referring.

Suppose that the speaker tokened the same demonstrative *he* twice to refer to the same individual that was before him at some distance. So first he picks out the individual with his token he_1 and then few seconds later he produces his token he_2 to refer to the same individual, but unbeknownst he ends up referring to another guy because his he_2 is followed by a gesture of him which makes other individual salient and, thus, makes he_2 refer to that individual. There is no doubt that from the external point of view, the speaker referred to one guy with he_1 and to another with he_2. But if we take into account the speaker's intention of explicitly continuing the chain of reference, he_2 fails in its task of referring because the speaker aimed to refer to the person referred by he_1 but ends up referring to the individual that became

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[27] Recanati (2017), p. 28.

salient in the context. We can read this scenario defending that token he_2 refers to the person that belongs to the chain of the reference introduced by he_1 **and** to the person that was salient within the context. This violates the task of referring, since if it is considered a failure of reference if the referential term stands for no individual or if it stands for more than one individual. So when the speaker is confused in a scenario in which he takes two terms as co-referential *de jure*, one of the tokens deployed can be read as failing in its task of referring. So the scenario described by 4 is a impossible situation if we take into account that the speaker take the referential terms as being co-referential *de jure*.

If 4 is impossible, all the cases of confusion as described above falls under the world described by 2 or 3. It means that co-reference *de jure* containing **CR** as the base relation R accommodates all the possible worlds involving the co-reference relation between M and N. Once there's no case in which that base relation R gets in trouble, co-reference *de jure* based on **CR** can be said factive.

2.4 Coordinated propositions and Mental Files

The second approach is the idea that the co-reference *de jure* is not derived from semantic features, but primarily from cognitive constraints. This is reading that Recanati contends: the thesis that there are cognitive constraints upon which co-reference *de jure* builds and these constraints are the responsible for . To do so he explores his idea of mental files. So in the follow section I will first show Fines's proposal of coordinated propositions and then the critique that Recanati makes. Then I will show how his critique fails basing my argument on the tools with which Perry provide us.

2.4.1 Fine's notion of coordinated propositions

Fine argues that terms manifest some properties only as pair of expressions. Co-referential terms taken isolated express the same content, but when they are put together they manifest features that each taken isolatedly doesn't manifest. The terms *Cicero* and *Tulio*, for example, has the same semantic

contribution. But when they are taken in a pairwise way with other pairs containing only tokens of *Cicero*, those pairs are distinct from each other. Intrinsically there's nothing which distinguish them, but when they are paired some features appear in virtue of this relationship of pairing each other. Since they don't have any other content other than their referent, those relational features that appear can be exploited to account for the difference between the pairs *Cicero-Tulio* and *Cicero-Cicero*, according to Fine.

The relational feature which rises from the pairs of co-referential terms is coordination. According to Fine, coordination is the relation that holds between two terms are paired in the same piece of discourse and determines whether they represent the referent as the same or not. In the case of co-referential terms, two co-referential terms are *positively* coordinated if and only if they represent their referent as the same and *negatively* if they don't. Regardless whether you actually know that Cicero is Tully, anyone who understands a piece of discourse containing those terms can sensibly raise the question whether they refer to the same individual. If so, those terms are *negatively* coordinated. On the other hand, if two terms are tokened and one of them is so with the intention of continuing the chain of reference, then they are *positively* coordinated, because no one who understand any piece of discourse which contains those tokens would raise the question whether they co-refer.[28] Suppose you hear from your professor in your literature class that "Cicero is orator" and in the same class that "Cicero is also an clever philosopher". Since this piece of discourse contains elements which makes evident that the professor's intention of referring to the same guy, his audience wouldn't raise question on whether the terms co-refer or not. As we have seen, when these cases happens, the terms are co-referential *de jure*.

Fine characterizes this understanding in terms of *narrow sense* and *broad sense*, which leads to a second way of characterizing coordination. When two any terms co-refer *jure*, then Fine says that is a *semantic requirement* that the speaker knows that they co-refer.[29] Semantic requirement is any linguistic element that must be known by any competent speaker, that is, is *required* that speaker knows it in

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[28] Fine (2007), p 56.
[29] Fine (2007), p. 50-51; 108.

order to be considered linguistically competent. But it is a semantic requirement just in narrow sense, because the speaker might not know that the co-reference relation holds indeed. Those cases in which co-reference is opaque is characterized as semantic fact in broad sense. So since the fact that *Cicero* and *Tully* co-refer is not a semantic fact in the narrow sense, because there can be a speaker who is linguistically competent which can cast doubts on whether they co-refer or not, then they are negatively coordinated. Whereas *Cicero* and *Cicero* (another token) in a piece of discourse where one is tokened with the intention of continuing the chain of reference, is semantically required that they co-refer, which means that they are positively coordinated.[30]

I'm reloading this discussion because I'm interested in one characterization Fine does in propositional level, which gives us a clue to understand what is the element responsible for letting co-reference *de jure* occurs and how it works in mind. Fine links the semantic feature given in terms of coordination to explain how the speaker's cognition works to manifest his belief attitude.

Coordination, according to Fine, is a key feature because it will determine whether co-reference *de jure* relation holds or not. As a semantic feature, coordination is mirrored in the propositional content, since otherwise it wouldn't make sense to call it a semantic feature. So there should be a propositional content whose constituent is the coordination relation in which the co-referential terms are. Since not all sentences contain coordinated terms, sentences could present different propositional contents. In order to accommodate this difference derived from coordination, Fine makes a distinction between primary content and secondary content. Primary content is the singular proposition, composed by the very individual the proposition is about and the properties and relations this individual may satisfy. Secondary content is the singular proposition plus the coordination relation that holds of the co-referential terms.[31] As we've seen, coordination is a special relation which holds of co-referential terms only, and could be positively and negatively coordinated. So take, for example, the sentence (3):

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[30] *Ibidem*, p. 46; 57.
[31] Fine (2007). p. 58.

(3) Cicero admires Tully.

And the representation of the propositions expressed by (3), according to Fines's distinction:

(P3)

(P3*)
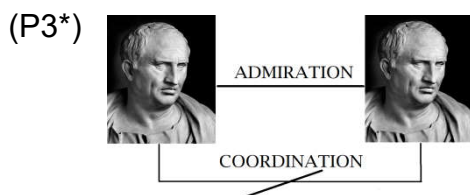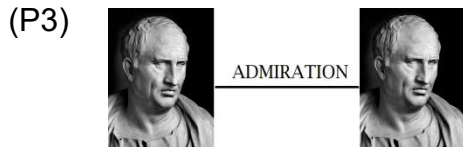
The proposition P3 is the singular proposition expressed by (3) and, as we can see, is composed by the individual Cicero and the relation of admiration for himself. P3 corresponds to the primary content of (3). The proposition P3* is the proposition composed by Cicero, the relation of admiration for himself, and the relation of coordination between the terms contained in (3), in this case, *Cicero* and *Tully.* Because of it, P3* is responsible for the secondary content of (3), since it contains coordination as one of its constituents. Moreover, since it's not semantically required that *Cicero* and *Tully* co-refer, the coordination contained in P3* is negative and, for this reason, P3* is called *negatively coordinated proposition*.[32]

Of course, for sake of the best reading of this proposal, there doesn't exist two instances of individuals, but only one, and this individual is in the relation of admiring with himself. On the other hand, the coordination relation is a relation which holds of the terms of the utterance, not by the individual himself. However, in the propositional representation, this relation is pictured as being the relation of the "instances" of the individual referred by each term. However, we should bear in mind that it's just a picture of how things would be in propositional level and we should take

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[32] Fine (2007), p. 56-7; 59.

into account limitations that concern the way of representing this content. Now consider (4),

(4) Cicero admires Cicero.

P4 and P4* are representations of the propositions:

(P4)

ADMIRATION

(P4*)

ADMIRATION
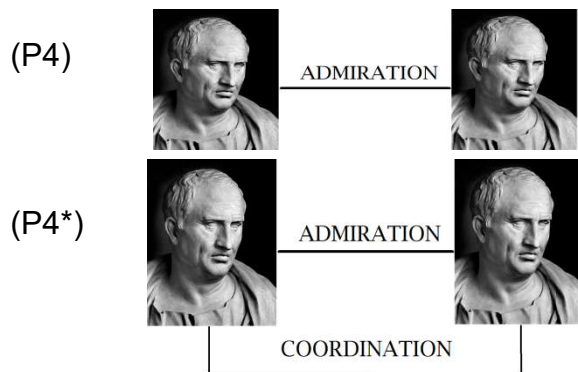
COORDINATION

Similar to the characterization above, P4 is the singular proposition expressed by (4) and is exactly the same as that expressed by (3). But what makes them different is their coordinated propositions. P4* is a positive coordinated proposition because the terms tokened in (4) are such that it's semantically required that the competent speaker knows that they co-refer. With this distinction, Fine pursues two things: tackling the informativeness issue without abandoning the Referentialist approach. The primary content explains why (3) and (4) encapsulate the same content, that is, the same semantic contribution, and the secondary content explains why they convey different information.

Coordination can also occur in co-referential terms in different utterances. Take the following pair of sentences (5) and (6):

(5) Cicero was an orator
(6) Tully was the author of *Against Catiline.*

The utterances are considered simple because each doesn't contain co-referential terms. The co-reference relation is held between the terms presented in

different sentences, in this case, (5) and (6). As each one contains solely one referential term, what each utterance expresses is just its singular proposition, and as we can see, they are different because they present different kinds of predicates, but both of them are satisfied by the same individual. However, in this case, the pair of singular propositions are negatively coordinated because is not a semantic requirement that the speaker knows that the terms *Cicero* and *Tully* co-refer in this piece of discourse. Nevertheless, if the terms were such that they were anaphora case or any other case of recurrence, they would be positively coordinated since it would be semantically required that the speaker knows that such terms co-refer. The coordination relation scheme could be represented as follows, showing us that this relation may not exist only within the same proposition, but also between different propositions.
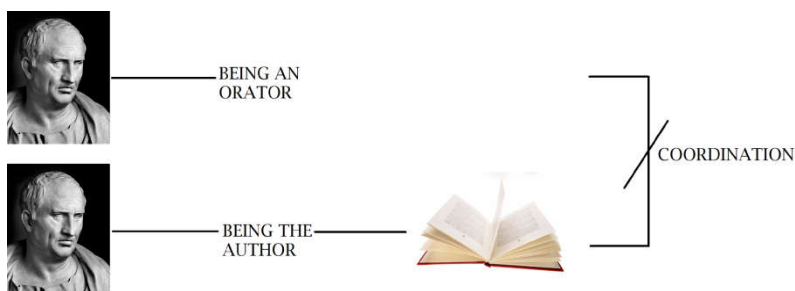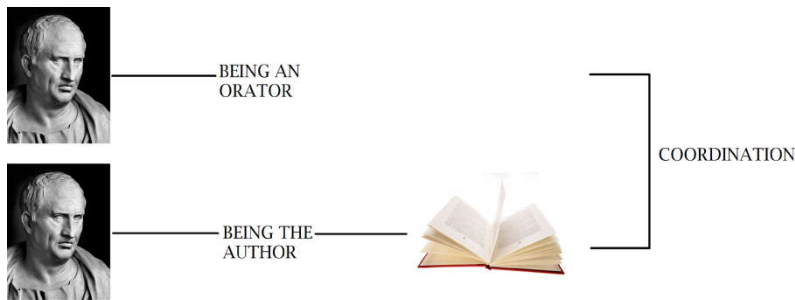
(P5)

(P6)
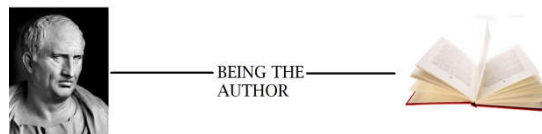
P5 and P6 are the singular propositions expressed by (5) and (6). The coordination relation between them would be something like the diagrams below, representing the negatively and positively coordinated propositions, respectively:

Thus, the idea behind coordination is that when co-referential terms are positively coordinated, they are transparent to any competent speaker who meet the utterances containing those terms in the same piece of discourse. But there should be something that happens in the speaker's mental life that makes him do such a thing. The semantic constraint imposed by linguistic rules that govern the expressions he meets should be rendered in a cognitive constraint in order to cause impact on speaker's cognition and make him manifest a certain belief attitude. Recanati argues that mental files provides us with a better model to explain what happens in the speaker's cognition and contends that the coordination, in fact, derives from cognitive constraints. This relational approach answer the question "in virtue of what content (3) and (4) are different?", but it doesn't seem to explain what happens in the cognitive level so that the speaker manifest attitudinal difference over that pair of utterances.

2.4.2 Mental Files and how mind works

If two co-referential terms be positively coordinated, it must be impossible for the speaker to raise questions on whether they co-refer or not. Positively coordinated terms means that the speaker is semantically required (by rules derived from the language that his competent then) to take the terms as representing the same object.[33] Let's get back to the discussion of strict co-reference focusing on cases involving anaphora. What does it really mean *representing the object as the same*? The fact that they represent their referent as the same doesn't mean that they

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[33] Fine (2007), p. 42; 67-8.

are of the same type. Cases involving anaphora is an example. In some circumstances the anaphoric term is not of the same type as the other term. However, cases involving anaphora are cases in which co-reference *de jure* holds, which means that the term which introduces the referent and its anaphoric are positively coordinated and, thus, represent the object as the same. In virtue of the semantic constraints derived from linguistic rules about that the speaker is competent, Fine gives us the clue to explain the sameness at the semantic level. But what is happening in the speaker's mind in order that he takes them to representing the same?

Bearing this in mind, one first attempt is to argue that the speaker transform the anaphoric expression into a term of the same kind through an abstraction process. In anaphora and any other recurrence cases, the speaker takes the recurring expression and conceives it as belonging to the same type as the recurred expression. May and Fiengo (1994) characterizes it as two terms of the same abstract syntactic type.[34] The speaker abstracts a single type from the co-referential expressions and this would be the clue to account for the fact that, in true, they are co-referential *de jure* despite the fact they are typographically distinct. But this seems not so convincing because we would ultimately be saying that the expressions below are of the same kind when in fact it seems counter-intuitive:

(7) I met my neighbour$_i$ the other day.

(8) The bastard$_i$ didn't even give a hello.

The expression in (7) *the bastard* is used anaphorically to refer to the same individual that *my neighbour* does in (8) and the indexing *i* is the mark to indicate that they are positive coordinated. According to May and Fiengo, given that the speaker builds a singular abstract type from both expressions tokened, the responsible for the same indexing would be that abstract type.[35] The competent speaker who understands the piece of discourse above applies the same abstract type when he processes anaphora. But the consequence is to admit that *my*

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[34] May & Fiengo (1994), p. 50; Recanati (2017), p. 8.
[35] Recanati, p. 7.

neighbour and *the bastard* are expressions of the same type in some sense, which seems something weird.

Recanati argues that what happens is that the terms are co-indexed by the same mental file and no transformation of linguistic type occurs. The speaker associates the co-referential terms with same mental file, which makes him take both of the expressions to be representations associated with the same representational file. When the speaker deploys the recurring term, what happens is that even though the term comes to be different typographically, the speaker deploys the same mental file he deployed early, which makes him represent the object as the same.[36] This avoids to say that there's a type identity at the level of the linguistic tokens, which is counter-intuitive if we take into account our understanding about the expressions *my neighbour* and *the bastard*. The identity, Recanati says, is at the conceptual level and provides us with an account for the speaker's action of taking them as representing in a way that he takes the terms deployed as being co-referential *de jure*.

But what exactly makes the speaker trade upon identity? We know that coordination at the linguistic level is obtained in virtue of semantic constraints related to linguistic rules, such as the linguistic rule that governs the use of anaphora. but what Recanati says is that the coordination is a phenomenon due primarily to the way the speaker co-index representations using mental files. The speaker bearing this in mind will pack all this information related to the co-referential terms in the same file and index those terms using that file. The perceptual capacity of tracking an object during a perceptual experience over time is an example of how the operation of co-indexing representations works. Think about the hundred times we look at an object, for example, an airplane crossing the sky, and start tracking it over time. We create several of representations of the same object over time. It happens because we associate all those time-lapsing representations with the same mental file we created in the very first moment we caught that object on our perceptual apparatus. Co-reference *de jure* between the mental representations holds in this case because they are build upon the same mental file, that is, the representations are indexed by the same mental file. This process is what characterizes the cognitive constraint

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[36] *Ibidem*, p. 9-10;

which makes the speaker take a bunch of representations as a chain of continuing the reference.[37] With this model, coordination that occurs at the propositional level can be rendered in terms of coordination that occurs in the speaker's cognition.

In those cases in which the representations are positively coordinated, what happens is that all the information related to both representations are put in the same mental file, which means that all the representations indexed by this file will do the job of explicitly continuing the chain of the reference. The anaphora would be just a manifestation of this cognitive process. Co-reference *de jure*, thus, is ultimately a phenomenon resulted of this process of co-indexing representations involving mental files.

2.5 My Objections

In this section I present my objections to Recanati's proposals. The objection I.a and I.b are dedicated to contend his view presented in sections 2.2 and 2.3 and the objection II is dedicated to challenge his view presented in section 2.4

2.5.1 Objection I.a

Let's focus on the following Recanati's claim: "[...] It must not be possible for the language user to be mistaken as to whether or not *de jure* co-reference relations hold".[38]

Recanati's strategy, as we've seen, was to weaken the base relation R so that the speaker doesn't fail to know that M and N co-refer. I don't think things should be so. There's no special reason for co-reference *de jure* to be based on conditional co-reference. As other kinds of cognitive states, knowledge is likewise to many of them, except that it holds just in very special conditions. In this case, an agent gets knowledge just in case he has the proper belief attitude and, in addition to it, factors of external world contributes contributes for that belief to be true. If we follow the standard definition of knowledge, the agent should present the following conditions in order to get knowledge:

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[37] Recanati (2017), p. 11-12.
[38] Recanati (2017), p. 17

1. The agent believes that p
2. The agent is justified to believes that p
3. The way the world is contributes for that believe to be true.

As our goal is not to get in details about the specific aspects of this definition, but just assume that, for the sake of the argument, if this definition is correct, there are many kinds of cognitive states which don't satisfy those conditions.[39] Likewise, co-reference *de jure* is the kind of cognitive state in which the speaker achieves it only if he has the proper belief attitude and that attitude meets specific factors of the external world, which means that co-reference *de jure* holds when his cognitive state meets those conditions. So if agents fail to get knowledge in many situations, why would it be different with co-reference *de jure* given it is a kind of knowledge? Unless we are talking about knowledge of claims which are logically trivial, knowledge is something hard, a cognitive state which doesn't depend exclusively upon speaker's state of mind neither merely derived deductively from logical truths. In many circumstances, even though speakers are aware of the reasons why they believe that some proposition *p* is true, and could be able to explain it, world is not the same way their belief represents the world, which entails that they didn't get knowledge even when they are entitled to hold it. Just weakening base relation so that it can fit the condition (3) seems to rape the sense that is ascribed to knowledge as an achievement cognitively special for agents to unlock.

In my view, conditional co-reference could be fill in the position of being the *apriori* and trivial knowledge that speakers hold about the very conditions in which M and N would refer, if anything, and co-reference *de jure* would be another kind of co-reference, modelled in terms of Fine's strict co-reference. Recanati's objection is that if we do it, co-reference *de jure* would not be transparent anymore. But I think

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[39] Someone could reasonably ask, for example, what type of justification is involved in this definition. This question asks whether justification is given in terms of internal access or something external, that is, not dependent upon the way the agent provides himself with reasons and explanations for holding his belief. There are models which explain knowledge using the first approach. Those models are known as internalist view about epistemic justification. On the other hand, those models which see justification as dependent exclusively upon external factors regardless whether the agent get access to explanations for his belief are called externalists.

he's thinking about conditional co-reference and strict co-reference in the wrong direction. If conditional co-reference holds, strict co-reference can also does, and what determines that one turns into another is the way the world beyond the language is. I can know *apriori* that if N is deployed with the intention of taking the same reference of M, whatever the reference of M might be, then they will be co-referential terms. This is the way conditional co-reference holds and has the same features of reflexive content. In absence of information about the reference, the speaker knows at least that

1. The Wally's sequence of tokens *t* is an utterance
2. The person whose permissive convention *c* associates him with the token *Udo* needs a haircut
3. The linguistic rule *r* associated with the token *he* binds its referent to the referent of the token *Udo*, whatever it might be, if it refers at all.

These contents are not exhaustive, but it shows how the speaker would process referential terms in absence of information beyond his linguistic competence. But reflexive content doesn't provide us with so privilege content, even though it helps the speaker to understand what is being done with the utterance containing such reflexive content. Other level of content would be the referential content, the kind of content which can be associated with an utterance when its referential terms indeed stands respectively for their referents. This content is richer because let speakers know facts about external world. In this situation, he is able to grasp the proposition whose constituents is the very individual about which the proposition says something. Only few people can be in such state. Of course, the speaker doesn't need to have direct contact with the referent in order to be entitled to knowledge about this very referent. Since the speaker gets into the chain of reference by binding his token to the name that is ruled by this chain when reference holds, that token comes to be really referential, that is, the term stands for an individual in the world. He gets knowledge when his token comes to be part of the chain of reference. So a speaker who sincerely believes in *a* knows the proposition expressed by *a*

(a) Aristotle is the author of *Nicomachean Ethics*.

Essentially because that token *Aristotle* participates of the chain of reference whose end is Aristotle in person and he ascribed the attribute expressed by the predicate contained in *a* to that person, which is correct, according to the knowledge of specialists. So, anyone who uses the token *Aristotle* with the same intention of *a* is capable of getting knowledge at referential level. Co-reference *de jure*, then, holds when this level is achieved. First, the reflexive level is achieved simply by the fact that the speaker correctly mobilized his linguistic competence. Second step occurs when actual reference holds. This step is something restrictive, because it's not always the speakers succeed in referring. Essentially the restrictive aspect lies on the following the difference: in co-reference *de jure* existential import is present, whereas conditional co-reference doesn't present such commitment, and we know that is much harder to get true statements when existential import is present. Thus, there is nothing intrinsically wrong in a co-reference relation not to satisfy those requirements to get it into knowledge. He will know that M and N co-refer just in case he goes from the first step to the second one, but it is something which the external world decides whether or not he gets into this selective cognitive state.

2.5.2 Objection I.b

There is another objection to Recanati's arguments which should be made. The anaphora example upon which he build his argument is not correct, in my view. I will explain why this is so by using Perry's concept of directing intentions.

Let's focus on the following point for which Recanati makes:

> Wally uncontroversially refers to Udo, but Zach's pronoun is linked deictically to the person he sees and anaphorically to Wally's pronoun, since Zach wrongly assumes that the person he sees is the person Wally was referring to.[40]

And this another one

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[40] Recanati (2017)

> Certainly, the pronoun in Wally's mouth does refer (it refers to Udo). But it is implausible that the second pronoun (in Zach's mouth) also refers to Udo. Clearly, Zach is confused: he purports to refer not to Udo, but to another person he sees, whom he wrongly takes to be the person Wally was referring to.[41]

He argues that Zach refers to one person if we take his token deictically and to another one if we take his token anaphorically. Because of that duplicity in the reference mechanism of Zach's token, Recanati concludes that his token does not refer at all, because when a singular term refers to two things at the same time it violates the mechanism presupposed the reference works, that is, that the function of any referential term is to be capable of referring to, and only one, singular object or individual. This grounds his reasoning of claiming that is implausible to say that Zach's token also refers to Udo. I think he is wrong and I will show why.

Recanati confuses what is just speaker's intention from external factors that matters to determine the reference of Zach's token. The notion of directive intention helps us to clarify it. According to this notion, by deploying an referential expression, the speaker is able to determine the role the object he intends to achieve plays, but is not able of determining which object he will refer by using such expression.[42] Perry argues that the only thing which speaker has authority is to determine this role, but reference is something which, at the end of the day, is determined by the world. So, the speaker has control of what role a certain object will play when he deploys a referential expression, but it is out of his control to determine which object he will refer by using such expression. In the Wally-Zach example, the reference mechanism is a bit different. In my view, Zach's deployment of the token determines what is the role of this expression, which is to bind (or recur) the reference of Wally's token, whichever person he refers. But his intention of referring to the guy he is looking at by using this anaphoric device fails. In many cases speakers fail to get the individual they intend to refer, even though they succeed in referring at all according to the mechanism behind the expression they tokened.

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[41] Recanati (2017), p. 22
[42] Korta, K & Perry, J. (2011). P. 42; Perry (2001), p. 213, 299.

Suppose that two speakers, Bob and Carl, having fun at some party are talking to each other and suddenly Bob says:

> (1) Awesome, that guy is drinking caipirinha (looking at some guy with red hat). And Carl says:
> (2) Sure, he is drinking caipirinha (looking at another guy with a red hat also drinking caipirinha).

Suppose that Mary, a third person in the context, was paying attention to their dialogue and figured out that the guy Carl looked at was not the same as the Bob did, which means that the guy Bob refers is not the guy who Carl's token refers. At first glance, she can indulge Carl by understanding that his token actually stands for the person Bob's token stands for, whichever he might be. But, in the end of the day, if Mary takes seriously how the reference mechanism behind demonstratives, she ascribes falsity to what Carl said because even though the **intention** of Carl was to continue the recurrence process of reference she concludes that what Carl really refers to by means of his tokens *he* was another person. According to the notion of directing intention, Carl has authority to determine what kind of role the referent will play, but it is not in his hands to determine to which object he refers. So Carl is able to determine that the referent of the demonstrative he tokened will be the addressee of the utterance, but he is not able to determine which individual will be referred to by the token. Thus, Wally planned to refer to Udo by deploying his token of *he*, via anaphora, but he referred to another person because he didn't deploy the demonstrative carefully.

2.5.3 Objection II

I want to focus on the following Recanati's point in which he defends that relations like coordination is ultimately due to cognitive features:

> Arguably, there is nothing specifically linguistic about trading on identity, coordination, etc. Suppose I hold a glass in my hand while looking at it. The glass looks dirty, and it feels cold. When, on the basis of my perceptual

> experience, I judge that the glass is cold and dirty, I trade upon the identity of the seen glass and the touched glass.[43]

He argues that those relations which are characterized as coming from linguistic features are something that actually come from the speaker's cognition and how these constraints impact his representations. As he continues, "when, on the basis of my perception of the glass, I form the intention to drink from it, there is co-reference *de jure* between the referential elements in the perceptual judgment and the intention based on it"[44]. And he concludes saying that "co-reference *de jure*, even though it manifests itself in language, is first and foremost a phenomenon at the level of thought".[45] So what Recanati defends is that the co-indexing of representations is similar to the process of tracking an object through the time and, based on that perceptual experience, the speaker take that object as being the same. It is the constraints caused by tracking the object perceptually that determines the way speaker's representations will be co-indexed. In the case specifically about co-reference *de jure*, he says that even though the recurrence relation between two expressions can be encoded at the level of language, the primary reason for this relation to hold is the recurrence at the cognitive level. So the co-indexing on which co-reference *de jure* is based on the co-indexing process the cognition makes.

As Recanati argued, because the different representations are associated with the same singular mental file, it means that they are co-indexed in virtue of the association with this singular mental file. And since this co-indexing process occurs at the cognitive level, he concludes that the co-indexing of representations are due to cognitive constraints, even anaphora and its sameness of linguistic expressions is just a manifestation of what essentially occurs at the level of thought.

I disagree with this proposal and in the following lines I will dedicate the following lines to show why exactly. Even though I agree with the idea that there are situations in which representations are co-indexed in virtue of cognitive constraints, like the ones that come from perceptually tracking an object through time, I don't agree that all representations are co-indexed in virtue of it. There are other kind of

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[43] Recanati (2017), p. 10
[44] *Ibidem*
[45] *Ibidem*

constraints beyond cognitive ones and one of them is constraint imposed by semantics. Of course the speaker relies on a single mental concept to co-index the different representations he builds, but where does this constraint come from that enforces him to associate all his instantaneous representations with this single concept? In the case of perceptually tracking an object, surely the answer is *from this very perceptual process*, but in the case of anaphora, the constraint is the semantic rule which governs the use of anaphoric terms. This makes me agree with Fine's proposal of coordination and how it accounts for utterances involving anaphora. The semantic constraint behind the anaphoric use is the reason why the speaker, at the cognitive level, represents the object by co-indexing its representations to a single concept in his mind. Anaphora is a relation of dependency which ultimately is built upon the linguistic rule that says "take the referent of the term that is recurred, whatever might be the referent", which means that there is a semantic constraint responsible for driving the speaker's behavior. It is not clear when Recanati insists that the constraint upon which co-reference *de jure* builds is not linguistic, but cognitive. Moreover, in semantics once you establish the interpretation for a certain set of symbols, all things work according to this interpretation, no matter what is the speaker's intention in using a expression derived from this interpretation. Therefore, in the case of rules which will govern the expressions is not different, since the interpretation is established, semantics does its job and the linguistic rules derived from it obey what has been established.

Take anaphora behind the example involving anaphoric term above as being the rule of dependency of reference and let's call it *aP*. So *aP* denotes the rule that establishes the dependency between those terms in a way that the anaphoric will refer to the same object the other term refers, if anything. The co-indexing of those terms relies on *aP*. The mental representations can be said as co-indexed by a single concept in the speaker's cognition. But it occurs because of the constraint that *aP* generated. It seems that Recanati is looking at this phenomenon of co-indexing at the cognitive level and labelling a cause which is in fact a effect of other constraint. The anaphora at the level of thought is a result of the constraint produced at the linguistic level, so it is a constraint from semantic nature which determines the co-indexing of representations at the mental level, and not the other way around. So Fine's

characterization of coordination as due to semantic features I think it's correct. The expressions in anaphora are positively coordinated because there is a semantic constraint which comes from the way anaphora works, which means that this relation of coordination manifest, not only in the expressions tokened, but in the speaker's representations in virtue of *aP*.

3. Network content and Empty Names

Now I want to analyse the issue involving empty names and Perry's proposal to deal with what is said by utterances containing them. The problem concerns the semanticists who want to provide an account for how could true negative existential statement can be true and say something if no proposition were expressed?

3.1 Jacob Horn's history and the problem of no existence

The case Perry presents is the Jacob Horn's story. This story is part of Horn's Papers and tells the story of a person who allegedly lived during Colonial America. He is a fictional character who was pictured as a real person in Horn's Papers.[46] This diary was spread among people as reporting his days and achievements in Colonial period. For a long time historians and common-sense people believed that Horn's Papers was written by Jacob Horn (JB) who really lived somewhere in Colonial America during 18th century. Those people had a different attitude towards the statements that compose Horn's Papers. They don't act as if they were fooling themselves for the sake of entertainment, as we act when we know that the story is fictional. In this case, we fool ourselves in the sense that we know that the characters actually don't exist, but in order to acquire entertainment we pretend that we believe they are actually real. It's not what happens to Horn's Papers.

When people believed he lived somewhere in America at a given time, they really had that belief. When they had that belief, they weren't acting in a way that they pretended they believe that JB existed. In fact, they act in the same way as someone does when they believe that Napoleon was defeated in the Battle of Waterloo. But if the name *JB* actually refers to nothing, how could people hold a belief whose content doesn't have JB as its constituent? We know that a belief only exists if there's a content about which this belief is. Belief is one of the many propositional attitudes, and as such it is a relation between an agent and a

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[46] Perry (2012), p. 166.

proposition. But if there's no content toward which the agent has a believing attitude, how can this person have such belief? That's the difficulty behind utterances containing the name *JB*.

Perry borrows from Donnellan a proposal which involves something that he calls *block*.[47] According to this proposal, story involving the name *JB* ends in a block, which means the historical chain of reference which rules the use of the name in fact ends in a point where no individual is identified, and this point characterizes the block.

> When the historical explanation of the use of a name (with the intention to refer) ends [...] with events that preclude any referent being identified, I will call it a *block*.[48]

> For example, children often invent imaginary companions whom they themselves come to speak of as actual. The block in such case would occur at the point at which a name for the unreal companion gets introduced by the child himself via his mistaken belief that there is a companion to [that] name.[49]

The truth-conditions we meet at utterances involving *JH* could be given in terms of facts concerning this block, as Donnellan explains: "If *N* is a proper name that has been used in predicative utterances with the intention to refer to some individual, then 'N doesn't exist' is true iff the history of those uses ends in a block".[50] So this content can be used to handle issues that are puzzling from the semantic viewpoint. Any utterance that has meaning should be true or false, and in order to have meaning an utterance should express a content, which is given in virtue of the semantic contribution of its components. That content results a proposition and it's the proposition which it expresses that delivers its truth-conditions and allows it to be evaluated as being true or false. Take the example below:

(1) Bill Gates is the owner of Microsoft.

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[47] Perry (2012), p. 169.
[48] Donnellan (1974 / 2012), p. 23 / 104.
[49] *Ibidem*, p. 23 / 104
[50] *Ibidem*, p. 25 / 106.

The proposition that speakers normally aim to convey by (1) is the proposition containing the very individual about which the proposition says something, which we already know is called *singular proposition* and can be represented as we've been doing:

(P1)

This proposition (P1) is characterized as being what is said by the speaker when he utters (1), that is, what is expressed when the speaker utters (1), without taking into account other information that might be co-laterally produced by his utterance. Furthermore, (P1) provides us with facts that allow us to grasp the truth-conditions concerning (1) because it says that Bill Gates is in a relation of ownership with the private company Microsoft. This content permits the utterance to be verified and has one of the possible truth-values, true or false, according to its correspondence with the way the world is. So the truth-condition of (1) given those facts provided by (P1) could be represented as follows:

(TC1) The utterance (1) is true iff Bill Gates is the owner of the private company Microsoft.

The semantic treatment should be the same to other utterances, regardless the type of expressions they contain. So we should be able to look for a content which can work as a provider of truth-conditions for all utterances we are handling. Now take the following three utterances:

(2) JH exists

(3) JH doesn't exist

(4) JH was an important person in Colonial America

These utterances are specially puzzling because no singular proposition is expressed by them because *JH* has no reference. If there's no proposition it's not possible to ascribe a truth-value to them. Moreover, without propositions we aren't able to provide truth-conditions because there is no content can be verified. So in the case of (3), 'how can it be true?' And in the case of (2) and (4), 'how can they be false?' And something connected with this issue, we can ask 'what is said?' by (2)-(4) if no proposition is expressed by them? This seems an important problem because, intuitively, it's easy to ascribe truth-values if speakers are told to do it. Moreover, it's weird to say that someone is saying nothing when he utters either (2), (3) or (4). So the problem can be rendered in a two-fold way: (a) what are the truth-values of these utterances? and (b) in virtue of what propositional content they are either true or false?

I will present two answers to these questions. One is Salmon's proposal and the other is the overshared Russell's analysis. Next I will explain why this proposals don't answer properly the questions. Finally, I will argue that Perry's proposal provides an adequate answer.

3.2 Salmon's proposal

First of all, in this section I want to start it making clear that Salmon bears in mind that the semantic framework he proposes is not able to deal with informativeness and, as he contends, the answer for the question *how do two co-referential terms can convey different information?* relies upon pragmatics. All his arguments are dedicated to show how theorists make mistakes by ascribe some cognitive features to semantics when in fact they rise from pragmatic aspects embedded in natural language. What I want to refute is one of the entailments of his thesis, which says that semantics is not able to deal with issues related to informativeness. I think semantics is able to do this job after showing why Salmon's semantic framework is unable to do it.

Salmon argues that (2)-(4) indeed don't express any proposition at all. He explains that as people can fail to recognize an individual under other physical appearance they can also fail recognize propositions under different modes of

presentation.[51] The information is conveyed by an utterance is entirely provided by the singular proposition it expresses, and nothing more, according to Salmon's proposal. So when a speaker has different belief attitudes toward co-referential utterances, what happens is not that the speaker grasp different propositions. In fact, something different occurs. The speaker, when faced with the same proposition p, may fail to recognize it if p has been presented to him under a different and unbeknownst mode of presentation, and because of it, he happens to take p as being a different piece of information. One important idea in Salmon's proposal is that belief is a ternary relation, composed by the agent, the proposition, which is the singular proposition, and the mode the proposition is presented, or the way the proposition is taken by the speaker.[52] So is perfectly acceptable for a speaker to have contrary belief attitudes toward utterances which express the same proposition.

Salmon draws an analogy with cases of perception, in which an agent fail to recognize an individual who she had acquaintance already. An agent might happen to see the very same person twice without recognizing her the same person. In this case, the thought that he had first is exactly the same as the one he had latter. However, he didn't realize that he was in presence of the same content because he was under a different mode of presentation strange to the speaker.[53]

The case in the language level could be exemplified by Louis Lane's failure. Suppose they all are real people. Although she gives approval to (5), she disapproves (6), in the sense that she sincerely would agree that (5) is true while (6) is false if she were asked.

(5) Superman has laser vision.
(6) Clark Kent has laser vision.

(5) and (6), according to Salmon, convey the same information since the proposition they express is the same, which can be represented as below as **Pk**:

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[51] Salmon (2007), p. 214-5.
[52] *Ibidem*, p. 195.
[53] Salmon (1986), p. 106.

(Pk)

HAVING THE PROPERTY

Said that, Salmon's account says that Louis Lane's content thought doesn't change. The proposition she entertains is exactly the same, in this case, Pk. What occurs is that she failed to recognize that she was before the same proposition when she met (6). She took (5) and (6) to be conveying two different pieces of information because she grasped Pk by means of two different modes or guises, that is, she takes Pk in two different ways, one which made her dispose to assent and another which made her neglect her assenting. All the issue is under what guise she accesses the proposition which is her content thought.

The flaw of this account is that it should accept that utterances like (5)-(6) don't express any content and, hence, bite this bullet. If all information which is conveyed by an utterance is provided uniquely by its singular proposition, then those utterances to which no singular proposition can be associated would be unable to convey information, according to this reading. In those cases, informativeness could be explained by appealing to guises, but the explanation of why they are either true or false would remain to be a flaw in this account.

3.3 Russell's proposal

The other answer is Russell's well known analysis.[54] The Russellian answer has a clue concerning utterances containing proper names which aims to circumvent the problem of emptiness and lack of acquaintance with reference. In the case of the name *JH*, he suggests that we take *JH* and replace it by a quantified expression which can be analyzed in terms of other several expressions that amount to predicates all under the quantifier scope. The name *JH*, in this reading, is reduced to another expressions that actually points to properties and treats *JH* as a term

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[54] Russell (1919), pp. 167-180.

which, in fact, gathers a cluster of predicates. The name *Socrates*, thus, is actually a cluster of predicates and when people uses this name in an statement they are referring to a bunch of properties, not directly to Socrates in true. They refer to Socrates *only* if there's an individual who uniquely satisfies all of these properties referred by the predicates gathered by the term *Socrates*. Reference only works if denotation does, which means that *JH* is, in fact, is a denoting expression that is disguised as a referential expression. As we know, names, according to this view, are considered *disguised description* and the consequence of it is to treat proper names as definite descriptions.

So, according to Russell's proposal, when we look at (3), for example, we should disentangle ambiguities and analyze the logical form of it in order to characterize what (3) expresses. There are two readings for the scope of the negation operator when we make explicit the two possible ways which we can state (3):

(P3a) ~[there is *x*: K(x) & for all y: x = y]

(P3b) there is *x*: ~[K(x) & for all y: x = y]

where ~ denotes negation and *K(x)* denotes *the cluster of properties which is uniquely satisfied by x.*

In the analysis of (3), we should choose (P3a) if we want to avoid any existential commitment which would make us assume the existence of something which, in fact, doesn't exist. So, according to this choice, what is being said when the speaker utters (3) is not that some individual does not satisfy a certain property, but that the statement that the bunch of properties K is uniquely satisfied by an individual is not verified, which is something true. This analysis provides us with a propositional content and a truth-value to (3).

But this also gets in trouble. Counter-examples presented by Kripke in his modal argument knocks down Russell's proposal. Starting from the common-sense view about how linguistic expressions work in natural language, Kripke shows that the mechanism which governs the operating of a definite description is not conceived as the same as the one governs that the operating of a proper name. I will not get

into details about his objection, I'll just show briefly the different mechanism each one has and explain why this has impact on Russell's proposal, which it'll take just few couple of lines.

Proper names are conceived in natural language as tools for direct reference, according to Kripke, and we see it looking at the way common-sense people deploy them in their daily life as speakers. A name, in this view, is a tag for picking out a certain object, no matter whether this object satisfies a bunch of identifying conditions or not. Since a name is linked to a individual by a baptizing act, if an occurrence of this name is deployed to refer to that individual, regardless the world and circumstance in which it was deployed, the individual grasped continues to be the individual of the world in which he was baptized.[55] It's not the same thing with a definite description (let's call it *DD*). A *DD* will pick out an individual iff this individual satisfies the identifying condition which is involucrated by the *DD* at stake. So if we take the *DD the highest student of the class*, it will only pick out an individual if there's an individual which uniquely satisfies this condition in the circumstance in which this *DD* was deployed. These two different mechanisms make proper names and *DDs* present behavior in possible worlds.

Since a name is attached to an individual by an act of baptizing, it will always refer to that name when it's deployed, no matter in which world this is done. However, a *DD* is attached to individual only if this individual uniquely satisfies the identifying condition the *DD* determines in the world the *DD* is deployed. This entails that different objects might be captured by the same *DD* according to the world that this *DD* is deployed, because it's always possible to conceive a world in which a certain individual that is captured by a *DD* in actual world as not being captured by the same *DD* in other world. As names are rigid designators, their reference mechanism preclude them from referring to a different object in different worlds. So since a name N and *DD* differ from each other to the extent to referring mechanism, there could be a possible world in which N and definite description DD_N captures the same individual, but this may not occur in all other possible worlds.[56] This seems a good and well-established objection against Russell's idea that proper names are

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[55] Kripke (1980), p 78.
[56] *Ibidem*, p. 71.

disguised definite descriptions, in the sense that all proper names in fact are definite descriptions, because, if they were, they would always capture the same individual or object as their referent. But as Kripke has shown, it doesn't always happen. So Russell's answer provides (2)-(4) with propositional contents (which allow us to provide them with truth-values and truth-conditions), but it is knocked down by the modal argument.

3.4 Perry's proposal and Network Content

Perry presents an alternative to the proposals we've seen. He says that there's a propositional content which involucrates the very permissive convention responsible for governing the use of names contained in a certain utterance. This permissive convention is the rule which assigns a name (and all its occurrences) to a certain individual. The act of baptizing Socrates as *Socrates* works as the permissive convention which rules the use of the name all the occurrences of *Socrates* in the contexts in which they are deployed. Some speaker who is linguistically competent, but doesn't know who is Socrates, holds in his hands at least the knowledge about facts related to the very expressions.[57] So, if he meets (7), he will know at least that this individual, whoever he is, whose name is ruled by a permissive convention *c* satisfies the attribute given by the predicate *is a sophist*, whatever the meaning it has[58]:

(7) Socrates is a sophist

The propositional content accessed by this speaker involves the permissive convention which rules that name he meets in utterance (7). And he draws it as a conclusion from the fact that that occurrence of *Socrates* was a name and as every name is ruled by a convention which rules it, this name is assigned to

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[57] Perry (2012), p. 128; 171.
[58] Perry calls the *permissive condition* the convention which connects a certain name to a specific condition, that is, the condition which *permits* speakers call this individual using a token of the name conventioned to call him.

its reference by a specific permissive convention. Pr7 is the representation of this propositional content the speaker grasps.

> (Pr7) The individual whose permissive convention *c* assigns the name *Socrates* to him is a sophist.

This content is accessible to the speaker in that circumstance and allows him to understand (7) even when he doesn't know anything about Socrates. As we know, this characterizes the reflexive content of (7). This analysis has advantages over Russellian's analysis. The expression *the individual whose permissive convention assigns the name 'Socrates' to him* encodes an identifying condition, which in this case captures Socrates. Let's call it *ic*, But once *ic* is grounded on an a permissive convention which links directly an individual to his name, *ic* happens to be rigidified. It entails that it's immune to modal argument because no matter what world *ic* is evaluated, it will always determine Socrates as its denotation. But it gets in trouble when we want to handle (2)-(4).

Names like *JH* don't have permissive conventions because they're empty. Once *JH* stands for no individual at all, no permissive convention governs the use of that name, which means the reflexive content of the utterances in which *JH* occurs cannot be given in terms of permissive conventions, as it happens to regular names. In this case, the reflexive content is given in terms of networks of beliefs, or simply *networks*. A network is the network of beliefs speakers share with each other which governs the use of a certain name. But in the case of empty names, this network ends in a block. That is, its tail, which in regular names finds an origin (an individual or an object), has no origin when the name is empty.

Even though *JH* is a empty name, the utterances in which it occurs are understood by competent speakers, which means that those speakers were able to have access to a propositional content at some level. As we know, reflexive content is the content that is missing all facts about the world except those ones which concerns linguistic competence. Given that the network which governs *JH* ends in a block (let's call it N_{JH}), the reflexive content of (2)-(4) could be given as follows:

(Pr2) There's a network N_{JH} that governs the use of *JH* in (2) and there's an x such that x is the origin of N_{JH}.

(Pr3) There's a network N_{JH} that governs the use of *JH* in (3) and there's no x such that x is the origin of N_{JH}.

(Pr4) There's a network N_{JH} that governs the use of *JH* in (4) and there's an x such that x is the origin of N_{JH} and x was an important person in Colonial America.[59]

This is possible because the notion of truth-conditions is reformulated by Perry. As we've seen, truth-conditions are always related to specific facts. Multiple truth-conditions can be associated with a given utterance. Each one is given in terms of facts which in one way or another concern the utterance at stake. The truth-conditions that contains the individual about which the utterance says something are very specific one and not always are available to speakers. The relativization of truth-conditions to facts permits us to provide conditions to speakers evaluate a given utterance in the absence of knowledge about the individual or the subject-matter of the utterance. Perry argues that an utterance can always be said true or false if the following conditions are met:

A. An utterance is true if truth-conditions are met at any level. If truth-conditions are met at a given level, there will be truth-conditions at other levels. Otherwise, it's not true.

B. An utterance is false if it has truth-conditions at some level and it fails to meet them.[60]

Notice that when an utterance happens to be false, it's because it has truth-conditions but it fails to obtain. This case differs from the situation in which the utterance doesn't present any truth-conditions at all, such as (8):

(8) Borogroves are mimsy.

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[59] Perry (2012), p. 182.
[60] *Ibidem*, p. 187.

Once the expressions *borogroves* and *mimsy* doesn't stand for anything at all, because they are not words in English, but simply tokens we've just made up, (8) is not able to present truth-conditions. If it cannot have truth-conditions, it cannot be said true or false.

It's different from (2)-(4). (8) doesn't say something true or false. This entails that there's nothing to agree or disagree when (8) is uttered. But (2)-(4) and other utterances that we may find in Horn's Papers were subject of debate and discussion, which means that those people could access a content in virtue of which they formed such agreement, disagreement or any other belief attitude. So it seems reasonable to think that (2)-(4) do express propositional contents. But what exactly is said when someone utters (2)-(4) and the like? That is, what is believed or disbelieved with respect to (2)-(4)?

Perry argues that not always what is said is the singular proposition (the referential content, in his terminology). Many times the referential content doesn't give an account to answer the question *what is said?*. Consider the utterance below:

(9) I'm Keith Donnellan.

The great analytic philosopher Keith Donnellan can deploy (9) to introduce himself. In this case, the referential content of (9) doesn't seem to be the appropriate content to account for what he meant by deploying (9). In fact, he wants to convey something a bit more sophisticated than simply saying that Keith Donnellan is Keith Donnellan, or that he is identical to himself. If we were his audience, we wouldn't take this content to be the one Donnellan meant to convey. Instead, we assume he meant to say more than that and it leads us to seek alternative contents which can answer such question.

One alternative, in this case, is to take the indexical content associated with the indexical *I* and link it to the referent of the name *Keith Donnellan* (*KD*). The indexical content of *I* is the agent of the context, that is, the person who is producing the very utterance his audience is hearing. It results that in uttering (17) Keith Donnellan is informing us that that guy before us is the guy whose name is *KD*. This

content is much more promising to organize our notion about KD. Since the referential content is unable to account for what is said by (9), the indexical content is promoted to what is said. In circumstances in which the referential content is irrelevant and cannot account for the information conveyed, other level of content is lifted up to the stage of what is said. When this other level of content is added to account for the information conveyed, Perry calls this new content *incremental content*. This is what Perry says this about the role of incremental content:

> His interlocutor could felicitously say *he said his name was KD*, but only a philosopher biting some bullet is likely to say *he said that KD is KD*. The triviality and irrelevance of the referential content lead us to choose alternative contents, in answering the question *what did he say?*. In such cases, we may not expect the questions *what did he say?* or *what was said?* [...] to have a unique acceptable answer. The structure [...] of available contents may have to be considered to understand what is going on.[61]

A similar situation happens when utterances at stake contain empty names. Suppose that Sophia, a little girl who believes that Santa Claus is a kind old man with gifts, says (10):

(10) Santa Claus is coming home tonight.

Since the referential content of (10) doesn't exist, we wouldn't succeed in the explanation of the relevance of (10) if we appealed to this kind of content. In this case, let us be her audience. In this case, we should seek other available contents that could explain the relevance of uttering (10). The content involving the network and the expressions themselves of (10) seem to be the first alternative of available content because it is the one which only demands the linguistic competence of the audience. The reflexive content, thus, could accomplish this role. It gives the audience a content that allows, at least, to evaluate that (10) is actually an utterance, and not just a bunch of sounds, and, thus, something which can be said true or false.

But this is just the first level of incremental content. This content results in truth-conditions which gives the audience just the opportunity of seeing that (10) is an utterance (thus, something which can be said true or false) and which involves a

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[61] Perry (2012), p. 190

network of beliefs he presupposes is shared by speakers. With this kind of content we just account for conditions under which (10) can be true or false given the linguistic competence of the speakers, but this content doesn't give an account for what is said by (10). It's weird to say that when Sophia utters (10) she is saying things concerning rules about the expressions and presuppositions about the very utterance (10). It's more plausible to say that she's saying something about the world **beyond** the utterance. So another level of content is demanded to do it.[62]

Speakers continue to process of seeking available increment contents to account for the relevance of Sophia's utterance. They should look for a incremental content which may involve other things rather than referential content, once this one doesn't exist in the case of (10), but one is not so restrict as the reflexive content.

Remember that clause A says that if we meet truth-conditions for a given utterance at any level, we are able to find truth-conditions for it at more or less incremental level. In the case of (10), we found truth-conditions in terms of reflexive content, which means that we are able to find truth-conditions for it at more incremental level. And we can claim that speakers do it. The audience choose the incremental content which contains the network which governs the name *Santa Claus* (*SC*), but which one does not mention the expressions and the utterance (10) itself. The difference is subtle but important to explain how the audience organize their notions toward (10). If, on the one hand, Sophia might not know what she is saying by deploying (10), because we may question her linguistic competence, her audience, on the other, should have clearly in mind what is being said by (10) in order to form a belief of agreement or disagreement toward her utterance.

The network which governs the name *SC* has no origin, as it's well known. Once minimally informed speakers bear this in mind, he can draw the conclusion that (10) is false and, thus, migrate from reflexive level to other more promising incremental one. The network content associated with (10) is pictured as follows:

> (N10) There's a x that is the origin of N_{SC} and x is coming home tonight, or simply,

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[62] Perry (2012), p. 186.

(N10) The origin of N_{SC} is coming home tonight.

(N10) provides the speakers with a content that permits them to grasp what is conveyed by Sophia with (10) so that they can give their approval or disapproval on something beyond linguistic world. The audience takes (10) to be false for some reason, and this reason has connection with the relevance of (10). Speakers wouldn't take it to be false if they weren't entertained by a content which makes them behave that way. In face of (10), they seek alternatives to avoid considering utterances pointless. Instead, for the sake of benevolence in conversational practices, they make efforts to calculate a content which fills in the gap and feeds them with a reason to explain the relevance of the utterance they meet. So if they take (10) to be false, there's a content to which they got access and in virtue of it they can take (10) to be relevant. By (N10), the audience can figure out that (10) says something about the network N_{SC} which is famously exploited by lots of speakers but whose origin, in fact, doesn't exist. But since its origin doesn't exist, they can conclude that no one is coming home that night, as Sophia believes, which means that they can hold the belief that what Sophia is conveying is false. That is, by calculating the alternatives they rise the network content (N10), which allow them to assess what Sophia is trying to convey in the conversational context in which she deploys (10), something which can deserve the status of *what is said*. So (N10) can organize and manage audience's notions and, thus, provide a reason for *why* to the extend the belief attitudes they present toward (10).

Now we're equipped with a more robust resource to provide an account for what is said by (2)-(4) and what is believed and disbelieved about (2)-(4). These utterances can also have network contents associated with them, likewise (10). The network contents of (2)-(4) can be depicted as follows:

(N2) The origin of N_{JH} exists.
(N3) The origin of N_{JH} doesn't exist.

(N4) The origin of N_{JH} exists and he was an important person of Colonial America.[63]

(N2)-(N4) step a little further from explanatory viewpoint. They don't just provide the conditions to (N2)-(N4) to be true or false, but also provide the content in virtue of which the speakers produce their agreement or disagreements on (2)-(4). Speakers can build this level of incremental content and form their belief attitudes grounded on it. With (N2)-(N4), we are able to affirm what is the subject on which the speakers agree or disagree with each other when they are in face of (N2)-(N4). As these incremental contents are about networks and their origins, we are allowed to ascribe connection with the world to the speaker's agreements and disagreements. In other words, their belief attitudes are not toward linguistic expressions and rules which govern them, but toward things which go beyond this. Thus, when people believed that (3) is true, the content about which they have beliefs has the origin in N_{JH}, whereas those people who disbelieved that (3) is true, the content about which their disagreements has the network N_{JH} as its subject-matter. Disagreements and misunderstandings occurred because speakers didn't really know whether N_{JH} had an origin or not at that time. This allows us to distinguish the content expressed by (2)-(4) in comparison with (10). Speakers don't put so much effort to give his disapproval on (10) as being true because the network involved in it (N_{SC} in this case) is well known as not having an origin. However, speakers get into disagreements and, thus, could get stuck to give his assent to (3) because it was not so well known that N_{JH}, in fact, had no origin. Being able to explain even this difference shows us how far the explanatory power of this approach can get.

Thus, on the one hand, it has advantages over Salmon's proposal because we don't need to treat utterances like (2)-(4) as vacuous from propositional viewpoint. On the other, it has advantages over Russell's because we can provide (2)-(4) with propositional content and, thus, with truth-conditions, in the same way as Russell's analysis does, but with the difference that this content is immune to modal argument.

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[63] Perry (2012), p. 185-6.

Conclusion

The views I defended here aim to show the power that semantic machinery has in face of problems involving informative value of referential expressions. In the Wally-Zach case, it seems that there are two notions of content involved. In one sense, the token that Zach produced is constrained by the dependency intrinsic to any anaphoric expression, which means that he refers to the same guy Wally referred to, whatever this guy might be. Zach using his token followed by a demonstration makes another guy salient for his audience, but given the fact that he produced his token in a situation he intended to continue the chain of reference, the mechanism of anaphora seems to overlap any speaker's intention to attain the reference. Maybe I have to provide more reasons to argue in favour of this overlapping, but if the reader agrees that communication and, thus, the transmission of information is a collaborative task, it seems that speakers would rely on anaphora for the sake of benevolence. It allows us to give the best interpretation for the communication in the dialogue despite the Zach's mess.

In the other sense, someone can argue that the Zach's intention predominates in the use of his token and, thus, the guy his token stands for is the guy he made salient by means of his demonstration, which is perceptually accessible to him. I tried to show that it is not a good strategy. Speaker's intention has its job, but it is limited. I think that Perry's concept of directing intention is a good route to deal with this problem. Wally has the power to determine what will be the role played by the referent of his expression, but he is not in charge of determining which individual he will refer by means of it.

In the Jacob Horn's case, I tried to show how the contributions of semantic machinery can provide a content for utterances that are seen, at first glance, inevitably empty, that is, with no semantic content. As I argued, it's important to provide such an account because otherwise we should bite the bullet and accept weird situations, such as stating that anyone who produces an utterance containing a

token of the name *Jacob Horn* (*JH*) is not expressing any semantic content at all. The defenders of this idea argue that the problem of informativeness is solved by conversational implicature, in which the information is conveyed collaterally by the utterance in these circumstances. Although informative value can be account for in this way, this approach left behind the explanation for two facts, in my view: (i) in virtue of what proposition the utterance involving the token *Jacob Horn* is true or false; and (ii) in virtue of what propositional content someone can believe that that utterance is true or false, provided that belief is a kind of propositional attitude. With the help of the Perry's concept of reflexive content, I think that my explanation is able to account for the informative value and, in addition, to the facts (i) and (ii).

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