

FORMAL DEMONSTRATIONS WITH DEICTIC DEMONSTRATIVES – IN DEFENSE OF WOLTER’S NOTION OF NON-DEFAULT SITUATION¹

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ABSTRACT: This paper discusses the semantic role of demonstrations in deictic uses of demonstrative descriptions. The main question is: are they essential or non-essential to the semantics of demonstratives? In some theories (such as Kaplan 1989a; Roberts 2002 and King 2001), demonstrations are treated as “essential” in the sense that they correspond to a particular logical element in their formalization. In Wolter (2006)’s approach, demonstrations are not essential by themselves, but they do determine, pragmatically, an element essential for the interpretation of demonstratives – the index they must be interpreted relative to, which Wolter calls a “non-default situation”. Here we compare these two views; we conclude that Wolter’s approach is on the right track. Our main argument is that demonstrations can be replaced by other elements (such as salience or additional descriptive content) depending on the context. Thus, demonstrations are not essential to demonstratives, but they perform a pragmatic function that is essential – the identification of a “non-default situation”.

Keywords: Situation Semantics; demonstratives; deictic uses; demonstrations.

1. INTRODUCTION

This paper discusses the status of demonstrations (any physical relevant gesture, such as pointing) associated to deictic uses of demonstrative descriptions like ‘esse gato’ (this cat) in Brazilian Portuguese (BrP). We submit the role of demonstrations to scrutiny, trying to

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find out whether they are or are not “essential elements” for the interpretation of demonstrative descriptions. Would they correspond to conventional components (always present) in the meanings of demonstratives? We claim that this is not the case, and we argue that they can be replaced by other elements given appropriate contexts; as a consequence, they are “dettachable” from the interpretation of demonstratives.⁴

We start by clarifying what we think can be said to be an “essential aspect” of an expression’s interpretation, as opposed to a non-essential aspect. Then, we discuss proposals that take demonstrations as “essential” to the semantics of deictic demonstratives (Kaplan, 1989a; King, 2001 and Roberts, 2002;) and also a particular approach, the one proposed by Wolter (2006), which we argue can be interpreted as reserving an indirect role for demonstrations in the interpretation of demonstratives. Our discussion is based on the analysis of a few specific uses of deictic demonstrative descriptions in BrP (but the basic observations seem to hold for English demonstratives as well). We will show that these cases support the idea that demonstrations are non-essential elements, that is, there is no particular element in the semantic representations of demonstrative descriptions that specifically refer to demonstrations.

2. WHAT IS AND WHAT IS NOT ESSENTIAL IN THE INTERPRETATION OF DEMONSTRATIVES

The uses we will be interested in are those in which, according to Wolter (2006: 26), the expression “[...] refers to something in the physical context of utterance” and “requires that a unique referent be identifiable by the discourse participants”⁵ – that is, in deictic uses of an expression, an extralinguistic element is necessary to determine the referent. These extralinguistic aspects of the speech event can be seen as an “externalization of the perceptual intention, which determines the referent [...]” (KAPLAN, 1989b: 583). In particular, in the case of deictic uses of demonstrative descriptions, this intention is usually

⁴ Most results we present in this paper can be extended to deictic uses of bare demonstratives, as in ‘Aquilo está me incomodando’ (That is disturbing me). But we will not discuss such cases here, for reasons of space.

⁵ Demonstratives may have other uses, such as: (i) *anaphoric uses*, in which the referent of the demonstrative depends on a linguistic antecedent, e.g., ‘I bought a cat. *This cat* is so fluffy’; (ii) *descriptive uses*, in which, according to Wolter (2006, p. 41), they refer to a singleton set “[...] on the basis of the descriptive content alone [...]”, e.g., ‘*That mother of John* is quite a woman!’, etc. We will not discuss any of these other uses.

associated to a physical gesture, which can be performed by hands, head, eyes, etc., e.g., ‘That tree [pointing with a finger] is really tall’. In Levinson’s words (2008: 54):

[...] deixis concerns the ways in which languages encode or grammaticalize features of **context of utterance** or **speech event**, and thus also concerns ways in which the interpretation of utterances depends on the analysis of that context of utterance. Thus the pronoun *this* does not name or refer to any particular entity on all occasions of use; rather it is a variable or place-holder for some particular entity given by the context (e.g. by gesture).

Regarding such physical gestures, we intend to analyze their role in the cases they are used, trying to find out whether the contribution they bring is really essential, that is, both necessary and specific, to the interpretation of the demonstrative description. Of course, if they give a necessary and specific contribution, this contribution must be taken as a conventional part of the meaning of demonstratives. In this case, the formalization of a demonstrative description – as well as the logical form of the sentences containing occurrences of demonstrative descriptions – would have to incorporate logical elements that would make such a contribution explicit.

No doubt looking at some basic uses of demonstratives, it would seem reasonable to believe demonstrations play some fundamental role in the interpretation of demonstratives – as many important authors have claimed. In such basic uses, they do seem to be necessary, as in (1) below:

- (1) [In a street where many houses stand side by side, someone points to a particular one and says:]
– *That house* is being sold.

Of course, absence of some physical gesture towards the relevant house would make the utterance infelicitous. However, in some other, also very basic, uses it is not so clear that such a gesture would be necessary. Consider:

- (2) [A house far away is burning out. Someone points to it and says:]
– *That house* is on fire; let’s call the fire-fighters!

Clearly, a gesture helps in (2), so we might think it is responsible for the identification of the referent. On the other hand, it is not so clear that the gesture is really necessary, if the house

far away stands there by itself, with no other houses around, and moreover being the only spot on fire. The utterance in (2) might be spoken by someone who is driving a car, for example, and who would *not* point to the house on fire. So, actually the demonstration may be unnecessary, because the flames call everyone's attention. But, if the demonstration is not present, which element would determine the demonstrative referent? This is the question we aim to answer in the next sections.

Some authors, such as Kaplan (1989a), King (2001) and Roberts (2002), defend that demonstrations are a conventional part of the interpretations of demonstrative, even in cases like (2). For example, King (2001) would say that, even if the physical demonstration itself is not there, the logical element that corresponds to it would still be in the representation of the demonstrative – the “speaker intention” of picking up a specific individual (or, rather, of picking up the property of being identical to that individual). Kaplan and Roberts present variants of this idea. But others authors, such as Recanati (2004) and Bach (1992), defend that pointings are non-essential elements. Bach (1992), for example, argues as follows:

If you intend to demonstrate Fido but in fact demonstrate Spot, you end up referring not to Fido, as you intended, but to Spot. Have you thereby failed to refer to the dog you intended to refer to? Yes and no. Yes, with respect to the intention to demonstrate Fido, for Fido is the dog you intend to refer to; no, with respect to another intention that you have as well: to refer to the dog you are demonstrating. But the latter intention, I contend, is the specifically referential one, the one which you intend and expect your audience to recognize and rely on in order to identify a certain dog as the referent.

For Bach, the intention to refer to the demonstrated dog is not overridden by the demonstration (intentions never override demonstrations and demonstrations are never overridden by anything else, such as uniqueness or maximal salience). On the contrary, it is consummated by that act. In this sense, an act of demonstration does not determine reference in the sense of making it the case that a certain dog is being referred to. Rather, like any other source of salience, it enables the audience to determine (identify) the referent.

Recanati (2004: 57), approaching semantically underdeterminate expressions such as demonstratives, says that “[t]he reference of a demonstrative cannot be determined by a rule, like the rule that ‘I’ refers to the speaker.[...] Ultimately, a demonstrative refers to *what the speaker who uses it refers to by using it*”. Hence, the determination of the speaker's intended referent (i.e., of the demonstrative's denotation, which depends upon the speaker's intended referent) depends on pragmatic information and relies on the wide context. In this case, the semantic interpretation by itself is not enough to determine the referent.

From what we've just seen, we may conclude that for Bach and Recanati, demonstrations can be “dettached” from the demonstrative descriptions’ interpretation.

We may summarize what is embodied in the two opposing views discussed above as follows:

<i>Demonstrations as essential elements</i>	<i>As non-essential elements</i>
• They are “conventionally” attached to the interpretation and they are always present, independently of the context.	• They are “non-conventionally” attached, and they can be present or not depending on different contexts of use.
• There is an element in both the lexical entry of demonstratives and in the utterance’s pragmatic and/or semantic representations that specifically corresponds only to them, or only to the particular they refer to.	• No element in the lexical entry of demonstratives or in the utterance’s pragmatic and/or semantic representations specifically corresponds only to them, or only to the particular they refer to.
• They have a direct role in determining the reference – hence, the semantic value – of the demonstrative description.	• They have an indirect role in determining the semantic value of the demonstrative description.

Table 1: Demonstrations – two views.

Having the above distinctions in mind, let us consider particular analyses that instantiate one or the other approach, and confront them with some basic facts related the use of demonstrative descriptions.

3. DEMONSTRATIONS AS “ESSENTIAL ELEMENTS”

The authors who claim demonstrations are essential for the interpretation of demonstrative descriptions include Kaplan (1989a), King (2001) and Roberts (2002). For Kaplan and Roberts, demonstrations appear as formal elements in the logical forms associated to both bare demonstratives and demonstrative descriptions. In King’s approach, there is an element in his semantic-pragmatic representations that corresponds to the demonstration, though it is of a more general nature – it is a “perceptual intention” by the speaker.

3.1 KAPLAN (1989)

One of the most important formal approaches to deictic expressions is presented by Kaplan (1989a). It is one of the main sources of the so-called “direct reference” theory, according to which demonstratives (and pure indexicals) directly denote their reference, without appealing to the computation of any descriptive, truth-conditional, content. His

approach also assumes that indexicals (including demonstratives) are rigid designators, i.e., the semantic value of these expressions is defined in the context (of utterance) and it remains the same in different possible worlds.

Kaplan's theory appeals to two functions to determine the denotation of demonstratives (and pure indexicals) – the “character” and the “content”. The character is as pre-propositional function that takes a context and returns a content. The content, in its turn, is a propositional element that maps a possible world to a semantic value. These functions can be represented as follows:

- (3) If E is an expression, “context_E” is the context in which E is uttered and “world_E” is the world relative to which E must be evaluated in context_E, then:

$$(a) \text{Character}_E(\text{context}_E) = \text{Content}_E$$

$$(b) \text{Content}_E(\text{world}_E) = \text{Semantic Value}_E$$

From the above representations of the functions “character” and “content”, it is not immediately clear that Kaplan has in mind any particular role for demonstrations in the semantic characterization of demonstrative expressions. But, then, he says:

Demonstratives are incomplete expressions which must be completed by a demonstration (type). A complete sentence (type) will include an associated demonstration (type) for each of its demonstratives. Thus each demonstrative, d, will be accompanied by a demonstration, δ, thus: d[δ]. The character of a complete demonstrative is given by the semantical rule:

In any context c, d[δ] is a directly referential term that designates the demonstratum, if any, of d in c, and that otherwise designates nothing. (KAPLAN, 1989a: 771 - 772)

As we can observe, Kaplan states that demonstrative expressions are semantically incomplete without demonstrations (or some other physical gesture). This indicates that demonstrations are “logical components” of the semantics of demonstratives. This is of course reinforced by the sketch of formalization Kaplan introduces, i.e., “d[δ]”: the demonstration is the input to (the character of) the demonstrative. Since characters take as input contexts, which Kaplan conceives as tuples of “indices” (the speaker, time, location, etc., of the utterance), we can deduce that Kaplan is assuming that the demonstration is one of these indices. The character of a demonstrative takes as input a context and this additional index in order to determine the content of the demonstrative – namely, the demonstratum of the demonstration, which will be the referent denoted by the demonstrative. There are many

ways of making more explicit what Kaplan has in mind here, but we might incorporate these observations into (3) as follows:

- (4) If D is a demonstrative, “ context_D ” is the context in which D is uttered, δ is a demonstration towards some demonstratum d in context_D , and “ world_D ” is the world relative to which D must be evaluated in context_D , then:
- (a) $\text{Character}_D(\text{context}_D, \delta) = \text{Content}_D = d$, if there is a d ; otherwise, D has no content (hence, no semantic value).
- (b) $\text{Content}_D(\text{world}_D) = \text{semantic value}_D = d$

Note that, according to (4), the character of a demonstrative gives its referent directly (it is the *demonstratum* of the demonstration δ), and this is the content of D irrespective to the world in which the utterance is interpreted. This, of course, incorporates Kaplan’s idea that demonstratives are rigid designators.

Now, let us see how this would work for a case like

- (5) *That woman* [pointing] is my aunt,

the demonstrative description would have the content given by the entity pointed at (Mary) in the context, and the content of the utterance would correspond to ‘Mary is my aunt’. Of course, the utterance would, then, be true if ‘Mary is my aunt’ is true in the world in which (5) was uttered; otherwise, (5) would be false.

If we want to be a bit more specific about Kaplan’s way of expressing the direct reference of demonstratives, we might explicitly incorporate his treatment of the context as a tuple of indices. Suppose, then, the relevant context of utterance for (5) is $c^* = \langle c_a = \text{Peter}, c_h = \text{July}, c_t = 2015, c_l = \text{Porto Alegre}, c_w = w^*, c_\delta = \text{Mary} \rangle^6$ – hence, $\text{that}[\delta] = \text{Mary}$. Now, the character and the content of (5) could be represented as in the following:

- (6) $\text{Character} [(5)] = \lambda c \lambda w [\text{that woman}[\delta] \text{ is aunt of } c_a \text{ in } w]$
 $= \lambda c \lambda w [c_\delta \text{ is aunt of } c_a \text{ in } w]$

$$\text{Content} [(5)] = [[\text{Character} (S)] (c^*)] (w^*)$$

⁶ In the relevant context c^* , c_a , c_h , c_t , c_l , c_w and c_δ respectively represent agent, hearer, time, local, world of the context and demonstrated object.

$$\begin{aligned}
&= [\lambda c \lambda w [c_{\delta} \text{ is aunt of } c_a] (c^*)] (w^*) \\
&= \lambda w [\text{Mary is Peter's aunt}] (w^*)
\end{aligned}$$

Again, the character of the demonstrative description ‘that woman’ is a function that takes the demonstration δ as input and directly returns the referent pointed at (Mary).

We went to some detail in this presentation of Kaplan’s suggestions in order to make explicit two points we find crucial: (a) demonstrations are logical elements of the representations Kaplan would assign to demonstratives – in particular, they are part of the context, hence logical arguments of the character of a demonstrative; (b) since the character of a demonstrative turns out, as a result, an individual as the “content” of the demonstrative, the noun *woman* has no contribution to the truth conditions (the “contents”) of the utterance (as Kaplan himself recognizes, and many of his critics have criticized). Observation (a) is the reason why we say demonstrations are “essential” elements in Kaplan’s semantics for demonstratives. And observation (b) is the basic reason why – as the literature has repeatedly pointed out – Kaplan’s analysis will not generalize to non-referential uses of demonstratives (See Wolter 2006, among others, for discussion).

Likewise Kaplan (1989a), King (2001) and Roberts (2002) also include demonstrations in their formalizations for the semantics of demonstrative expressions.⁷ That is, these approaches also take demonstrations as essential elements in the semantics of demonstratives.

3.2 KING (2001)

King (2001) presents a quantificational account of demonstrative descriptions (“*that* phrases”) in which the determiner contributes (to propositions) with a two-place relation saturated by properties. According to King, the speaker who utters a demonstrative description has a “perceptual intention” that can be expressed by pointings. So, demonstrations are part of the meaning of demonstratives in the sense that they “express” a perceptual intention, and this perceptual intention is a logical component of the semantics of the demonstrative phrase. What is this “perceptual intention”? Basically King’s way of

⁷ In a later paper, “Afterthoughts”, Kaplan revises his theory in a way that demonstrations are not in themselves inherent to the interpretations of demonstratives. Now he regards “[...] directing intention [...] as criterial, and [...] the demonstrations as a mere *externalization* of this inner intention. The externalization is an aid to communication, like speaking more slowly and loudly, but is of no semantic significance” (1989b: 582).

encoding direct reference: it is the speaker's intention of singling out a particular referent when she utters a demonstrative phrase. In his own words: "[...] the speaker is perceiving something [the object of the perceptual intention] in her physical environment and has an intention to talk about it" (KING, 2001: 29).

Now, how does this work technically? King's implementation of the idea is pretty complicated. Being a quantifier, *that* is a relation between two properties, one denoted by the NP, and the other by the VP. Besides, the semantics of *that* is such that it requires the property denoted by the NP to be 'jointly instantiated in w, t ' with another property. This last property is the crucial one for us here: it corresponds to the property picked up by the speaker's perceptual intention, expressed by the demonstration. Logically, it is the property of 'being identical to A ', where A is the individual who is the object of the perceptual intention of the speaker, that is, the individual picked up by the demonstration. In King's words:

If a speaker utters 'That F is G ' with a perceptual intention whose object is b in a context whose world and time are w, t , the four-place relation expressed by 'that' has two of its argument places saturated by properties determined by the speaker's intentions. These properties are the property of being identical to b , which saturates the second argument place in the four-place relation expressed by 'that', and the property of being jointly instantiated in w, t , which saturates the third argument place in the four-place relation expressed by 'that' (KING 2001: 45).

Thus, under King's view, a sentence of the form $[_S [_{DP} \textit{that} [_{NP} F]] [_{VP} G]]$ would have the following logical form schemes, where (7) corresponds to the "lexical entry" of *that*, and (8) corresponds to the logical form resulting of satisfying the two arguments of *that*:

- (7) $\lambda P \lambda Q [P \text{ and the property of being identical to } b \text{ are uniquely jointly instantiated in } w \text{ and } t \text{ in an object } x \text{ and } x \text{ has } Q]$
- (8) The property of being F and the property of being identical to b are uniquely jointly instantiated in w and t in an object x and x has the property of being G .

Consider how this would result in the case of a sentence like (9); (10) provides King's representation in case the speaker does express his perceptual intention (by pointing), and (11) provides the representation in case he does not:

- (9) *That book* is famous.

- (10) The property of being a book and the property of being identical to *b* are uniquely jointly instantiated in *w* and *t* in an object *x* and *x* has the property of being famous.
- (11) The property of being a book and the property ?? are uniquely jointly instantiated in *w* and *t* in an object *x* and *x* has the property of being famous.

That is, lack of pointing simply would make it impossible to identify the property with which the property denoted by the noun must be jointly instantiated in *w* and *t*. Crucially for us, this property is ‘the property of being identical to an individual *b*’, the individual picked up by the pointing. That is, though the logical component corresponding to the pointing is not, in King’s semantics, the individual picked up by the pointing itself, it does contain this individual: it is ‘the property of being identical’ to this individual.

King’s semantics is, then, an indirect way of expressing the “direct reference” theory of demonstratives: it does represent the particular individual picked up by pointing (or “intended to be perceptually picked up” by the speaker) in the logical form of the utterance. Just like Kaplan, it does contain a logical element directly corresponding to the demonstration – the property of being identical to the individual pointed at. However, King’s approach does improve on Kaplan’s: for example, now the denotation of the noun in a demonstrative description is part of truth conditions of the utterance; so, King’s approach can go beyond referential uses of demonstrative descriptions.

3.3 ROBERTS (2002)

Roberts (2002) presents a presuppositional account of demonstratives in a dynamic semantics. She claims that demonstrative descriptions have presuppositions of uniqueness and familiarity. In this sense, sentence (2), repeated below, would be formally represented as (12).

- (2) [A house far away is burning out. Someone points to it and says:]
– *That house* is on fire; let’s call the fire-fighters!

(12) Given a context of evaluation C , with common ground CG , such that $Dom_{CG} \subseteq Dom_C$, and a discourse referent S such that $\forall i \in Dom_{CG}$ and $\forall \langle w, g \rangle \in Sat_{CG}$ [speaker(w)($g(i)$) $\leftrightarrow i = S$], if a [-proximal] demonstrative NP_x with descriptive content $Desc$ is felicitous in C , i.e., if $\exists x \in Dom_{CG}$ and $\|NP_x\|_C = x$,⁸ then:

- (i) $\exists \delta$ [$\delta \in Dom_{CG}$ & $\forall \langle w, g \rangle \in Sat_{CG}$ [demonstration(w)($g(\delta)$)] & accompanies(w)($g(\delta)$, utterance ('woman' _{x}))], and
- (ii) $\exists j \in Dom_{CG}$ [$\forall \langle w, g \rangle \in Sat_{CG}$ [-proximal(w)($g(j)$), $g(S)$) & demonstratum(w)($g(j)$, $g(S)$, δ)] & $\forall k \in Dom_{CG}$ [$\forall \langle w, g \rangle \in Sat_{CG}$ [-proximal(w)($g(k)$, $g(S)$) & demonstratum(w)($g(k)$, $g(S)$, δ)] $\rightarrow k = j$ & Desc(w)($g(j)$)] & (iii) $j = x$ ⁹]]

In (12), the demonstration is represented by ' δ ' in clause (i), which states that there is a “familiar demonstration in the common ground” associated to the utterance of the demonstrative description. That is, the demonstration is part of the felicity conditions – in particular, of the presuppositions – a demonstrative description must meet in order to refer. Clause (ii) says (according to Roberts 2002: 31) that there is a discourse referent familiar in the CG which is the unique *demonstratum* (entity being demonstrated) of this demonstration and which satisfies the NP's descriptive content. Finally, to the clause (iii), the discourse referent for this *demonstratum*, ' j ', is the same as that for the demonstrative NP, ' x '.

3.4 A PROBLEM FOR DEMONSTRATIONS AS ESSENTIAL ELEMENTS

Since for Kaplan (1989a), Roberts (2002) and King (2001) demonstrations correspond to specific elements in the way they formalize meaning representations of demonstratives, we claim demonstrations are “essential elements” for the interpretation of demonstrative descriptions in their theories. Now, this conception faces a problem in deictic

⁸ We added this condition to Roberts's formalization to make it clear that the description (NP) is felicitous in C iff there is a referent (x) corresponding to it in C .

⁹ The index used by Roberts (2002) is ' i ', but we changed it to avoid confusion of this ' i ' (the NP's index) with the index ' i ' representing the speaker.

cases in which demonstrations are not used but the referent is still determined. Usually, in such cases “salience” is present. Consider (13), for example.

- (13) [A group of students is laughing and talking loudly in the faculty library. The chief librarian – without any pointing – whispers to John, his secretary:]

– *Esses alunos* estão incomodando todo mundo!

“*These students* are disturbing everyone!”

(13) shows that a demonstration is not the (only one) element responsible for fixing the referent of a demonstrative description because there are cases in which it does not occur, and the referent is successfully determined anyway. This type of example shows that conceptions such as Kaplan’s, Roberts’s and King’s are inappropriate for some deictic uses of demonstratives (in which there are no demonstrations associated).¹⁰ All these approaches differ in the way they formalize “direct reference” and in the role they assign to demonstrations (in particular, they differ in the level of complexity of the formalization). However, they have in common the fact that there is an element in the semantic and/or pragmatic representations of demonstratives that corresponds directly to demonstrations – beyond other relevant, independently necessary, indices: speaker, time, world, etc.

Of course, cases like (13) pose the following question: how can we explain the absence of demonstrations in some deictic uses of demonstratives descriptions? Our suggestion is that demonstrations *are not* essential elements *per se*, because they may not be necessary for the expression’s interpretation; in (13), for example, they can be replaced by “contextual salience”. In the next section, we show that also other authors take a similar view, opposing analyses such as those proposed by Kaplan, Roberts and King. In fact, we briefly consider the status of demonstrations in Wolter (2006)’s theory of demonstratives: although she is not explicit with respect to the status of demonstrations in the way she

¹⁰ One could say that King’s theory does not fail in cases such as (13) because the referent is salient enough in the context and so the pointing is not necessary to represent the speaker’s intention to refer to it. But there are cases such as the following:

[A pen, a key and a valet are on a table’s corner. John points to them and says, referring to the pen:]

(a) – # *Aquela* é minha. “That is mine.”

(b) – *Aquela caneta* é minha. “That pen is mine.”

Here, the pointing cannot be simply an expression of the speaker’s intention to refer to a specific referent – indeed, the pointing by itself cannot pick up such a referent, as shown in (a). The pointing seems to simply delimit a spatial area of the communicative situation in which the interlocutor should identify the referent – as we will see, in Wolter’s terms we can say the demonstration identifies a subsituation. In cases such as the above, an additional semantic restriction imposed by a NP is necessary and crucial for the determination of the referent, as in (b). For a detailed discussion, see Teixeira and Menuzzi (forthcoming).

conceives the semantics of demonstratives, we will argue that the formal tools her theory develops are very close to what is required – and that these formal tools do not require direct reference to demonstrations.

4. DEMONSTRATIONS AS “NON-ESSENTIAL ELEMENTS”

Let us discuss the opposite point of view about demonstrations, which is the position we take. We claim *demonstrations* have no particular, “essential”, status in the interpretation of deictic demonstrative descriptions. They are simply one among a (large and varied) set of aspects of the context that can determine the way we pick out a particular referent by means of demonstratives. In our view, these elements are, mostly, pragmatic in nature and do not correspond to any particular independent element in the logical representation of demonstratives, a position which is close to the ones proposed by Mount (2008), Bach (1992) and Recanati (2004).¹¹ Bach (1992) and Recanati (2004), for example, emphasize that pointing is not always necessary and can be replaced by other contextual elements:

If you utter ‘that dog’ and the dog you intend to be referring to is the only one around or is maximally salient in some way, you won’t have to do anything more to enable your audience to identify it. Otherwise, you will need to point at it. In so doing, you will be intending to refer to the dog you are pointing at. *But being pointed at is just one way of being salient, and like other ways, is not semantically significant.* (BACH, 1992: 145)

It is generally assumed [...] that the demonstrative refers to the object which happens to be demonstrated or which happens to be the most salient, in the context to hand. *But the notions of ‘demonstration’ and ‘salience’ are pragmatic notions in disguise.* [...] Ultimately, a demonstrative refers to what the speaker who uses it refers to by using it. (RECANATI, 2004: 57)

In the rest of this section, we concentrate on Wolter (2006)’s approach to demonstratives descriptions, which we think provides the adequate formal tools to express this general approach.¹² The first important element in Wolter’s approach is that definite and

¹¹ The qualification that we add to this position by means of “mostly” refers to the following fact: as we will point out below, the domain restriction required by demonstratives and obtained by pointing and other pragmatic means can also be obtained by “conventional” means, namely, additional descriptive, truth-conditional elements in the utterance.

¹² Wolter’s ideas have already been discussed in relation to BrP data, though not discussing the specific issues we address here. In particular, we refer to Vogt (2012), who presents an overview of different theories about demonstratives; Basso (2009), who approaches event anaphora comparing the theories discussed here; and Basso and Vogt (2013), who use Wolter’s theory to explain how demonstratives descriptions can denote subkinds.

demonstrative descriptions are similar, forming “a semantic natural class” of DPs (2006: 54). Wolter works with situation semantics, assuming that all predicates (NPs and VPs) have a situation argument, that is, all predicates must be evaluated with respect to a particular situation.¹³ Of course, in the usual case, the relevant situation is the one in which the utterance is produced, but consideration of other situations may be necessary – for example, in case an “intensional operator” takes scope over the predicate, as in (14):

(14) John *believes* that *elves* exist.

The VP ‘believes’ is evaluated relative to the situation in which the sentence (14) is produced (so, it must be true at the time simultaneous of the utterance’s production and in the same world as the world in which the utterance was produced). However, the clause ‘elves exist’ and the predicate it contains – e.g., ‘elves’ – should not be evaluated in the same situation as the sentence (14), but rather in the situations that are compatible with John’s belief (at the time of the utterance of (14)). The first important point in Wolter’s approach is this: all predicates are evaluated relative to situations, and the predicates within the same sentence can be evaluated relative to different situations.

Taking this into account, Wolter (2006) introduces what we believe to be her main innovation to deal with demonstratives: she proposes that, instead of having one unique “speech situation”, this notion should be factored in two – a general, basic, “speech situation”, and a set of smaller, “speech subsituations”, that compose the basic one. A bit more technically, the notions she adopts are the following:

- (i) *default situations* (which we represent by ‘ s_0 ’, based on Elbourne (2001)): s_0 is the speech situation in which the sentence – in particular its main predicate – is evaluated;¹⁴
- (ii) *non-default situations* (s_i , for $i \in \mathbb{N}^*$): s_i is a proper subset of s_0 .

¹³ According to Kratzer (1989), a situation is a part of a possible world (and a possible world is a maximal situation). Conceptually, the idea is to introduce a kind of relativism similar to the use of possible worlds to express modal relations between propositions. In the case of situations, Kratzer’s motivation is another relation between propositions, namely “lumping”. See Kratzer (1989) for discussion.

¹⁴ We denote by ‘ s_0 ’ a default situation, because it is the only one “constant”, i.e., it always refers to the context of the speech. The subsituations (or “non-default situations”) can change, and therefore we denote them by ‘ s_i ’, for $i = 1, \dots, n$. Wolter (2006, p. 65) states that s_0 can be also called as “described situation” (according to the terminology of classic situation semantics) or “the situation corresponding to the model of the current discourse” (according to the terminology of a dynamic semantics).

Let us see how this works, for instance, in

- (15) John *came* with *that* woman [pointing].

Roughly, the VP ‘came’ is evaluated in the speech situation (the “default situation”) because there is no element indicating that the predicate should be evaluated in a particular “subsituation”; but the NP (‘that woman’) must be evaluated in a subsituation of s_0 , since there is an element – the demonstrative ‘that’, accompanied by pointing in (15) – that indicates the hearer must pick out a referent in a particular, restricted, “subscene” of the speech situation. Of course, in (15), this “subscene” is the one indicated by the pointing: the woman John came with must be the only woman in that subscene, and not some woman in some other subscene of s_0 .

But, how does this work technically? Comparing the lexical entries given by Wolter (Wolter, 2006: 68) to the definite article and to demonstrative determiners, we observe that the later contain all the elements that compose the semantics-pragmatics of the definite article, plus some additional presuppositions:¹⁵

- (16) $[[\text{that}_n]]$: λP . $P(s_n)$ is a singleton set and s_n is non-default. If defined, denotes $\iota x.P(x)(s_n)$.

(WOLTER, 2006: 102)

- (17) $[[\text{this}_n]]$: λP . $P(s_n)$ is a singleton set and s_n is non-default and $\iota x.P(x)(s_n)$ is proximal to the speaker. If defined, denotes $\iota x.P(x)(s_n)$.

(WOLTER, 2006: 109)

- (18) $[[\text{the}_n]]$: λP . $P(s_0)$ is a singleton set. If defined, denotes $\iota x.P(x)(s_n)$.

(WOLTER, 2006: 101).

¹⁵ The lexical items ‘the’, ‘this’ and ‘that’ are associated to a parameter n which will be satisfied by situation variables s_n ; these variables correspond to the situation in which the demonstrative must denote. Observe also that ‘this’ bears more presuppositions than ‘that’, because in English “[...] *that* [is] unmarked for distance from the speaker” (p. 102). With this, Wolter wants to capture the markedness hierarchy of the definite determiners: ‘this’, the most marked one, bears three presupposition-triggering semantic features, ‘that’ bears two, and the definite article only one.

Now, consider, for example, the interpretation a sentence like (19) below. The uniqueness presupposition of ‘the dog’ is satisfied in the “default situation” (which is the same situation of the main predicate, namely, the general speech situation). But in (20), in turn, the uniqueness presupposition of ‘this dog’ has two additional constraints: (i) the NP is evaluated in a “non-default situation”, that is, a “subsituation” of the general speech situation; and (ii) the semantic value is proximal to the speaker.

(19) [[*The dog* is sweet.]] = be-sweet ([λx . dog(x , s_0)]) (s_0)

(20) [[*This dog* is sweet.]] = be-sweet ([λx . dog(x , s_1)]) (s_0)

It is crucial for us here to observe that the lexical entries proposed by Wolter (2006) do not contain any logical element corresponding to demonstrations. Rather, this role is played by the same element generally used to relativize the application of predicates to contexts, namely, the situation indices. The only additional machinery is the idea that demonstratives relativize the interpretation of the predicate to a particular “subscene” of the speech situation; but nothing in the logical representation of demonstratives tells how the speaker and the interlocutor must pick out this particular “subscene”, that is, how they restrict the speech situation to a “smaller” situation. We take this as indicating that this role is left, in general, to pragmatics, just like the determination of the other contextual indices is a matter of pragmatics, too. Hence, it would seem that in Wolter’s approach demonstrations are “non-essential elements”.

According to Wolter (2006), a “non-default situation” (the sort of situation demonstrative determiners require for their interpretation) can be identified by:

- (i) *contextual salience*: “[...] situations, like individuals, are salient if they are physically salient or recently evoked” (2006: 77);
- (ii) *appointments*: “[...] speaker demonstrations establish non-default situations” (2006: 177).

That is, Wolter (2006) claims speaker demonstrations are subsituations establishers. Because of this, a demonstration is one of the pragmatic elements that distinguish default and non-default situations.

Summarizing, in Wolter’s approach, non-default situations are elements necessary for the interpretation of demonstrative descriptions; they are (conventional) parts of the lexical entries of demonstrative determiners; and pointing and contextual salience are contextual, pragmatic ways of identifying particular non-default situations in which a particular demonstrative description must be evaluated. Hence, the distinction between default and non-default situations is the “essential element” for the meaning of demonstratives, and not demonstrations or “contextual salience” themselves. These are just pragmatic ways of identifying which particular “subscene” of the general speech situation must be taken into consideration – that is, of identifying a “non-default situation”. In the next section, we briefly survey a few cases in order to show how this works – in particular, to show that what matters is to have *some way* (depending on the resources contextually available) to identify the “subscene” in the speech situation.

5. IDENTIFYING “NON-DEFAULT SITUATIONS”

Consider the following examples:

- (21) [A couple is having an argument openly in a restaurant; the owner says to the bartender [no pointing]:]

- *Esse casal* está incomodando os outros clientes!
 “*This couple* is annoying the other customers!”

- (22) [A couple is having an argument, but not openly, in a restaurant; the owner says to the bartender [pointing]:]

- *Esse casal* está incomodando os outros clientes!
 “*This couple* is annoying the other customers!”

In (21), the couple is “salient” to anybody in the restaurant, because their behavior is “marked”, attracting the attention of everybody. Hence, the owner does not need to use a pointing to determine the relevant referent of the demonstrative description ‘*esse casal*’. But in (22), the couple is not engaged in a very salient behavior, and they may not even be noticed by their external actions, only by the content of what they say (by those who are close to them, for example); that is, they are not involved in a “marked behavior” and, therefore, a demonstration is necessary.

From the analysis of (21) and (22), we can see that the pointing in (22) and the couple's inappropriate behavior in (21) play similar roles: both allow the interlocutor to identify to which subsituation the owner is referring to. In other words: the pointing and the couple's behavior themselves are not part of what is encoded in the semantic representation of utterances (21) and (22). What is in fact encoded is in which subsituation the interlocutor must check the uniqueness constraint of the demonstrative description. These observations remind us that in approaches such as Kaplan (1989a), Roberts (2004) and King (2001), demonstrations (and salience) are externalizations of "perceptual intention" of directly determining the referent. In Wolter's theory, these elements do not have a role by themselves in the logical form of the utterance; rather, they are pragmatic means of establishing non-default situations, which, we stress, play the same logical role as the situation variables responsible for, say, relativizing the truth conditions of predicates under modal operators. Thus, the pointing or the couple's behavior in (21) and (22) are "non-essential elements" in the interpretation of the demonstrative descriptions, while the identified subsituation is "essential".

From the lexical entries proposed by Wolter (2006), presented in section 4, we observe that the uniqueness of definite descriptions (in (18)) must be satisfied in the discourse domain of referents, available in the general speech situation (s_0). However, for demonstratives (in (16) and (17)) the domain of referents is restricted to subsituations (s_i) of the speech situation; pointings and salience, however, are not part of the lexical representations of demonstratives. Examples like (21) and (22) seem to support this distinction: demonstrations and "salience" of people's behavior, for example, are just pragmatic, "utterance-external", means to pick up a relevant "subscene" in the speech situation; and this imposes a restriction on the domain of referents in which uniqueness must be verified.

As a matter of fact, this restriction effect does not need to be obtained by pragmatic, "utterance-external", means; it may be obtained by additional descriptive content, encoded in a more detailed description. Compare (21) and (22) with (23):

(23) [A couple is having an argument, but not openly, in a restaurant; the owner says to the bartender [no pointing]:]

- *Esse casal sentado perto da janela está incomodando os outros clientes!*
 "This couple sitting near to the window is annoying the other customers!"

In (21) and (22), ‘esse casal’ is uttered in situations where contextual salience and pointing (respectively) are required for the identification of the referent. In (23), in turn, the content of the demonstrative description ‘esse casal sentado perto da janela’ is sufficient to determine the referent. Therefore, contextual salience, demonstration and additional descriptive content are all different means to impose restrictions on the domain of referents in such a way as to permit the uniqueness requirement of the demonstrative description to be satisfied in a subsituation of the speech situation. Context salience and pointings obtain this effect by pragmatic, non-compositional means; additional descriptive content obtain the effect by compositional means. The former are *not* part of the semantic representations of the utterance; the latter is.¹⁶

In (24) below, we see the simultaneous action of both sources of domain restriction (for the sake of simplicity, we ignore the plural semantics of ‘aqueles carros’):

(24) [A salesman and a buyer are inspecting two cars, one red and one white; just behind these two, there are two other cars. The salesman says:]

– *Aqueles carros* [pointing] são novos; *esse vermelho* [no pointing], também.

“*Those cars* [pointing] are new; *this red one* [no pointing], too.”

(24’) $\text{be-new} ([ix. \text{car} (x, s_1)], s_0) \wedge (\text{be-new} ([ix. \text{red car} (x, s_2)], s_0))$

We observe in (24) that the first demonstrative description refers to a subdomain of referents (the cars behind) because the pointing specifies a subsituation. The second demonstrative description also picks up a subsituation, but this time with no pointing: because it opposes to

¹⁶ In Teixeira and Menuzzi (forthcoming), we discuss the effect obtained by additional descriptive content in a more detailed way. In particular, we show that the effect of such content is to ensure that uniqueness is satisfied whatever the subsituation the deictic component is able to focus on. Wolter (2006) discusses this issue in relation to what she calls the “descriptive use” of demonstratives, illustrated in (a):

(a) *That student who scored one hundred on the exam* is a genius. (KING, 2001:3)

In (a) the description denotes a unique referent, but the speaker may not be able to identify it. Following Dayal (1998, 2004), Wolter (2006: 148 and ff.) argues that “the situation variable associated with a postnominal modifier may be independent of the situation variable associated with the head noun [...] If postnominal modifiers are in general “modally independent” from head nouns, as well as from the main predicate, it would not be that surprising for a postnominal modifier to introduce a new situation variable.” Thus, her analysis of (a) is the following (see (93): 151):

(b) $\text{is-a-genius} (ix. \text{student}(x)(s_1) \wedge x = iz. \text{scored-one-hundred} (z)(s_2)) (s_0)$

The subsituations in which the predicates ‘student’ and ‘scored one hundred on the exam’ are evaluated are different; therefore, the referent must be found in a non-default situation which is the intersection of both s_1 and s_2 . Here we will ignore this slight complication, for the sake of simplicity.

the “distal” subsituation specified by the first demonstrative description, the second, non-distal, subsituation can be picked up pragmatically without any demonstration; and the additional descriptive content contributed by “red” allows that, within this second subsituation, one unique car be referred to. This fact shows that demonstrations, pragmatic inference and additional descriptive content all have a similar role in restricting the domain of reference to the point where a demonstrative description can succeed in referring.

In the cases like (22) and (23), the restrictions imposed by “pragmatic means” or by compositional means – although different in nature – “functionally equivalent” in the sense that they are “contextually interchangeable”: we can reach the same communicative goal either using one or the other. But there are occasions in which the speaker has to decide the most “appropriate” way to refer – in which case “pointing” and “additional descriptive content” may not be exactly “equivalent functionally”. And the reasons may be purely pragmatic, as when politeness considerations apply:

- (25) [In a conference, three professors are involved in a debate. João is in the audience; he does not know one of the professors; he turns to Maria and asks [no pointing]:]

– *Quem é aquele professor de óculos?*
 “Who is *that* teacher wearing glasses?”

In (25), pointing would dispense the need for the predicate “x is wearing glasses”; but it might be felt as an impolite act, or João might just not want to call the attention of the rest of the audience, for instance. Definitely, pointing is just one among different means to obtain a pragmatic effect, namely, to identify a subdomain of referents in the domain of the speech situation. We think Wolter’s approach is able to obtain this result with a simple and elegant solution: it just requires a slight enrichment of the indexation system independently needed both for deixis and for evaluating predicates relative to contexts (in her case, the indexation system based on situations).

It should also be noticed that, although pointings are not “essential” for the demonstratives interpretation, “deixis” is – indeed, the reference to speech situation defined by means of the distinction between “default/non-default situation” is a way of formalizing deixis. Moreover, it should also be noticed that this element of deixis – the identification of the non-default situation – does *not* coincide with another, independent, piece of contextual information required by demonstratives, namely, the element responsible for its “spatial deixis”. This is the element responsible for “spatially locating” the referent of the

demonstrative with respect to another contextual index, usually the speaker or the hearer. For example, a demonstrative like ‘this N’ must identify a referent that is spatially (or otherwise) close to the speaker.¹⁷

That the constraint requiring spatial location of the referent with respect to the speaker is independent from pointings or other means of identifying the relevant “non-default situation” is shown by cases like (21) or (22) above. In (22), for instance, pointing would be sufficient to identify the relevant subsituation unambiguously (whether it was close or distant from the speaker). Still, the utterance would be inadequate if, instead of using ‘esse’ (this), the speaker had used ‘aquele’ (that): the use of ‘esse’ (this) indicates that the subsituation (and the referent picked out by the description) must be close to the speaker. Suppose the owner and the bartender are in the restaurant’s bar; so, the relevant couple must be close to the bar, and not, say, on the other side of the restaurant’s room. Similar considerations apply to (21) – “marked behavior” would be sufficient to identify the relevant subsituation; still, the spatial deixis encoded by the demonstrative must be satisfied. The example below makes the same point:

(26) [In a funeral, John is laughing while Peter whispers a funny story to him. John is *close* to the priest conducting the ceremony. Bothered, the priest says [no pointing]:]

- (a) – *Esse rapaz não respeita os mortos.*
“*This young man* does not respect the dead”
- (b) – # *Aquele rapaz não respeita os mortos.*
“#*That young man* does not respect the dead”

Now, the crucial thing to be noticed is: in examples like (21), (22) or (23), either a “salience”, or a pointing, or an additional descriptive content would be sufficient for the proper identification of the relevant subsituation; still, the speaker cannot just choose any demonstrative, but must rather use the one that satisfies the spatial location constraint.

The conclusions we reach from the discussion of the present section are:

¹⁷ Of course, “spatial location” here is just a short term to refer to whatever goes on in the complex system of location underlying demonstratives. The relevant scales of “distance” can be many: spatial properly speaking (‘this man sitting next to me’), temporal (‘that period we lived in Bangladesh’), modal (‘those who sin shall pay for theirs sins’), etc.

(i) Pointings, salience and additional descriptive content can compete among themselves, so they can perform a similar “function” – in Wolter’s theory, the identification of the relevant non-default subsituation.

(ii) But this function is not the same as the one performed by the “spatial deixis constraint” imposed on demonstratives. Indeed, though a pointing might be seen as a way of unambiguously locating a referent in space, “salience” or “additional descriptive content” cannot be seen as such; still, pointings are interchangeable with “salience” or “additional descriptive content”, but these are not interchangeable with spatial deixis (cf. the felicity of ‘esse’ (this) vs. the nonfelicity of ‘aquele’ (that) in (21)-(23) above).

(iii) Thus, demonstratives encode two specific, independent, deictic constraints. One is “flexible” in the sense that its satisfaction can be obtained by different (pragmatic or compositional) means. This is the deictic constraint that requires demonstratives to pick out a unique referent in a contextually identifiable non-default situation. The other deictic constraint is not “flexible” in this way; in particular, it must be satisfied irrespectively to the way the relevant non-default situation has been identified.

(iv) Hence, we conclude that, just like reference to a subsituation, the spatial deixis constraint is an “essential” element in the semantic representations of demonstratives. We stress, once more, that pointings, demonstrations, etc., on the other hand, are not “essential” to demonstratives. Moreover, we do not believe – following Siegel (2002), Recanati (2004) and Borg (2009) – that they are related to the spatial deixis constraint. Rather, pointings, demonstrations, salience, etc., perform another deictic function in demonstratives: they are means of identifying a non-default situation, as proposed by Wolter (2006).

6. IS IT NECESSARY TO HAVE TWO DEICTIC COMPONENTS? ON INDEXING.

So far, we have argued that demonstrations, additional descriptive content and salience are not themselves essential elements in the semantics of demonstratives descriptions. Rather, they are just means to identify the value of the *situation-variable* with

respect to which the predicate of the description must be interpreted. Recall that the interpretation of DPs relative to a situation is a way of capturing the fact that DPs refer *in contextually restricted domains of discourse*, rather than in the entire domain of entities. Moreover, when the DP is interpreted relative to the actual speech situation (in Wolter's terms, the "default situation") and refers to an entity in this situation, we have of course a case of *deixis*. But this is a deictic component that is not particular to demonstratives; rather, it is common to all DPs that refer to entities in the speech situation (definite descriptions, pronouns, etc.).

Now, demonstrative determiners differ from the definite article in that they require that the situation-variable be identified as a "non-default situation", that is, *a proper subsituation of the default situation*. Of course, this implies *an additional restriction on the domain of reference*, for it is a restriction on the one already encoded by relativizing the interpretation of DPs to situations (which, in general – in absence of modal operators, in particular – will be the speech situation, that is, the default situation). The demonstrative's relativization to a non-default situation, being a subclass of the relativization to the speech situation, is of course also a case of *deixis*. But now this deictic component in the interpretation of demonstratives *is* particular to demonstratives (hence, encoded in their lexical entries) – other deictic DPs are not required to be interpreted in a non-default situation; they are just like any other expression, required to be interpreted in the speech situation.

Finally, as we have seen, for a demonstrative description to be used felicitously, the referent it denotes must satisfy a further constraint: the referent must be among the entities spatially located close to, or distant from, the speaker (or whatever the center of *deixis* that language chooses) – that is, demonstratives also satisfy what we have called the *spatial deixis constraint*. Of course, this is also a case of *deixis*, for it depends on one of the speech situation indices, e.g., the speaker. Note that the spatial *deixis* constraint also imposes *an additional restriction* on the domain of reference of demonstratives – the referent they pick up must be found among a subset of the referents in the speech situation, namely those close to, or distant from, the speaker. And note, further, that this deictic component is also particular to demonstratives, hence also encoded in their lexical entries (definite descriptions, again, do not abide to this constraint).

So, let us now summarize the deictic components we can identify in the semantics of demonstratives we have adopted, based on Wolter's analysis – these are the deictic elements that distinguish demonstrative descriptions from definite ones:

<i>Component</i>	<i>Effect on the domain</i>	<i>Nature</i>
(i) predicate interpreted relative to a situation;	restriction	general to DPs (including definite descriptions)
(ii) the situation must be a non-default one;	additional restriction	particular to demonstratives
(iii) the spatial deixis constraint;	additional restriction	particular to demonstratives

Table 2: Deictic components of demonstratives.

The table above reveals a conceptual problem in the approach we have been developing: our analysis resorts to *two* deictic components particular to demonstrative descriptions in order to capture their behavior and distinguish them from definite descriptions; moreover, both components have the same domain effect, namely that of restricting it. So, it would seem that the approach has some redundancy, and one might wish to eliminate one of the deictic components adopted. Since components (i) and (iii) are not dispensable – (i) is required for all DPs, and (iii) is an unavoidable fact about demonstratives –, one might think that component (ii) is the redundant one. But (ii) is precisely the innovation proposed by Wolter, which we adopted as a way of unifying the contextual role of demonstrations, salience and additional descriptive content in the interpretation of demonstratives. Now, can we discard (ii)?

We believe we cannot, and that this additional complication in the system of indices is necessary. Consider (27), an example adapted from Heim and Kratzer (1998: 243, ex. (6)):

- (27) [Two pictures are side by side on the wall in the back of room; between them stands a vase; at the door of the room, next to Peter, John says [pointing first to one of the pictures, then pointing to the other; no pointing to the vase]:]

- *Aquele quadro_{s1} é bonito; aquele quadro_{s2} não; o vaso_{s0} também é bem bonito.*
 “*That picture is beautiful; that picture is not; the vase is very nice, too.*”

Note that the only thing that can distinguish the two occurrences of ‘aquele quadro’ in this case is the situation-indexing, that is, the fact that each occurrence is interpreted relative to a particular non-default situation, pragmatically identified by means of the pointings in (27). Crucially, *neither the descriptive content nor the spatial deixis constraint can distinguish the two occurrences*, because they are the same in both and they are satisfied in the same way by the two referents. Moreover, it is clear that we cannot make the distinction by saying that each occurrence corresponds to a different speech situation – that is, by resorting directly to

the speech situation index itself. In that case, we would not be able to distinguish the felicity conditions of the demonstrative descriptions and of the definite description (which, as the example shows, can satisfy uniqueness by reference to the default situation). That is, examples like (27) show that we do need to resort to the indexing system quite independently of the spatial deixis requirement and of descriptive content, and it will not do to resort to speech situation index directly; some reference to *subsituations* of the speech situation will be necessary, as proposed by Wolter.

Of course, instead of following Wolter, who complicates the system of situation indexing (introducing the distinction between *default* and *non-default* situations), we might try to solve the problem resorting to another indexing system. For example, Heim and Kratzer (1998) attach *referential indices* directly to deictic pronouns:

(28) *She*₁ is taller than *she*₂.

According to Heim and Kratzer (1998), the utterance of (28) is felicitous if the utterance situation provides values for the two occurrences of the pronoun ‘she’. How does this work? For them, the utterance situation fixes “[...] a certain partial function from [referential] indices to individuals” (1998: 243). That is, the utterance as a whole is interpreted relative to a situation index; and this index is associated with a particular function from (referential) indices to individuals, which are then identified as the value of the pronominal occurrences. We abbreviate this interpretative procedure in (28’) below (where *a* and *b* are individuals):

(28’) [*She*₁ is taller than *she*₂](*s*₀) = [*s*₀(1) is taller than *s*₀(2)] = [*a* is taller than *b*]

Now, if we adapt the same basic suggestion to an utterance like (27) above, we have the following situation (we ignore the definite description in (27) in order to avoid discussing the details of Heim and Kratzer’s treatment of definite descriptions):

(27’) [*Aquele*₁ *quadro* é bonito; *aquele*₂ *quadro* não] (*s*₀) =
 [*s*₀(1) is a picture and *s*₀(1) is beautiful, and *s*₀(2) is a picture
 and *s*₀(2) is not beautiful] =
 [*a* is a picture and *a* is beautiful, and *b* is a picture and *b* is not beautiful]

What is the problem with this analysis? Clearly, it would amount to a version of the direct reference theory of demonstratives, perhaps with a way of taking into consideration the compositional contribution of the descriptive content of the description (unlike what happens in Kaplan's theory; for arguments in favor of an analysis along the lines of (27'), see Amaral 2014). Of course, such a theory would suffer many of the weaknesses of the direct reference theory: e.g., it would not generalize to non-referential uses of demonstrative descriptions; it would not capture the intuition that demonstrative descriptions satisfy a uniqueness constraint, just like definite descriptions, but in a subpart of the speech situation, etc.¹⁸

There is an additional argument in favor of Wolter's indexation approach, as we have understood it here. Consider (29) below, a slightly modified version of (27), with its corresponding indexing representations and semantics under Wolter's approach (30a), as well as a Heim and Kratzer's type of analysis (30b):

- (29) [Two pictures are side by side on the wall in the end of room; at the door of the room, next to Peter, John says, pointing only when uttering the first demonstrative description:]

– *Aquele quadro* [pointing] é bonito; *aquele outro (quadro)* [no pointing], não.
 “That picture [pointing] is beautiful; that other (picture) [no pointing] is not.”

- (30) a. *Aquele quadro*_{s1} é bonito; *aquele outro (quadro)*_{s2}, não.
 is-beautiful ([ix. picture (x, s₁)], s₀) ∧
 not (is-beautiful ([iy. picture (y, s₂) ∧ other (y, [ix. picture (x, s₁)])], (s₀))
- b. *Aquele*₁ *quadro* é bonito; *aquele*₂ *outro (quadro)*, não.
 [s₀(1) is a picture ∧ s₀(1) is beautiful] ∧
 [s₀(2) is a picture ∧ s₀(2) is other than s₀(1) ∧ s₀(2) is not beautiful] =
 [a is a picture ∧ a is beautiful] ∧
 [b is a picture ∧ b is other than a ∧ b is not beautiful]

The crucial point about (29) is that, unlike what happens in (27), the utterance is felicitous *without any pointing accompanying the second demonstrative description*. Under Wolter's approach, as we understand it, the explanation is simple: (29) is just like the other cases in which additional descriptive content compositionally contributes to the identification of a

¹⁸ Note also that Heim & Kratzer's theory assumes that the role of the index is to pick up a referent – which presumes that pointings will always point to referents. But it can be proved that this is incorrect, and in many situations pointings just help delimit a spatial area where the referent must be found. See Teixeira and Menuzzi (forthcoming) for detailed discussion.

proper non-default situation (that is, a subsituation in the speech situation); hence, pointing is dispensed with. In this particular case, “other” tells the listener to look for a referent that is different from the one picked up in the subsituation to which the speaker has pointed. That is, by “other” the listener is prompted to search a different (distal) subsituation in which there is another unique picture; given the context (the pictures are side by side), there is no problem for the listener to identify this new subsituation – and the corresponding referent. In this analysis, the descriptive content of “other” has a clear contribution to the identification of the referent, and it dispenses with a demonstration.

Now, under a Heim and Kratzer’s type of analysis, indexing is a means to directly identify the referent denoted by the demonstrative pronoun in the context. Of course, different referential indices are assigned to DPs on the assumption that they denote different referents (unless the speaker intends to suggest “accidental coreference”; see Evans 1980); thus, the two DPs in (30b) must be assigned different indices and must refer to different referents (indeed, just like in (28’)). But then, why is “other” necessary in the first place? And why does it dispense with the pointing? That is, if indexing is a way of directly assigning referents to DPs, and if demonstrative descriptions are to be assigned referents in this way, it is unclear how to account for the interaction between indexing and descriptive content, and how the latter may eventually dispense with pragmatic means of determining the relevant index.¹⁹

If the arguments we presented above are on the right track, we can say that Wolter’s theory and the distinction between default and non-default situations is a tool more suitable to express the context-dependence of demonstrative descriptions than direct reference. Recall, also, that our discussion has shown that Wolter’s approach is correct in postulating two deictic components for demonstratives – the relativization to non-default situations and the (independently required) spatial deixis constraint. Finally, the discussion in this section further confirms our point of view on demonstrations, pointings, etc.: they are not themselves “essential elements” in the deictic uses of demonstrative descriptions; the essential task in the interpretation of demonstratives is to identify, by some resource, a particular non-default situation. The relevant resources may be pragmatic (e.g., pointing, salience), compositional (additional descriptive content), or even inferences carried out by means of the combination of these two sources of information, as in (29).

¹⁹ Indeed, the final semantic representation in (30b) contains an uninformative tautology (‘*b* is other than *a*’, which amounts to say that an individual is different from another individual!). This clearly indicates that the way we sketched Heim and Kratzer’s approach to indexing cannot be correct and certainly does not do justice the semantics of descriptions we might develop from their suggestions.

7. CONCLUSION

If our suggestions are correct, taking demonstrations as conventional elements in the meaning of demonstrative descriptions is incorrect. This is not only indicated by the fact that there are deictic uses in which the demonstration is not present, but especially by the fact that the demonstration can be “functionally equivalent” to other elements that cannot have the same logical representation – such as additional descriptive content. We believe, then, that we are entitled to say that Kaplan, Roberts and, perhaps, King are mistaken in reserving a specific role for demonstrations (and similar entities) in the pragmatic-semantic representations of demonstratives.

Under our view of Wolter’s proposals, demonstrations should have no particular status with respect to the pragmatic-semantic representations Wolter gives for demonstratives (despite the way Wolter herself stresses the role of demonstrations). In our terms, demonstrations are “non-essential elements” in the semantics-pragmatics of demonstratives. We think Wolter’s theory allow us to make clear what the contribution of demonstrations is: like contextual salience and other means, it is just a resource to determine what is really essential in the semantics of demonstratives – in which non-default situation must satisfy uniqueness. Let us stress that, for us, this is a breakthrough: it is an enrichment of a formal device that is required anyway, namely the relativization of the interpretation of expressions to situations (cf. Kratzer, 1989).

Finally, we note the reader that, though the relativization to non-default situations must be seen as a “deictic” component of the interpretation of the demonstratives, it should not be taken as related to the spatial deixis information carried by demonstratives: both are independently required and should be seen as “conventional” aspects of the meaning representations of demonstrative determiners, as in Wolter’s proposal.

BIBLIOGRAPHY

1. AMARAL, Felipe S. Are Complex Demonstratives Synonymous with Definite Descriptions? *Revista de Estudos da Linguagem*, V. 22, n. 1, 2014.
2. BACH, Kent. Intentions and Demonstrations. *Analysis*, V. 52, 1992.
3. BASSO, Renato Miguel. A Semântica das Relações Anafóricas entre Eventos. Doctoral Dissertation. Universidade Estadual de Campinas, Campinas, 2009.

4. BASSO, Renato Miguel; VOGT, Diego Rafael. Weak demonstratives: are there any? *Revista da Abralin*, 2013.
5. BORG, Emma. The place of referential intentions in linguistic content. *Manuscrito*, V. 32, special edition on semantics/pragmatics, 2009.
6. ELBOURNE, Paul. *Definite Descriptions*. Oxford University Press, 2013.
7. EVANS, Gareth. Pronouns. *Linguistic Enquiry*, V. 11, n. 2, 1980.
8. HEIM, Irene; KRATZER, Angelika. *Semantics in Generative Grammar*. Oxford: Blackwell Publishers, 1998.
9. KAPLAN, David. Demonstratives. [1989a] In: DAVIS, Steven; GILLON, Brendan. S. *Semantics: A Reader*. New York: Oxford University Press, 2004.
10. KAPLAN, David. Afterthoughts. In: ALMOG, Joseph; PERRY, John; WETTSTEIN, Howard. *Themes from Kaplan*. New York: Oxford University Press, 1989b.
11. KRATZER, Angelika. An investigation of the lumps of thought. *Linguistics and Philosophy*, V. 12, 1989.
12. KING, Jeffrey. *Complex Demonstratives: a quantificational account*. Cambridge: MIT Press, Cambridge, 2001.
13. LEVINSON, Stephen. *Pragmatics*. Cambridge: Cambridge University Press, 2008.
14. MOUNT, Allyson. The impurity of 'Pure' indexicals. *Philosophical Studies*, v. 138, 2008.
15. RECANATI, François. *Literal Meaning*. Cambridge: Cambridge University Press, 2004.
16. REIMER, Marga. Three views of demonstrative reference. *Synthese*, V. 93, n. 3, 1992.
17. Roberts, Craige. Demonstratives as definites. In: van Deemter, Kees; Kibble, Rodger. *Information Sharing*. Stanford, CA: CSLI, 2002.
18. Roberts, Craige. Uniqueness in definite noun phrases. *Linguistics and Philosophy*, V. 26, 2003.
19. SIEGEL, Susanna. The Role of Perception in Demonstrative Reference. *Philosophers' Imprint*, V. 2, n. 1, 2002.
20. VOGT, Diego. Rafael. *Por um tratamento semântico das descrições demonstrativas*. Master Thesis. Universidade Federal de Santa Catarina, Florianópolis, 2013.
21. Wolter, Lynsey Kay. *That's That: The Semantics and Pragmatics of Demonstrative Noun Phrases*. Doctoral Dissertation. University of California, Santa Cruz, 2006.