

# Demonstratives, Definiteness and Determined Reference<sup>1</sup>

Lynsey Wolter

University of California, Santa Cruz

## 1. Introduction

This paper is concerned with three puzzles about English demonstrative descriptions. Addressing these puzzles leads to a new analysis of the English demonstrative determiner *that* and to new considerations about the relation of demonstrative descriptions to other definite noun phrases.

First, even if we limit our attention to demonstrative descriptions (noun phrases with a demonstrative determiner and descriptive content) and to the demonstrative determiner *that*, we find several varieties of demonstrative descriptions. One well-known variety is the *deictic* use, illustrated in (1) below. Deictic demonstratives refer to something in the context of utterance, they are optionally accompanied by an extralinguistic demonstration, and they are the focus of foundational work on demonstratives by Kaplan (1989).

(1) [Pointing at John] That man is tall.

A second variety of demonstrative description is the *anaphoric* use, illustrated in (2) below. This use is not considered in detail in Kaplan 1989, but it has since been described in other research, notably King 2001 and Roberts 2002.

(2) A dog<sub>i</sub> lives next door. That dog<sub>i</sub> likes to howl at fire trucks.

The third variety of demonstrative description that will be considered in this paper is a construction that has previously received little attention in the literature. I'll call it

---

<sup>1</sup>I am grateful for insightful comments from Donka Farkas, Michela Ippolito, Jim McCloskey, James Isaacs, Line Mikkelsen, and audiences at the UCSC Semantics Reading Group and NELS 2003. Remaining mistakes are mine. The research for this paper was supported by a National Science Foundation Graduate Research Fellowship.

the *explicit demonstrative* construction; it is illustrated below and is characterized by an obligatory postnominal modifier.

- (3) That hero who kills the dragon will inherit half the kingdom.

I will argue that these varieties of demonstrative descriptions can and should be given a unified treatment, and that the consideration of explicit demonstratives leads to new insights into the interpretation and semantic type of the demonstrative determiner *that*.

The second puzzle is concerned with the scopal properties of demonstrative descriptions. Kaplan 1989 argues that demonstratives are scopally inert, based on examples like (4) and (5) below. Example (4) is false, while example (5) is true for most speakers.

- (4) [Pointing at John throughout] If John and Mary switched places, that person would be a woman.
- (5) [Pointing at John throughout] If John and Mary switched places, the person I'm pointing at would be a woman. (Kaplan 1989; Roberts 2002)

Even though the phrase *that person* can be paraphrased as *the person the speaker is pointing at*, the two phrases don't mean the same thing. The definite description can take narrow scope in this sentence, and the demonstrative appears to be scopally inert, taking widest scope only. This led Kaplan to argue that demonstratives have direct reference: that is, the content of the demonstrative does not play a direct role in the main assertion.

Subsequent research has shown that in some circumstances, demonstrative descriptions *can* take scope under various operators. Representative examples are shown below.

- (6) Every dog in the neighborhood has an owner who thinks that dog is a sweetie. (Roberts 2002)
- (7) Scott is going to pick a number. That number could be odd. (King 2001)

I will argue that different varieties of demonstrative descriptions have different scopal possibilities, and that the scopal possibilities of each variety follow from its interpretation.

In addition to accounting for fine distinctions among demonstratives, an account of demonstrative descriptions should address the similarities and differences between demonstrative descriptions as a whole and other definite noun phrases. The distinction between definite descriptions and demonstrative descriptions is of particular interest, given that both have substantive descriptive content. I will argue that the adoption of the determined reference approach to definiteness (Farkas 2002) leads to new insights into the place of demonstrative descriptions among other definite noun phrases.

Section 2 of the paper considers types of demonstrative and definite descriptions in more detail. The observations in section 2 lead to a preliminary analysis of the demonstrative determiner *that*, presented in section 3. The final section implements the analysis in the determined reference approach to definiteness in order to show the place of demonstrative descriptions among other noun phrases.

## 2. Types of Demonstrative and Definite Descriptions

### 2.1 Deictic Descriptions

Demonstrative and definite descriptions can be used to refer to something in the context of utterance. For example, (8-a)–(8-b) below are felicitous if the context contains a cat:

- (8)     a.   The cat is purring.  
       b.   That cat is purring.

The conditions on the deictic use of these expressions are not identical. Example (8-b) is felicitous in a context containing more than one cat. Example (8-a) is not felicitous in a neutral context containing more than one cat, and the standard wisdom (following Russell 1905) is that a definite description requires a unique referent in the context. On the other hand, (8-a) is acceptable if additional information from the context allows the identification of a unique referent: for example, if one cat is more salient than the others or belongs to the speaker. (The relevant pragmatic factors have been described by Löbner 1985, Hawkins 1991 and von Stechow 1997a,b.)

In a context containing a single most prominent cat, the subject of (8-b) may refer to that most prominent cat, and no demonstration is required. However, provided that the demonstrative in (8-b) is accompanied by an appropriate demonstration, that is, an extralinguistic act that allows the interpreter to identify a unique referent, it can equally well refer to a cat that was not previously “salient” in any sense. Demonstrative descriptions thus refer uniquely, but their referent is not determined by descriptive content alone or even by the descriptive content supplemented by pre-existing pragmatic factors.

Deictic descriptions, whether definite or demonstrative, have widest scope only. In (9) below, if the definite and demonstrative descriptions are taken to be anaphoric to *every dog in my neighborhood*, then they have narrow scope under the universal quantifier. If the descriptions are taken to be deictic, then they have wide scope. In (10) below, the demonstrative description is accompanied by a demonstration to force a deictic interpretation.

- (9)     Every dog in my neighborhood has an owner who thinks the/that dog is a sweetie.  
(10)    Every dog in my neighborhood has an owner who thinks that dog [pointing at Fido] is a sweetie.

Since definite descriptions are not accompanied by demonstrations, a deictic use of a definite description is harder to force, but the deictic reading is possible for the definite description in (9) if there is a salient dog in the context, such as the speaker’s dog. On the deictic reading, the definite description has wide scope.

The conventional wisdom that definite and demonstrative descriptions always take wide scope with respect to negation has been challenged by King (2001), who argues that deictic demonstratives can take narrow scope under negation. This position is based on examples like (11) below, which he argues can be used to correct a mistaken belief.

(11) [pointing at a jewel] That diamond isn't real. (p. 107)

Example (11) is said to be possible in a situation in which the speaker is trying to correct the addressee's false belief that a piece of cubic zirconium is a diamond. Notice, however, that the examples in (12) below can also be used to correct the same mistaken belief:

- (12) a. That diamond is cubic zirconium.  
b. That diamond isn't a diamond.

It seems that in (11)–(12), the speaker “plays along” with the false belief that the demonstratum is a diamond in order to identify the referent, then goes on to contest that false belief. Something special is happening – but it doesn't require the demonstrative to be in the scope of negation. The other examples that King provides have an equally ironic feel. I will assume that the conventional wisdom is correct in this case: deictic definite and demonstrative descriptions cannot take narrow scope under negation.

Though the conventional wisdom following Kaplan 1989 is that deictic demonstrative descriptions are scopally inert, this has been challenged in two cases besides the examples with negation: King (2001) argues that deictic demonstratives can take narrow scope under attitude verbs, and Roberts (2002) argues that deictic demonstratives can take scope under (epistemic) modals. Let's take a look at each of these claims in turn.

King (2001) argues that deictic demonstratives can occur in the scope of attitude verbs. Here is a representative example. Suppose that Sherry, who works for Chanticleer toy company, believes that Alan has been elected CEO of Chanticleer. Sherry also believes that Alan dislikes her, and she's unhappy about having Alan as her boss. Under these circumstances, one can point at Alan and say:

(13) Sherry believes that that man who was just elected CEO of Chanticleer hates her.<sup>2</sup>

However (*pace* King), this sentence can only be used if the speaker believes that Alan has been elected CEO. If Sherry's belief is false, and the speaker knows that Alan has not been elected CEO, (13) is infelicitous. The demonstrative cannot have narrow scope here.

Example (14) below, which Roberts (2002) attributes to Heim, is argued to be a case of a deictic demonstrative in the scope of a modal. This example is uttered in a room containing two panels that are either mirrors or windows, but the speaker isn't sure which. Each panel displays an identical chair. It is not clear whether we are viewing two chairs behind separate panes of glass or multiple reflections of one chair, and we can say:

(14) That (chair) [pointing to the left panel] could well be that (chair) [pointing to the right panel].

If (14) is not to be trivially true or trivially false, the demonstratives must have nar-

---

<sup>2</sup>This example, and many of King's other examples of demonstratives with narrow scope, is acceptable if it is interpreted as an explicit demonstrative. My claims in this section are about the *deictic* reading of examples that King takes to be deictic. One way to force a deictic reading is to consider the examples when they are accompanied by an extralinguistic demonstration.

## *Demonstratives and Definiteness*

row scope under the modal. However, it's important to recognize that (14) is interpreted with epistemic modality, and epistemic modals can take wide scope with respect to anything, even proper names. Names in standard examples of modalized identity statements, such as *Hesperus might be Phosphorus*, take narrow scope under epistemic modals just like the demonstratives in (14). Sentences like (14) do not allow us to conclude anything about the interaction of deictic demonstratives with other types of modals.

In fact, deictic demonstratives do not take narrow scope under metaphysical modals. Suppose that Mary has just pulled a scarf at random out of a drawer. Mary pulled out a red scarf, but she could just as well have taken a blue one. This situation can be described as in (15) below, where the definite description takes narrow scope under a metaphysical modal. Example (16) can only mean that a particular red scarf could have been a different color; the referent of *that scarf* does not vary across worlds.

(15) Mary actually pulled out a red scarf, but the scarf could have been blue.

(16) Mary actually pulled out a red scarf, but that scarf [pointing] could have been blue.

The conclusion that deictic demonstrative and definite descriptions have wide scope is not a surprising one. Scope-taking operators induce variation, and the hallmark of a noun phrase with narrow scope is that its referent varies along with some parameter. If the referent of a noun phrase is fixed as an entity in the context, then we certainly do not expect to find the referent of that noun phrase varying.

### **2.2 Anaphoric Descriptions**

Demonstrative and definite descriptions can be used as anaphors, as shown below.

(17) A woman<sub>i</sub> entered from stage left. The/that woman<sub>i</sub> was carrying flowers.

Here, again, definite descriptions and demonstrative descriptions are subject to slightly different conditions. Roberts (2002) observes that, when there are two equally likely potential antecedents, an anaphoric definite description is unacceptable, while a demonstrative description (or a pronoun) refers to the most recently mentioned potential antecedent.

(18) A woman<sub>i</sub> entered from stage left. Another woman<sub>j</sub> entered from stage right.  
a. #The woman/That woman<sub>j</sub>/She<sub>j</sub> was carrying a basket of flowers.

As we saw with the deictic use, in a bland context an anaphoric definite description is acceptable just when there is exactly one potential antecedent. And as before, if we enrich the context enough to make one potential antecedent more salient than the others, we can use an anaphoric definite description even when there appears to be more than one potential antecedent. Below, the last occurrence of *the cat* refers to the cat in New Zealand, who has been made more salient by the preceding text than the cat in the context of utterance.

Lynsey Wolter

- (19) [A cat is running around the room.]  
The cat is in the carton. The cat will never meet our other cat, because our other cat lives in New Zealand. Our New Zealand cat lives with the Cresswells. And there he'll stay, because Miriam would be sad if the cat went away. (Lewis 1979)

Abbott (2002) makes similar observations about definite and demonstrative paraphrases of donkey pronouns, such as (20) below. Donkey pronouns and their paraphrases are anaphoric definites whose antecedents happen to be interpreted as bound variables.

- (20) Every farmer who owns a donkey feeds the/that donkey.

Definite descriptions are not perfect paraphrases of donkey pronouns. When there is more than one potential referent for a definite in a relevant situation, definite descriptions are less acceptable than donkey pronouns, as shown by these well-known examples, the latter of which Abbott attributes to Elbourne:

- (21) a. Everybody who bought a sageplant here bought 8 others along with it.  
b. ?Everybody who bought a sageplant here bought 8 others along with the sageplant. (Heim 1982)
- (22) a. Whenever a bishop meets another bishop, he blesses him.  
b. ?Whenever a bishop meets another bishop, the bishop blesses the bishop.

Abbott observes that a demonstrative description can paraphrase the pronoun in the sageplant example, although not in the bishop example:

- (23) Everybody who bought a sageplant here bought 8 others along with that sageplant.  
(24) ?Whenever a bishop meets another bishop, that bishop blesses that bishop.

Intuitively speaking, the unique referent of a definite description is identified based on its descriptive content, and the descriptive content in these examples is not enough to identify a unique referent. The referent of a demonstrative description is identified by an extra factor, namely contextual salience. In the sageplant example, one sageplant is already salient, namely the one that was used to verify the truth of the relative clause. In the bishop example, neither bishop is more salient than the other. What this suggests, then, is that salience plays a central role in identifying the referent of a demonstrative description. Earlier, we saw that a notion of salience might be one of the pragmatic factors used to license a definite description. These examples show that salience plays a more central role for demonstrative descriptions than for definite descriptions.

As we saw with the deictic use, anaphoric demonstrative and definite descriptions refer uniquely, but the referent is determined in different ways. The referent of a definite description is the unique entity that satisfies the descriptive content, possibly enriched with pragmatic factors. Salience per se does not appear to be decisive factor in the identification of the unique referent of a definite description, although it may play a supporting role. Deictic and anaphoric demonstratives refer uniquely, but their referent is not identified on

### *Demonstratives and Definiteness*

the basis of the descriptive content alone. We saw that a deictic demonstrative can refer to something that is demonstrated by the speaker or to something that is already salient in the context of utterance, while anaphoric demonstratives corefer with a salient antecedent.

If we assume that the function of a demonstration is to make an entity salient, then the referent of a deictic demonstrative must be a salient element of the context. This descriptive generalization can be extended to anaphoric demonstratives as well. Roberts (2002) suggests that anaphoric demonstratives should be viewed as an extension of deictic demonstratives; anaphoric demonstratives are “deictic” in the sense that they refer to something in the linguistic context rather than something in the physical context. Since it’s not possible to literally point at an element of previous discourse, we won’t find demonstrations accompanying anaphoric demonstratives. Therefore, the referent of an anaphoric demonstrative, unlike the referent of a deictic demonstrative, must be salient in the context prior to the utterance of the demonstrative description.

The scope of an anaphoric definite or demonstrative description is the scope of its antecedent. In (25)–(28) below, the antecedent of each anaphoric definite has narrow scope under an operator on the most plausible reading. Each anaphoric definite has narrow scope under the same operator. Examples (27)–(28) below involve modal subordination, a phenomenon in which a modal or attitude verb allows a sentence to be interpreted as if it were in the scope of a modal or attitude verb in the previous sentence. (See Roberts 1996 for discussion.) The phenomenon makes it easy to construct examples in which an anaphoric noun phrase and its antecedent are interpreted in the scope of the same operator.

- (25) The grant review board didn’t return any proposal to the/that proposal’s author.
- (26) Every dog in the neighborhood, even the meanest, has an owner who thinks the/that dog is a sweetie. (Roberts 2002)
- (27) Scott will pick a number. The/that number Scott picks could be odd. (King 2001)
- (28) Mary believes that a unicorn is in her garden. She believes that the/that unicorn is ruining her lawn.

If the antecedent of an anaphoric definite has wide scope, then the anaphoric definite also takes wide scope, as shown below.

- (29) A dog down the street barks a lot. Every cat in the neighborhood is afraid of the/that dog.
- (30) There is a unicorn in the yard. Mary believes the/that unicorn is ruining her lawn.

The conclusion that anaphoric definites have the scope of their antecedents is no more surprising than the conclusion that deictic demonstratives have widest scope. The referent of an anaphoric noun phrase depends on the referent of the antecedent; if the referent of the antecedent varies, so will the anaphoric noun phrase.

### 2.3 Semantically Unique Definite Descriptions

Some definite descriptions have descriptive content that determines a unique referent independently of any context. These definite descriptions, which Löbner (1985) calls *semantically unique*, include descriptions like *the smallest prime number*, *the center of the Solar System*, and *the mother of John Smith*. Semantically unique, nonanaphoric definite descriptions can take narrow scope under anything except negation.

- (31) a. John didn't meet the governor of California.  
b. John didn't meet a gubernatorial candidate.
- (32) Every dog in the neighborhood sleeps in the sunniest room in its house.
- (33) The next president of the United States could be from New England.
- (34) John believes that the king of France is bald.

One of the more interesting properties of semantically unique descriptions is that they seem to *require* definite determiners: out of context, indefinite and demonstrative determiners are unacceptable, as shown below. In other words, indefinite and demonstrative descriptions appear to be subject to a *nonuniqueness* condition — their descriptive content must hold of more than one individual.

- (35) \*a/that {smallest prime number, center of the Solar System, mother of John Smith}

Given the right contextual support, however, it turns out that semantically unique indefinite and demonstrative descriptions are sometimes acceptable. Hawkins (1991) observes that indefinite descriptions whose descriptive content determines a unique referent independently of the context are acceptable with a set of predicates including the *be* in existentials. For example, B's response below is grammatical, if mathematically naive.

- (36) A: There is no longest number in arithmetic.  
B: Oh, I don't know. I'm pretty sure that there is a longest number in arithmetic.  
(Hawkins 1991:435)

Hawkins concludes that the "nonuniqueness" condition on indefinite descriptions is a conversational implicature, since it can be canceled.

Semantically unique demonstrative descriptions are possible with a special emotive use that Lakoff (1974) names "emotional deixis." Lakoff observes that some uses of demonstratives are strongly emotive; she argues that they express "emotional solidarity" between the speaker and addressee. For example, (37)–(38) suggest that the speaker and the addressee feel the same way about Kissinger. This use of the demonstrative doesn't appear to convey any particular feeling about Kissinger himself. Incidentally, it's also interesting that the emotive use of the demonstrative can occur with a proper name.

- (37) That Henry Kissinger sure is a great guy!  
(38) That Henry Kissinger sure is a crook!

## 2.4 Explicit Demonstratives

The construction that I will call the *explicit demonstrative* construction is illustrated below. It is found in formal registers, and consists of *that* (or *those*) followed by an NP complement, and a PP or CP in a separate intonational phrase. Below, capitals indicate accent and brackets indicate intonational phrases.

(39) [THAT hero] [who KILLS the dragon] [will INHERIT half the kingdom.]

(40) [THAT runner] [who comes in LAST] [will RECEIVE a consolation prize.]

The postnominal phrase is required in the construction. When the postnominal PP or CP is missing, as below, the phrase can only be interpreted as a standard demonstrative. Note that (41) below can only be used if there is another last runner who will not receive a consolation prize. No such requirement holds of (40) above.

(41) That last runner will receive a consolation prize.

The construction is incompatible with canonical demonstrations. For example, (39) cannot be uttered while pointing at Sir George; this is perhaps not too surprising here, given that the explicit demonstrative is in the scope of a future modal, as shown by the simple present tense marking in the relative clause.

(42) #(Pointing at Sir George)  
[THAT hero] [who KILLS the dragon] [will inHERit half the kingdom.]

Note, however, that explicit demonstratives can be used when the referent is known to the speaker, as shown below; explicit demonstratives do not require a modal context.

(43) [THAT teacher of John's] [who had the GREATest impact on his life] (namely Mary Jones) was featured in his autobiography.

Even though modality is not required, (39)–(40) are interesting, because they show that explicit demonstratives can take scope under modals much more easily than standard demonstratives. Explicit demonstratives can also take narrow scope under a matrix past tense, as shown by the use of *would* in (44) below. This option is not available for deictic demonstratives, as shown in (45). The fact that explicit demonstratives but not deictic demonstratives show sequence-of-tense phenomena is a useful diagnostic for telling them apart.

(44) [THAT teacher] [who would TEACH John in fifth grade] was hired in 1942.

(45) #(Pointing at Mary Smith)  
[THAT teacher] [who would TEACH John in fifth grade] was hired in 1942.

At first glance, the explicit demonstrative construction looks quite similar to the “he-who” construction consisting of a pronoun followed by a relative clause. Both con-

structions appear to contain a DP followed by a CP, both occur in formal registers, and both have roughly the same interpretation. The two constructions are not quite identical, however, as evidenced by the contrast below.

- (46) He who eats an apple a day will live a long healthy life.  
(47) ?[THAT man] [who eats an APple a day] will live a long healthy life.

The explicit demonstrative construction has the same scopal possibilities as semantically unique definite descriptions. Explicit demonstratives cannot occur in the scope of negation, but we've seen that they easily occur in the scope of modals. Examples of explicit demonstratives in the scope of quantifiers and attitude verbs are given below.

- (48) Every student worked on [THAT problem] [which interested her MOST].  
(49) Mary believes that [THAT unicorn] [with the LONGest horn] is digging up her lawn.

The explicit demonstrative construction has semantically unique descriptive content, but in a special way. While the descriptive content as a whole determines a unique referent, independently of the context of utterance, the NP alone must not. Semantically unique definite descriptions, on the other hand, do not necessarily have a subconstituent that is satisfied by more than one entity.

### 3. The Interpretation of the Demonstrative Determiner

We have seen that the descriptive content alone does not serve to identify the referent of a demonstrative description, but that demonstrative descriptions nevertheless refer uniquely. We need to capture the extra factor that identifies the referent. The most straightforward assumption is that demonstrative determiners have two arguments: the NP complement, which contributes a domain, and a second argument, which identifies the unique referent within the domain.

The idea that a demonstrative determiner has one more argument than we might expect is not new. King (2001) argues that demonstrative descriptions are interpreted as generalized quantifiers once one or more extra arguments have been saturated. According to Roberts (2002), the representation of a demonstrative contains a familiar "demonstration." Even Kaplan (1989) suggests that demonstratives are "completed" by a demonstration, though he equivocates about the place of this in the analysis.

What is the nature of the second argument of a demonstrative determiner? Kaplan and Roberts link this second argument to a demonstration. In the case of deictic demonstratives accompanied by a demonstration, it makes sense to think of the the second argument as something that is literally supplied by an extralinguistic act. For other demonstratives, of course, the "demonstration" must be something more abstract. King identifies the second argument with a speaker intention to refer.

If explicit demonstratives and standard demonstrative descriptions are given a uni-

## *Demonstratives and Definiteness*

fied treatment, the view of the demonstrative determiner's second argument changes. In the explicit demonstrative construction, the second argument of the determiner is the postnominal phrase, which contributes a property. The demonstrative determiner in the explicit demonstrative construction therefore appears to denote a function from two properties to entities. (That is, it's of type  $\langle\langle et \rangle, \langle\langle et \rangle, e\rangle\rangle$ .) The NP complement contributes the first property and the postnominal phrase contributes the second property; the function returns the unique entity from the set denoted by the first property that has the second property. In other words, a demonstrative determiner finds the intersection of two sets and presupposes that the intersection will be a singleton set. It does something more complicated than the definite determiner, which takes only one property as an argument.

I have argued that the relevant extra factor for deictic and anaphoric demonstratives is contextual salience, and this suggests the implicit second argument of a deictic or anaphoric demonstrative is the property of being identical to a salient element of the context. If all we say about the second argument of a demonstrative is that it is a property, we'd expect to find other properties being used as well — any property that identifies a unique referent given the context and domain should do. But if this were the case, there would be no way for the interpreter to recover what property was meant to fill the second argument position of a deictic or anaphoric demonstrative. The limitation of properties that actually are available to a single property having to do with contextual salience shows us that when the second argument of a demonstrative determiner is implicit, it must be given.

The semantic type that I have proposed for the demonstrative determiner allows us to explain why demonstrative descriptions are similar both to uncontroversially quantificational noun phrases and to uncontroversially referring expressions. In the present analysis, demonstrative descriptions are referring expressions: ultimately, they contribute an entity to the semantics. Since demonstrative descriptions are referring expressions, we expect them to have the logical properties of referring expressions discussed by Löbner (1985) and to form a natural class with pronominal ("simple") demonstratives. We correctly predict that demonstrative descriptions are not as free to participate in scope ambiguities as uncontroversially quantificational noun phrases like *every dog*.

On the other hand, on the current proposal demonstrative descriptions are not directly referential. The account predicts that demonstrative descriptions will be able to take narrow scope, not freely, but just when they contain a subconstituent that depends on an operator or bound variable. Deictic demonstratives take widest scope because their content does not depend on operators or bound variables. Anaphoric demonstratives take narrow scope just when their second argument (the property of having the same value as the value of a salient discourse referent) depends on a discourse referent that varies. Explicit demonstratives take narrow scope when some part of the postnominal modifier depends on an operator or bound variable. The scope facts thus support the claim that demonstrative descriptions contribute their descriptive content to the semantics.

We are in a position to begin to explain what demonstrative and definite descriptions have in common and how they differ. Assuming a standard treatment of the demonstrative determiner as type  $\langle\langle et \rangle, e\rangle$ , definite and demonstrative descriptions are both referring expressions with substantive descriptive content. Both are subject to a uniqueness condition

based on their *entire* content; the fact that the unique referent of a demonstrative description is not identified on the basis of the NP complement alone reflects the fact that the NP complement is not the entire content of a demonstrative description.

To characterize the difference between demonstrative and definite descriptions more precisely, and to account for their scopal possibilities, we need make some more concrete assumptions about the treatment of definiteness. In the next section, I adopt the “determined reference” approach to definiteness (Farkas 2002) and extend it to demonstratives. The determined reference approach allows for a very natural statement of the analysis I have suggested here. Furthermore, the approach already accounts for definite noun phrases in English other than demonstratives. If the approach can be extended to demonstrative descriptions, we’ll have a complete picture of the range of definite noun phrases found in English. Note, however, that the analysis could be translated into other frameworks.

#### 4. Determined Reference and Demonstratives

The central claim of the determined reference approach is that the variable contributed by any definite noun phrase has determined reference. The definition of determined reference is given below. A variable has determined reference if, when an input assignment function is extended to that variable, there is no choice about the value of the variable. The variable associated with a semantically unique description will have determined reference because there is only one entity in the model that satisfies the descriptive content. The variable associated with an anaphoric noun phrase will have determined reference because, given an assignment function that is defined for the antecedent, there will be no choice about the value that function assigns to the variable associated with the anaphoric noun phrase.

(50) Let  $K'$  be the DRS obtained by merging the input DRS  $K$  with the DRS  $K_e$ , and let  $x$  be in the universe of  $K_e$  but not in that of  $K$ .

The variable  $x$  has determined reference iff for every  $f$  that embeds  $K$ , it holds for every  $f', f''$  that extend  $f$  and which satisfy the conditions in  $K_e$ ,  $f'(x) = f''(x)$ .

Note that the definition assumes a version of Discourse Representation Theory (DRT) in which noun phrases are first translated into separate preliminary Discourse Representation Structures (DRSs), then merged one at a time with the input DRS. For discussion of this framework, see van der Sandt 1992, Kamp et al. forthcoming.

The variables associated with some definite noun phrases have determined reference in virtue of the conditions that the noun phrases contribute, while the variables associated with other noun phrases have determined reference only with contextual support. Names and pronouns have inherently determined reference, that is, their variables have determined reference regardless of the state of the input context. For example, pronouns are always anaphoric, as shown by the representation of a pronoun below.

(51)  $it$

$x$
$x = y$

## *Demonstratives and Definiteness*

Definite descriptions, unlike names and pronouns, do not have inherently determined reference. Whether the variable associated with a definite description has determined reference depends in part on the descriptive content and in part on the context. If the descriptive content happens to denote a singleton set, then the variable will have determined reference. Descriptive content like *cat* does not guarantee determined reference. The variable associated with a condition like  $cat(x)$  will have determined reference if the context provides enough additional information to fix its value. Relevant contextual support consists of information about anaphoric links and about pragmatic factors like salience and relevance. For example, an anaphoric definite description will have an additional condition,  $x = y$ , representing the anaphoric link.<sup>3</sup> The variable  $x$  will then have determined reference for the same reason that the variable associated with a pronoun does.

The representation of a definite description is shown in (52) below. The definite determiner contributes a distinguishing mark on the associated variable, and variables marked with exclamation points are required to have determined reference. In essence, determined reference is a presupposition contributed by the definite determiner.

(52) *the cat*  

$x!$
$cat(x)$

In the last section I proposed that a demonstrative determiner is interpreted as a function that takes two properties and returns the unique element of the set denoted by the first property that has the second property. In DRT terms, this is a claim that a demonstrative determiner contributes the following function:

(53)  $x = \text{Intended-Referent}(P_1, P_2)$   
 a.  $P_1$ : property contributed by the NP complement  
 b.  $P_2$ : property contributed by the second argument of the demonstrative  
 c. *Intended-Referent*: a function from properties  $P_1$  and  $P_2$  to entities that returns the unique entity in  $P_1 \cap P_2$ .

(54) *that cat*  

$x$
$x = \text{Intended-Referent}(cat, P)$

The name of the Intended-Referent function is arbitrary. It's merely a reminder that the choice of referent of a demonstrative description is commonly thought to have something to do with a speaker intention to refer. It's important, however, that the function is a function, not merely the operation of set intersection, so that the demonstrative will refer uniquely.

Nothing further needs to be said about the scope facts — they follow from standard assumptions about DRT and from the determined reference approach. Deictic demonstratives will have widest scope simply because they are deictic. If the variable contributed by a demonstrative is equated with an entity in the context of utterance, there will be no room

---

<sup>3</sup>See Umbach (2002) for discussion of anaphoric definites in this framework.

for variation. Anaphoric demonstratives will have the same scope as their antecedents. If the the variable contributed by a demonstrative is required to take the value assigned to its antecedent, then the value of the variable contributed by the demonstrative will vary when its antecedent does, and at no other time. Finally, the scopal possibilities of explicit demonstratives, as well as the scopal possibilities of semantically unique definite descriptions, fall out of the determined reference condition. The generalization was that these descriptions cannot take narrow scope under negation, but freely take narrow scope under other operators. Farkas (2002) shows that the determined reference condition can be satisfied if a variable depends on a parameter introduced by a quantifier or other operator; negation induces variation without introducing specific parameters that vary, and this sort of variation is incompatible with determined reference.

Demonstrative descriptions are like definite descriptions in that their reference depends on substantive descriptive content. But they are like names and pronouns in that they have inherently determined reference. The condition in (53) guarantees that the associated variable will have determined reference, because the *Intended-Referent* function is a function: once the properties are supplied, there will be only one choice of value for  $x$ .

In the picture of definite noun phrases that emerges from the determined reference approach, at least two subdivisions can be made within the class of definites. One distinction can be made between demonstrative and definite descriptions, which have descriptive content, and names and pronouns, which do not. Because descriptive content can contain elements that are dependent on other parts of the sentence, having descriptive content (or not) will affect scopal possibilities. The second distinction is between names, pronouns and demonstrative descriptions, which have inherently determined reference, and definite descriptions, which do not. This is a less obvious way to divide up the class of definites, and it is one that we might not have reached without the determined reference framework.

The latter subdivision in the class of definites can help us understand the crosslinguistic distribution of definite noun phrases. Definite noun phrases with inherently determined reference are found in all languages, while definite descriptions are not. This is not arbitrary. The definite determiner contributes only the determined reference condition to the semantic representation, while names, pronouns and demonstrative descriptions contribute something more. Whether a variable has determined reference is always recoverable from the context and the rest of the representation of the noun phrase. So, strictly speaking, a morphosyntactic marker of determined reference is redundant, and it's not surprising that some languages do without it. The extra contributions of names, pronouns, and demonstrative descriptions are not recoverable from the state of the context, so we expect to find that all languages have these types of definite noun phrases.

If the definite determiner marks determined reference, and all definites have determined reference, then there is no semantic reason that the definite determiner should not be used with definite noun phrases other than definite descriptions. This is exactly what we find—for example, definite articles cooccur with demonstratives in Romanian and with demonstratives and names in Modern Greek (Giusti 1997). These observations suggest that the analysis of the English demonstrative determiner *that* presented in this paper is relevant to the crosslinguistic semantics of definite noun phrases.

## *Demonstratives and Definiteness*

### **References**

- Abbott, Barbara. 2002. Donkey Demonstratives. *Natural Language Semantics* 10:285–298.
- Farkas, Donka. 2002. Specificity Distinctions. *Journal of Semantics* 19:1–31.
- Giusti, Giuliana. 1997. The Categorical Status of Determiners. In Liliane Haegeman, ed., *The New Comparative Syntax*. New York: Longman.
- Hawkins, John A.. 1991. On (In)definite Articles: Implicatures and (Un)grammaticality Prediction. *Journal of Linguistics* 27:405–422.
- Heim, Irene. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D. thesis, UMass-Amherst.
- von Heusinger, Klaus. 1997a. Definite Descriptions and Choice Functions. In S. Akama, ed., *Logic, Language and Computation*, 61–91. Dordrecht: Kluwer.
- von Heusinger, Klaus. 1997b. Saliency and Definiteness. *The Prague Bulletin of Mathematical Linguistics* 67:5–23.
- Kamp, Hans, Josef van Genabith, and Uwe Reyle. forthcoming. Discourse Representation Theory. In Dov M. Gabbay and F. Guenther, eds., *Handbook of Philosophical Logic*. Dordrecht: Kluwer, 2nd edn. Draft at <<http://www.ims.uni-stuttgart.de/~hans>>.
- Kaplan, David. 1989. Demonstratives. In J. Perry J. Almong and H. Wettstein, eds., *Themes from Kaplan*, 408–565. Oxford: Oxford University Press.
- King, Jeffrey C.. 2001. *Complex Demonstratives*. Cambridge, MA: MIT Press.
- Lakoff, Robin. 1974. Remarks on *This* and *That*. *CLS* 10:345–356.
- Lewis, David. 1979. Score-keeping in a Language Game. In Rainer Bäurle, Urs Egli, and Arnim von Stechow, eds., *Semantics from Different Points fo View*. Springer-Verlag.
- Löbner, Sebastian. 1985. Definites. *Journal of Semantics* 4:279–326.
- Roberts, Craige. 1996. Anaphora in Intensional Contexts. In Shalom Lappin, ed., *The Handbook of Contemporary Semantic Theory*, 215–247. Oxford: Blackwell.
- Roberts, Craige. 2002. Demonstratives as Definites. In Kees van Deemter and Roger Kibble, eds., *Information Sharing*. Stanford, CA: CSLI.
- Russell, Bertrand. 1905. On Denoting. *Mind* 14:479–493. Reprinted in A. P. Martinich, ed. (2001). *The Philosophy of Language*. Oxford: Oxford UP.
- van der Sandt, Rob A.. 1992. Presupposition Projection as Anaphoric Resolution. *Journal of Semantics* 9:333–377.
- Umbach, Carla. 2002. (De)accenting Definite Descriptions. *Theoretical Linguistics* 27:251–280.

Department of Linguistics  
University of California  
Santa Cruz, CA 95064

lwolter@ucsc.edu