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Gestural demonstratives in English: an experiment*

Abstract

This paper examines various hypotheses regarding the choice of English proximal and distal gestural demonstratives in an experimental framework. Using the so called scripted dialogue technique it is shown that there is a significant difference between the choice of demonstratives depending on the nature of context (non-contrastive vs. contrastive). In non-contrastive contexts distance plays a crucial role, but in contrastive contexts the pattern of demonstratives changes, i.e. in contrastive contexts distance as a factor competes with some other factor.

Keywords: deixis, proximal and distal demonstratives, distance, context

1 Introduction

The aim of this paper¹ is to explore the use of demonstratives in English, more specifically those uses of demonstratives where some sort of extra-linguistic gesture is present. Recent studies have shown that deictic references are not only often accompanied by a pointing gesture, but it can also be argued that referring acts are incomplete without some act of indicating (Schegloff 1984, Clark & Bangerter 2004). This paper presents the results of a production experiment, where a scripted dialogue in a furniture shop scenario has been used to elicit data from British English native speakers in order to gain new insights regarding the factors influencing the choice of gestural demonstratives in English.

2 Deixis and demonstratives

2.1 Deixis

“The term deixis refers to a class of linguistic expressions that are used to indicate elements of the situational and/or discourse context, including the speech participants and the time and location of the current speech event” (Diessel 2012: 2408). Deixis is an intriguing linguistic phenomenon at the semantics/pragmatics interface, it is extremely widespread in everyday speech. Demonstrative systems form a central issue within studies on deixis. Demonstrative

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noun phrases appear very early in the course of language acquisition and it is reasonable to assume that demonstratives may have emerged very early in the evolution of human language (Diessel 2012, 2013).

Demonstratives are true language universals, they can be found across all languages. In English *this*, *these* are called proximals, whereas *that*, *those* are labelled as distals. The terms themselves are based on the traditional view, namely, proximals tend to refer to things that are relatively close in space, while distals refer to things that are not so close, depending on the speaker's point of view (Fillmore 1971/1997, O'Keeffe et al. 2011). Recently the traditional view has been challenged by various authors and it has been argued that the traditional analysis of demonstratives is not always adequate to characterize the meaning and use of demonstratives (see Enfield 2003, Levinson 2004, Piwek et al. 2008, Sidnell 2009). It has also been assumed that other factors may play an essential role in the choice of demonstratives. For instance, Piwek et al.'s (2008) work on Dutch proposed accessibility as a basic factor influencing the choice of demonstratives. The experiment to be presented here tested the role of three factors in the choice of English gestural demonstratives: distance, accessibility and contrastiveness in linguistic contexts.

2.2 *Different types of demonstratives*

The term 'demonstrative' may refer to a noun phrase containing a demonstrative (*this/that/these/those*) functioning as a determiner (e.g. *this book*) or to a pronoun constituting a full NP. I will follow Levinson's (2004) and O'Keeffe et al.'s (2011) taxonomy of different uses of demonstratives, hence deictic and non-deictic uses of demonstratives will be differentiated. In the case of deictic uses the demonstrative refers directly to the extra-linguistic physical context, and the meaning of the demonstrative can be derived only through some contextual clues. The deictic usage of *that* is illustrated by the following example:

- (1) *That* just threw an acorn at me. (Chung, 2011: 2)

When uttering (1) the speaker is referring to a squirrel on a nearby tree, the utterance is accompanied by a pointing gesture, which indicates that the speaker is referring to an entity that is available in the physical context.

If a demonstrative does not refer directly to the extra-linguistic context, its use is labelled as non-deictic. The non-deictic use of *that* is illustrated by (2); here the demonstrative refers to an NP in the previous sentence. It is an example of discourse anaphora:

- (2) The cowboy entered. *This man* was not someone to mess with. (Levinson 2004: 108)

Within deictic cases, a further distinction can be made between gestural and symbolic uses (see Levinson 2004, Piwek et al. 2008, O'Keeffe et al. 2011). Gestural demonstratives are accompanied by a gesture,² while symbolic demonstratives are not. Compare (3), where in order to interpret *this city* the addressee does not need an accompanying gesture, with (1) above.

- (3) I enjoy living in *this city*.

² The term 'gesture' is used here to cover not only pointing gestures, but changes in gaze direction or body posture, too.

Gestural demonstratives may be treated as prototypical cases of demonstratives (Lyons 1977, Schegloff 1984, Clark & Bangerter 2004), and accordingly, gesturals are in the scope of the following analysis. Levinson (2004) divides gestural uses into two subcategories, differentiating contrastive and non-contrastive uses. While (1) above is non-contrastive, (4) is contrastive:

(4) I broke *this tooth* first and then *that one* next. (Levinson 2004: 108)

In order to explore the various factors that might influence the choice of gestural demonstratives in English I carried out the experiment described below.

3 The experiment

3.1 Overview

As mentioned earlier, traditional studies of deixis often explain the use of demonstratives in terms of relative distance from the speaker. The goal of the present experiment was to revisit the traditional view and to test the assumption that other cognitive factors may also play an essential role in the choice of gestural demonstratives. As a starting point the following view of communication was considered. In order to communicate, speaker and hearer must realize that their partner views the situation from a different perspective. Hence, throughout the communicative process the perspective of the other person must be constantly adopted (see Clark & Bangerter 2004, Diessel 2006). Speakers may try to refer to a given object, and pointing serves as a means to help the addressee locate the referent, but a successful referring act requires a joint focus of attention from the speaker and addressee. As Clark & Bangerter (2004) remark, a crucial feature of indicating, which includes pointing, is that “speakers get their addressees to *focus attention* on individual objects” (Clark & Bangerter 2004: 42).

Based on these background assumptions and adopting Luz and van der Sluis’s (2011) experimental methodology, a production study was carried out.³ In neutral, i.e. non-contrastive contexts the role of two factors – distance and accessibility – was explored. In order to investigate the use of contrastive and non-contrastive gestural demonstratives (see Levinson 2004), the use of demonstratives in contrastive and neutral contexts was compared. The relevant notions will be defined as follows.

Distance as a factor is usually left unspecified in the relevant literature. However, in order to be able to test distance as a factor in a more exact manner I wanted to provide at least a working definition of distance. Relying on Kemmerer’s (1999) findings and Wilkins et al.’s (2007) guidelines it can be stated that in a communicative setting, where a joint focus of attention is established, *near* space is more or less within arm’s reach and *far* space expands outward from that boundary.⁴ Hence, entities located within the boundaries of the oval in Figure 1 were considered to be close to the speaker.

With respect to the second factor, Kahneman (2003) notes that there is no unique theoretical account of accessibility. A number of authors have analysed the role of accessibility in discourse, see for instance Ariel (2001), but the scope of the term has not been

³ In the study described here perception issues were not considered.

⁴ Coventry et al. (2008) showed that near space is extendable when a tool (a 70 cm stick) is used to point at objects to be named.

extended to physical contexts of communication. For that reason accessibility as a working notion will be defined as follows:



Figure 1: Entities located close to the speaker in the furniture shop scenario

Accessibility:

an entity is associated with *low accessibility* if, according to the speaker's assessment, the addressee is invited to consider it to be new or unexpected, i.e. an effort is required on the part of the addressee to identify the referent;

an entity is associated with *high accessibility* if it is already known to the addressee, i.e. it is in the focus of joint attention of the speaker and the addressee.

The last factor, contrastiveness, is defined with the following components:

Contrastiveness in:

- physical context: no conditions;
- linguistic context: contrastiveness is explicitly indicated linguistically, for instance by choosing a lexical item with a contrastive sense, such as *prefer*, or a coordinating conjunction with a contrastive sense, e.g. *but*, or a sentence containing a focus or a contrastive topic;
- epistemic context: the entities contrasted are highly accessible and they compete to be highlighted by the speaker;
- social context: not relevant.

Contexts satisfying these conditions will be labelled as *contrastive*, while contexts that do not satisfy the definition above are treated as *neutral*. Thus, (4) above and (5) are contrastive contexts:

- (5) Most people seem to prefer *this wallpaper* to *that one*.

Relying on the factors defined above, in neutral contexts two hypotheses were to be tested:

Hypothesis 1 (distance):

In neutral (i.e. non-contrastive) contexts gestural proximal demonstratives are selected by speakers to refer to entities that are near to the speaker, while gestural distal demonstratives are preferred by speakers to refer to entities that are further away.

Hypothesis 2 (accessibility):

In neutral (i.e. non-contrastive) contexts gestural proximal demonstratives are selected by speakers to refer to entities that are associated with low accessibility, while gestural distal demonstratives are selected to refer to entities associated with high accessibility (see Piwek et al. 2008: 710, Strauss 2002: 135).

Turning to contrastive contexts I wanted to examine whether the nature of the context influences the choice of gestural demonstratives or not. In contrastive contexts the referents are highlighted as competing entities. For this reason I expected that in contrastive contexts, when distance is constant (near), the frequency of demonstratives selected will change. Those contexts where the entities talked about are far from the speaker could not be tested by this method, since all factors would trigger the choice of distals.⁵ Hence, the third hypothesis concerning the choice of demonstratives in neutral vs. contrastive contexts is the following:

Hypothesis 3 (contrastiveness):

The pattern of gestural demonstratives selected is different in neutral and in contrastive contexts.

In order to test these hypotheses I carried out an experiment, which is described below.

3.2 *Materials and methods*

27 adult native speakers of British English participated in the experiment, their average age was 38. The subjects were selected via snowball sampling, there were 16 male (59 per cent) and 11 female (41 per cent) participants. I adopted Luz & van der Sluis's (2011) experimental method; namely, subjects read a scripted dialogue in a furniture shop setting between the seller (female) and a buyer (male). Their task was to choose between different demonstrative expressions in a multiple choice online test.⁶ A screenshot from the test is shown in Figure 2.



Figure 2: A screenshot from the test

⁵ Those cases where one of the entities is near and the other is far cannot be tested in this framework, either. Consider the example below:

This one (here) is bigger than *that one* (over there). (Diessel 2012: 2419)

⁶ In each case a pointing gesture on the part of the speaker was assumed. This was always explicitly indicated in the text.

The dialogue comprised 18 questions:⁷

- 4-4 questions tested Hypothesis 1 (distance), accessibility was equally distributed: questions 1, 8, 11, 14 and 3, 6, 15, 17
- 4-4 questions tested Hypothesis 2 (accessibility), distance was kept constant: questions 3, 8, 11, 17 and 1, 6, 14, 15
- 4-4 questions tested Hypothesis 3 (contrastiveness), distance: near, accessibility: high): questions 2, 9, 10, 13 and 1, 8, 11, 14
- 6 questions served as fillers: questions 4, 5, 7, 12, 16, 18

The furniture shop scenario contained 31 objects; out of these 5 were distractors. Objects considered to be near and far were equal in number.

3.3 Results

The results of the test and the characteristics of the individual questions are shown in Table 1.

Question Nr.	Characteristics	Results	
		Proximals	Distals
1	neutral, near, low accessibility	10	17
2	contrastive, near	9	18
3	neutral, far, high accessibility	11	16
6	neutral, far, low accessibility	3	24
8	neutral, near, high accessibility	19	8
9	contrastive, near	5	22
10	contrastive, near	17	10
11	neutral, near, high accessibility	8	19
13	contrastive, near	11	16
14	neutral, near, low accessibility	21	6
15	neutral, far, low accessibility	5	22
17	neutral, far, high accessibility	4	23

Table 1: Results and characteristics (question numbers are the same as in the test, fillers have been omitted)

⁷ The test is available at the link below:
https://docs.google.com/forms/d/1SwjvrVVUG4_WIP1pqoAOVKGCuS3-QKaQ4ZK603iHhEo/viewform?usp=send_form

The data were analysed with the help of chi-square statistics. Regarding distance, in neutral contexts there is a significant difference between near and far entities and the choice of demonstratives (proximal vs. distal), hence the predictions of Hypothesis 1 (distance) are borne out. ($\chi^2(1) = 23.45$, $p < 0.01$) The distribution of gestural demonstratives with respect to distance is shown in Figure 3. Turning to accessibility in neutral contexts, there is no significant difference, thus, Hypothesis 2 (accessibility) is rejected. ($\chi^2(1) = 0.48$, $p = 0.49$).

Finally, the choice of gestural demonstratives was compared in neutral and contrastive contexts. Using the chi-square test again, it was shown that there is a significant difference between the choice of proximals and distals depending on the nature of context, ($\chi^2(1) = 4.59$, $p < 0.05$), hence, the predictions of Hypothesis 3 (contrastiveness) are borne out, there must be a relation between the choice of gestural proximals and distals and the type of context (see Figure 4).

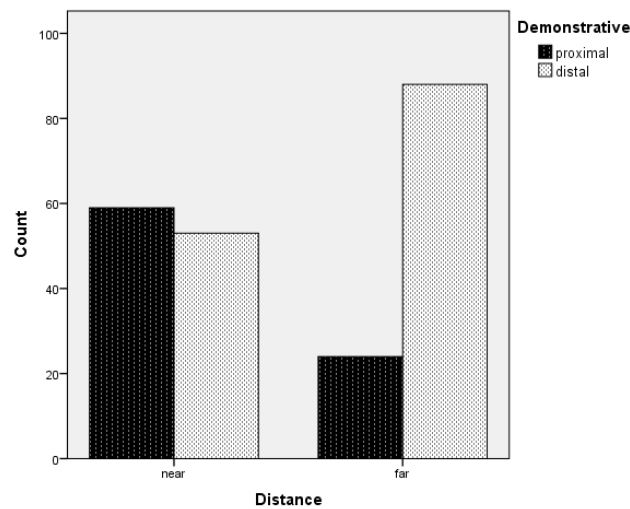


Figure 3: Distribution of gestural demonstratives over distance in English

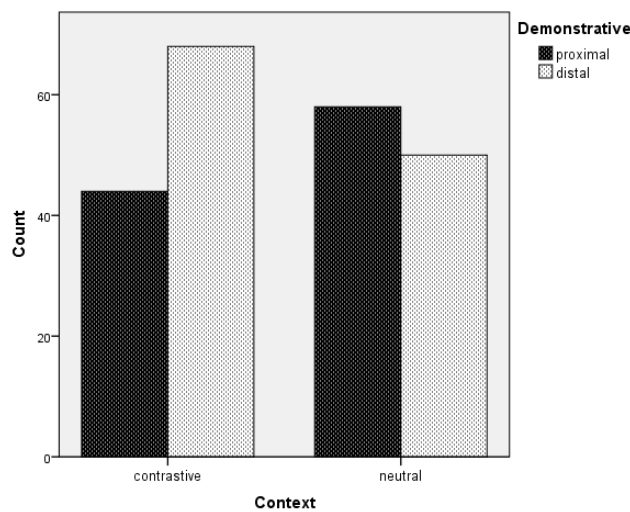


Figure 4: Distribution of gestural demonstratives in contrastive and neutral contexts

4 Discussion

Based on the results of the experiment above it seems to be the case that in neutral contexts distance is indeed an important factor; Hypothesis 1 (distance) adequately captures the choice of gestural demonstratives in neutral contexts. These findings agree, on the one hand, with Luz and van der Sluis's (2011) results concerning English, Dutch and Portuguese in a similar experimental setting; and, on the other hand, with Coventry et al.'s (2008) results for English and Spanish in a different setting. Though quite a lot of studies have criticised and tried to replace distance as a decisive factor, the experiment reported here reinforces the basic role of distance. A closer look at Figure 3 reveals an interesting phenomenon, i.e. when the entity being referred to is close to the speaker, the number of proximal and distal demonstratives selected is almost equal. Moreover, if we examine the relevant questions, it turns out that in the case of question 1 and 11 even more distals are selected in neutral contexts, though the entities are close to the speaker. These data then seemingly contradict Hypothesis 1 (distance). Levinson (2004) argues that the choice of *this* always indicates some kind of proximity, but *that* is semantically unmarked with respect to distance. Diessel (2012) even argues that "in non-contrastive situations *this* and *that* are often interchangeable [...], suggesting that they do not carry an inherent distance feature" (Diessel 2012: 2419). Those questions where the entities were far from the speaker yielded more uniform results, in each case more distals than proximals were selected (questions 3, 6, 15, 17). Hence the role of distance as a decisive factor is more convincing in those cases where the entities talked about are far from the speaker. Those cases where the entities are close to the speaker will be discussed in a more detailed fashion later on.

Hypothesis 2 (accessibility) is rejected, the choice of gestural proximals versus gestural distals is not dependent upon the accessibility of the referent in neutral contexts. In a different experimental setting I have shown that accessibility does not influence the choice of gestural demonstratives in Hungarian, either (Tóth 2013, 2014). Hence, accessibility seems to be a weak factor, if a factor at all; it cannot explain the use of gestural demonstratives. The weakness of accessibility may be illustrated by the results obtained for question 8 (19 proximals, 8 distals). In this case distance and accessibility predict different patterns for the choice of demonstratives; hence, if accessibility were a strong factor, more distals would have been selected.

Results concerning accessibility are controversial in the literature: Piwek et al. (2008) accepts the same hypothesis for Dutch in a controlled dialogue game setting, while Jarbou (2010) argues that in spoken Arabic just the opposite holds (his results are based on observations of naturally occurring speech). Many authors note that the notion of accessibility is not well-defined (see Burenhult 2003, Hanks 2009). Hence, further studies should be carried out that are based on a more exact notion of accessibility, at least within an experimental framework.

Turning to the final hypothesis, it has been shown that in contrastive contexts, where the referent is highly accessible and close to the speaker, there is a significant difference in the choice of demonstratives; namely, distals are preferred even if the entity being referred to is close to the speaker (see Figure 4). This challenges distance as a crucial factor influencing the choice of demonstratives in contrastive contexts. Since accessibility is constant and moreover, it was rejected as a factor in neutral contexts, it cannot play a role here.

Question 10 is problematic from this point of view, since it is the only question where distance is stronger than the contrastive nature of the context. Question 10 is presented below as (6):

- (6) Shop assistant: I'm afraid that there are only five left of that type. But what about the other type? *From those coloured ones / From these coloured ones* we've got six left. (she is pointing at the lamps) Aren't they suitable after all?
 Buyer: OK.

In (6) the demonstrative may receive both a non-deictic and a deictic interpretation, more specifically, either an anaphoric or a contrastive interpretation is available, which may have influenced the results. In the contrastive case the number of distals should be significantly higher than that of proximals. Here 17 proximals and 10 distals were selected, which indicates that perhaps distance is the dominant factor here. The entities talked about are indeed very close to the speaker.

Contrastive contexts are frequently mentioned in the relevant literature on deixis, as illustrated by the examples cited below. However, to the best of my knowledge such contexts have never been compared to neutral contexts and they have not been examined in an experimental framework before.

- (7) a. I like *this* better than *that*.
 b. I like *this painting* better than *that painting*.
 c. I like *those* better than *these*.
 d. I like *those paintings* better than *these paintings*. (Walter 2009: 451)
- (8) (Pointing at two sample plates in a china shop):
These are over at the warehouse, but *those* I have in stock here. (Walter 2009: 454)
- (9) *This speck* is smaller than *that speck*. (Talmy 2000: 25)
- (10) *This planet* is smaller than *that planet*. (Talmy 2000: 25)

It was Levinson (2004) who introduced the contrastive, non-contrastive distinction within the category of gestural uses, when he pointed out that the use of demonstratives may bring into existence a new focus of attention or signal a contrast between two referents that have been introduced into the conversation earlier (consider examples (7) and (8)). Fortis and Fagard (2010) note that relative distance is not only a matter of physical proximity (see the difference between example (9) and (10) above). Hence, further studies are required to explore the relation and interplay between distance and nature of context as factors influencing the choice of gestural demonstratives.

5 Summary

Experimental data seem to be helpful in differentiating and specifying the factors influencing the choice of gestural demonstratives in English. There is a significant difference between the choice of demonstratives depending on the nature of context (neutral vs. contrastive). In neutral contexts distance plays a crucial role, while accessibility as a determining factor has been ruled out. In contrastive contexts, where the referents are highly accessible and close to the speaker, distals are preferred, i.e. distance alone cannot explain the emerging pattern.

It is left for future research to explore languages that fall into different typological categories, to examine other uses of demonstratives (such as symbolic and non-deictic uses).

Further experiments are called for to explore the interdependence of individual factors, moreover, other potential factors (such as salience) should also be examined.

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