

What do Swedish demonstratives encode?

A study of exophoric demonstrative preferences

Balder Ask Zaar

Centre for Language and Literature, Lund University

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Supervisor: Niclas Burenhult

Abstract

Swedish exophoric demonstratives have often been seen as words that encode distance-based concepts. Based on the studies of demonstrative systems of several other languages the view of demonstratives as distance-oriented has recently been put into question. Thus, this study aims to investigate the spatiality involved in the semantics of demonstratives. Specifically, the study explores Swedish two-way contrasting demonstrative forms with the help of the David Wilkins Demonstrative Questionnaire (DWDQ). The preferences of demonstrative form usage for 7 participants in 25 scenarios with different contextual cues were gathered. From this data, it was concluded that the distance-oriented view of demonstratives does not satisfactorily explain the preferences of the participants. It is abductively argued, evidenced by the data, that demonstratives could encode that the referent is immediately operational (or not) relative to a speaker, meaning simply that the referent is part of a speaker's activities at the time of utterance of a demonstrative form. Thus, this paper calls into question the idea that Swedish demonstratives merely encode proximity and distality. The overarching implication is that there is a great deal more to learn about exophoric demonstratives cross-linguistically, even for languages we conventionally assumed have demonstratives that encode distance-based or spatial concepts.

Keywords: Swedish demonstratives, här/där, semantics of demonstratives, semantic analysis of demonstratives, David Wilkin's demonstrative questionnaire

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1. Introduction

1.1 Aim

This paper is an elicitation study that looks at Swedish demonstrative form preferences. Specifically, it is the contrast between 'den där' (corresponding to the English demonstrative 'that') and 'den här' (corresponding to 'this') which is going to be studied in detail. Syntactically speaking, it is the noun-modifying adnominal demonstratives that are explored here, but in Swedish – for the particular demonstrative form contrast explored here – pronominal and adnominal demonstratives take the same form. The aim is to explore Swedish demonstratives by way of a speaker preferences in order to get at and describe the semantic content of demonstrative expressions. Doing this necessitates the unveiling of the variables that go into demonstrative preferences, which makes the exploration of the contextual variables surrounding demonstrative preference a sub-aim that facilitates a better understanding of the semantic content of demonstratives. A referent's proximity or distality relative to a speaker are

conventionally seen as the major determining factors in a speaker's choice of demonstrative in Swedish, but this field has so far remained rather understudied (certainly there are no studies based on elicitation or speaker preferences that I could (Levinson et al, 2018)

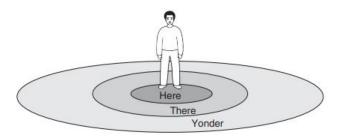


Figure 1. Model of speaker-anchored 'radial spatial categories' (Levinson et al, 2018)

find); and even if it is, many questions remain unanswered (as will be expanded upon below). The central task of this paper is to see investigate if demonstrative preferences really can be explained by distance-determined radial zones around a demonstrative-utterer (see Figure 1).

Exploring deictic or exophoric preferences of demonstratives allows us to find the determinants of demonstrative choices. This is because it is presumed that the main determiner of demonstrative use and preference in a given context is its sense. Exploring demonstrative meaning is, broadly speaking, done by looking at the stimulus that precede a speaker's assent or dissent to the use of one of the demonstrative forms uttered in an arranged context. The approach of this study will be to manipulate contextual and cognitive variables in order to observe the correlated changes in participants' judgments regarding a speaker's behavior (given particular input variance). This provides clues as to what the semantic/pragmatic underpinnings of exophoric demonstrative usage are in Swedish.

The study will explore how Swedish L1 speakers perceive demonstrative usage in different contexts in order to attempt to reveal their semantic content. It will look at whether the possible spatial factors (specifically, varying distances) are relevant in connection to the speaker or addressee, that is to say, whether the demonstratives are speaker-anchored, or addressee anchored (or perhaps something else). It will also explore whether spatial factors are the only relevant aspects factoring into demonstrative preferences. Despite there being a few other demonstrative expressions in Swedish ('denna', 'detta', 'dessa', 'de här', 'denne', 'den', 'det'; see Dahl, 2003, p. 50), the definite forms 'den här' och 'den där' will be the main focus since they are paradigmatic examples of two-way contrasting demonstratives, serving as an appropriate initial study into the details of preferred use and the meaning of demonstratives.

Although elicitation studies of Swedish demonstratives are generally lacking, this study is one of many using elicitation to learn more about demonstratives. Theoretically and methodologically, the volume *Demonstratives in cross-linguistic perspective* (Levinson et al., 2018) serves as the foundation for this study, and insofar as this is an attempt to join the cross-linguistic research effort to uncover the semantic content and general function of demonstratives.

1.2 Research questions

In accordance with the aim to better understand the semantics of Swedish demonstratives, three questions will be addressed:

- 1. Is there a semantic core in Swedish demonstratives? If so, what are its characteristics?
- 2. What are the variables that determine demonstrative form choices?
- 3. Are there uniform preferences for Swedish demonstratives given the same context variables?

Thus, we have one question that is meant to lead us in getting closer to understanding what a demonstrative expression can be said to do; if it has a semantic core that it conveys, if it only serves a general function, or whatever it may be. The variables that influence demonstrative form choices become vital here, since these are what makes it possible to discuss the possible semantic content of demonstratives. As we will become clear, this paper will attempt to derive meaning from preferred use, and to do this it is important to first understand how context determines a linguistic form, and then how this determination is mediated through the sense of that form. Some of these variables fall into the categories of hesitation, uniformity, distance, visibility, deictic center, relation between the latter and the referent, and reachability. In this

sense, we can say that responding to the second question to a large extent allow us to answer the first one. To understand whether the semantics or interpretations of Swedish demonstratives can be deemed similar enough from person to person, the third question will also be of importance.

2. Background

"How do words relate to the world? How is it possible that when a speaker stands before a hearer and emits an acoustic blast such remarkable things occur as: the speaker means something; the sounds he emits mean something; the hearer understands what is meant; the speaker makes a statement, asks a question, or gives an order?"

- Searle (1969) in Speech Acts.

Searle asks us a basic, but daunting, set of questions. A quick answer would be that linguistic forms are coupled to meaning and the world in a multitude of ways. We can establish a connection between word and world through referential acts, which can be either verbal or gestural or both. We can also designate unique names for our intended referents, but this approach seems largely untenable on its own since it would necessitate an uneconomically large number of names. Using demonstratives is another potentially more basic way of determining referents that solve this economical problem, as Quine (2013) remarks:

Much of the utility of general terms lies in their yield of demonstrative singular terms. These are got from general terms by prefixing demonstrative particles, 'this' and 'that'. The economy of effort afforded is enormous. For one thing, we are saved the burden of knowing names. We can get by with 'this river', 'this woman', without knowing what names the things actually bear. Second, we are enabled to refer singly to objects that simply have no proper names: this apple. Third, we are aided in the teaching of proper names.

Quine's point is that through general terms, or demonstratives, we can derive proper names and unique referents, without thereby burdening ourselves with a language that consists of endless proper names. Demonstratives, generally speaking, serve to establish and coordinate joint attention (Diessel, 2006). Further emphasizing this, Evans (2007, p. 112) writes: "grammars routinise our most common and central communicative tasks" and "speakers in real time need constantly to bring about adjustment to each other's attention, beliefs, and states of knowledge – directing, persuading, and informing, at the same time as indicating empathy and deference". Demonstratives are among the most basic forms of doing just this. They are a closed word class

(that is, new demonstratives very rarely arise) and are generally regarded as linguistic universals (Diessel, 1999). Moreover, they are among the earliest words produced by infants, further illustrating the foundational role they play in the languages of the world (Peeters, 2020; Capirci et al., 1996; Clark, 1978; Clark & Sengul, 1978; Diessel, 2006). Important to stress is also the close connection between demonstratives and pointing and how the latter plays a major role in the infancy of intentionality, which many consider foundational to language itself, while others go so far as to say that demonstratives are 'an ancient substrate of language' related to animal communication in the sense that they are here-and-now forms of communication (Tomasello et al., 2005; Liszkowski et al., 2012; Zlatev, 2013; Levinson, 2018). Typically, human communication shows a great deal of 'displacement' (narratives can be formed about past events, future events, imagined events, and so on). Demonstratives on the other hand are inherently context-dependent utterances (see also Levinson, 2004, pp. 111–121 for an in-depth account of different types of deixis and context-grounded language use).

Some experimental studies on demonstratives have been conducted as well, providing important background for the discussion of this paper. Coventry et al. (2008) found that extending a subject's reach with a stick results in the proximal forms 'this' (English) and 'este' (Spanish) being used more often. A direct correlation between increased reachability and increased use of proximal forms was observed. Caldano & Coventry (2019) further show that proximal forms are used more often in peripersonal space (the space immediately around the speaker) on the sagittal plane (in front of the speaker), observing "reliable differences between reachable and non-reachable locations" (ibid., p. 5). It is also important to note that reachability is a matter of some ambiguity in various ways (Fischer, 2003; Cordovil & Barreiros, 2011; Rochat, 1995).

It also becomes vital to have an idea of what it means to analyze or conceptualize demonstratives. In fact, many factors play a role in demonstrative usage. Peeters (2020) classify these into three categories: the physical, the psychological, and the referent-intrinsic. Relevant for this study are the physical and possibly psychological/cognitive concepts (the referent-intrinsic qualities were kept as neutral as possible). The only relevant factor within the physical category that this study will concern itself with are spatial factors, mainly distance, but visibility of the referent may have an indirect relation to the encoded concept of Swedish demonstratives. Finally, the cognitive aspects relevant were the epistemic or attentional states of the participants.

Finding a way to analyze the data provided by David Wilkin's Demonstrative Questionnaire (DWDQ; the elicitation tool used for this study) is the main challenge of this

paper. There are no established procedures with which one can analyze the data gathered with the help of the DWDQ. However, the literature on demonstratives gives some clues as to how this can be done. Peeters et al. (2020) gives one such model for possible conceptualization of the determinants for demonstrative use (see Figure 2, which is highly inspired by the work of Peeters et al., ibid, but adapted for this study in particular).

The idea is to take the input of the physical context, possible psychological factors, and referent-intrinsic factors and to see which demonstrative form is preferred (that is, to observe which inputs lead to which output). The encoded information, then, has to be such that the characteristics of the central inputs (distance, visibility of the referent, perhaps if the referent

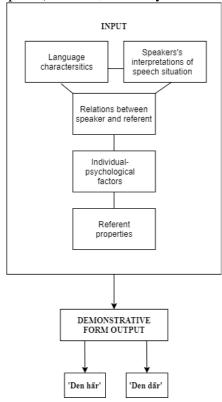


Figure 2. Model of demonstrative form output determinants

evoked a feeling of disgust this would have be considered as well) cohere with the demonstrative output (or in this case the demonstrative preference). This way of conceptualizing demonstratives usage is far from the only way, however, and the conceptualization of the data has ultimately taken a great deal of inspiration from other researcher's analyses of the results of the DWDQ elicitation (Levinson et al., 2018 becomes central as the inspiration of various ways in which the data can be analyzed qualitatively). In general, it seems that a form of conceptual/semantic analysis will be applied, attempting to match an appropriate theory to the results of this study. It is sometimes claimed (Enfield, 2003) that demonstratives' semantic encoding is minimal, yet poorly understood due to them rarely being examined in situ. As we shall see, there is certainly semantic encoding involved in

Swedish demonstratives. The matter of finding out exactly what is encoded, however, is not entirely as easy as one may suspect.

Also, as Enfield notes (ibid., p. 83), it becomes vital to distinguish between encoded semantic content and defeasible implicatures (Grice, 1989). That is to say, it is important to be able to distinguish between cases of encoded semantic content and pragmatic variations that are derived from the specific context of utterance. This, however, should not be a worry since the contexts under consideration here are designed to be standard and straightforward instances where demonstratives are appropriate and familiar to the speaker (for the most part – further discussion may be necessary in some cases).

But how exactly can demonstratives assist us in our communicative endeavors? Let us look at the many distinctions that can be drawn within the term 'demonstrative'.

2.1 Categories and definitions

First it should be said that demonstratives are often categorized as being either adverbial, pronominal, or adnominal (further distinctions can be made, but for this paper these are enough to provide necessary background information). Adverbial demonstratives modify other word classes by expressing a temporal, spatial, or abstract relation to a discourse context ("I am here"). Pronominal demonstratives stand in the place of a noun, whereas adnominal demonstratives modify the noun (compare 'I am writing this' with 'look at that cat!', see Diessel, 2013). The different ways of using demonstratives multiply quickly, however. There are important distinctions to be made between endophoric and exophoric use. Endophoric reference is made to a linguistic context, or a previous referent already established in text or speech (for instance, by way of definite description). This can then be further specified as anaphoric and cataphoric reference (Levinson, 2018), where anaphoric reference is a word that gets its referent from a preceding word or phrase ("I learned about Kant's analytic/synthetic distinction in class today, I do not like that"). Cataphoric expressions get their referents from words or phrases that occur after the cataphoric reference ("This could be an interesting thought: there is no analytic/synthetic distinction!"). Exophoric reference, on the other hand, is a reference to something in the speaker's concrete surroundings ("Look at that cat over there!").

As a preliminary delimitation, this paper will concern itself with exophoric use of demonstratives. This type of use perfectly illustrates the rudimentary but hard-to-understand relation that has to exist between expression, referent, speaker, and listener in order for the acoustic blasts in a given speech act to be intelligible. Following Evans (2018, p. 110), demonstratives can be framed as a form of grammaticalized engagement: "we introduce the

term 'engagement' to refer to grammaticalized means for encoding the relative mental directedness of speaker and addressee towards an entity or state of affairs". Demonstratives can be described equivalently, I believe, as a form of expression whose function is to achieve and maintain shared intentionality (Zlatev, 2018; Merleau-Ponty, 1982), shared attentional focus, or shared accessibility. Throughout this paper, these will be used interchangeably. Diessel (2006, p. 469), in line with this but with some added detail, posits that demonstratives have the following main functions:

- 1. They indicate the location of a referent relative to the deictic centre.
- 2. They serve to coordinate the interlocutors' joint attentional focus.

These characteristics of demonstratives mentioned so far can be concisely summed up in a definition by Burenhult (2008, pp. 100-101):

The term "demonstrative" is here taken to denote any member (in the form of a word or bound morpheme) of a closed grammatical class of expressions serving to narrow the contextually relevant search domain in the locational relativization of a referent to the deictic center (the speech situation or either of its two components, speaker and addressee).

Lastly, proximity is seen as that which is near a person (what this means in particular is a matter of great debate), distality is that which is far away from a person. Reachability is determined by the reach of a subject's extended arm (seen then as an area delimited by the reach of the subject's arm around the subject). Visibility, likewise, is that which is inprinciple visible for a subject relative to a certain object in a given situation.

2.1.1 Do demonstratives have senses?

It should be remarked that in philosophy demonstratives are often seen as directly referring expressions. This means that their meaning does not lie in their sense, nor are they mediated by their sense (see Frege, 1948). Their meaning consists of their referent. If this were universally true, a semantic analysis of demonstratives would not be possible since there would be no semantic content to analyze or uncover. If a semantic analysis can be done on any language demonstratives, it becomes possible to contribute to the philosophical discussion on

demonstratives. For instance, it would become possible to discuss whether Kaplan's "obvious principles" are correct (Kaplan, 1989). These are the following two principles (ibid., p. 492):

- 1. The referent of a pure indexical depends on the context, and the referent of a demonstrative depends on the associated demonstration.
- 2. Indexicals, pure and demonstrative alike, are directly referential.

The first principle seems uncontroversial. The second (especially if a semantic core or content can be identified in any demonstratives) is not as obviously correct. If a paradigmatic directly referring expression, such as a demonstrative, can be shown to have a semantic content of some kind, it may cast doubt on there being such a thing as a 'directly referring' expression.

This is in stark contrast to Levinson (2018) who calls demonstratives semantically general and shallow, thus implying that there is a level of semantic content to be identified in demonstratives, namely, that which coordinates the listener to find a definite referent in the immediate surroundings. Another aspect of note is the fact that, in contrastive demonstrative systems, the use of one demonstrative form implies that there are aspects of that demonstrative form that are not appropriate for every given context. These are the aspects presumed to be part of the semantics of demonstratives (ibid., p. 6). Taking Fregean notion of sense as what we want to find in demonstrative forms, it could be a good idea to keep the distinction between two components of sense: content and character (Kaplan, 1979). The content of a demonstrative form is the specified referent, or the distinct propositional content, but the character is that which determines how the context gives us a specific referent. Kaplan describes the character as a function from contexts to contents (ibid., p. 84). Character, then, is really what is talked about when it comes to the semantics of demonstratives. Naturally, it is also what is going to be of interest in the discussion below. Sense character will be regarded as equivalent to semantic content for the remainder of this paper (as in, they will be used interchangeably). We are seeking out what demonstrative forms express - their intention, sense, sense character, semantic content, etc. As Borg (2004, pp. 160-161) notes, however, demonstratives can be said to contribute no propositional content of their own, but simply a referent that has been determined by the utterance, the character of this utterance, and the context. Thus, it is not a trivial matter as to what type of semantic properties these demonstratives bear. Can demonstratives be said to have propositional values? This is a rather minor point in the general scope of this paper, but it can and will be discussed briefly (Section 6.1).

2.1.2 Cross-linguistic demonstrative differences

Cross-linguistically, different demonstrative systems display varying numbers of distinctions and types of information in order to uphold these attention-directing functions. Again, all languages have demonstratives, some with many-way distinctions and informational richness, others with systems (albeit a very low number of them) without contrasting distinctions, with the then sole demonstrative being informationally sparse. Some languages have grammatical distinctions relating to the epistemic states of the addressee or speaker (Burenhult, 2018; see also Küntay & Özyürek, 2006 who describe attentional status as a pragmatic aspect of demonstrative use); that is, whether the referent is known to the addressee (as it relates to the speaker's knowledge of the addressee's mental states), or more specifically, whether it can be seen or generally is cognitively accessible to the speaker (that is to say, a referent is known to the addressee, imagined by the addressee, is seen by the addressee, heard by the addressee).¹ Others, it is said (Diessel, 2006), bear spatial information as to the referents' proximity, distality, or mediality to the speaker or addressee. The latter is the conventional view on demonstratives (whether this applies to Swedish demonstratives will be discussed in depth in Section 4.3), which is also largely based on a speaker-anchored view of demonstrative use, but it is also possible that the addressee, both speaker and addressee, or some external point is the deictic center or origo.

Even specific features of the environment are encoded (upriver/downriver, elevated referent, and so on; see Burenhult, 2008, p. 103). In light of this, it may seem puzzling how languages with very few distinctions still effectively manage to achieve shared intentionality by way of demonstrative usage. Can imagined spatial areas of proximity and distality between speaker and referent really determine a speaker's demonstrative use? This becomes especially puzzling given the fact that these zones of appropriate use are subject to contextual variance. Given that the vast majority of language are described as having distance-based two- or three-way distinctive demonstrative system (Diessel, 2013) that are distance-oriented (the distinctions are based on distance between referent and speaker, although many also have person-oriented distinctions), it becomes vital to explore whether this is really the case.

This naturally leads to the question: what is it that guides demonstrative usage in different languages, and how do we figure this out? Part of the story is told by observing speaker behavior in varying contexts and speaker states. This, in part, makes it possible to see how a speaker of a language with a given two-way distinctive demonstrative system assents or dissents to usage

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¹ For the reader worried by the conflation of 'epistemic states' with seeing that..., hearing that..., etc., see Williamson (2002) and Kornblith (2002).

of various demonstrative forms depending on these psychological and contextual cues. This, in turn, will give clues about the meaning of these demonstrative forms.

2.2 Swedish demonstratives

Swedish is a language generally described as using a two-way distinctive demonstrative system (WALS, Diessel, 2013; SAG 2, §73-75²; Dahl, 2003), in the form of a so-called distanceoriented system based on proximity (här) and distality (där). This is a claim made without having looked at the actual preferences of speakers (as far as the literature goes), however, leaving open a great opportunity to learn more about the details of Swedish demonstratives. While there is a decent number of corpus studies on Swedish demonstrative usage (among them: Johannessen, 2008a & 2008b; Wide, 2009; Ekberg et al., 2015; Lindström, 2000), these tend to take a quantitative approach, looking at frequency of use and the general function behind demonstrative usage, often in non-exophoric or mixed contexts. This paper will instead take a qualitative approach and attempt to get at the semantic and pragmatic core that is encoded in Swedish demonstratives. Specifically, it will look at exophoric use of two demonstrative forms that constitute a minimal two-way distinctive system ('den här' and 'den där'). The main difference between the studies mentioned above and this study is that they look at demonstratives in general, that is, at both endophoric and exophoric use as it occurs naturally in conversation, attempting to generalize from there, whereas this study will explore purely exophoric demonstrative semantics by way of speaker preferences.

It is the primarily adverbial demonstratives 'här' (here) and 'där' (there) which constitute the fundamental form-contrast, but in deictic use oftentimes demonstratives include a determiner, or a definite article, resulting in 'den där' and 'den här'. The definite article, it can be said, is the referent-establishing part of the construction (in Dahl, 2003, p. 54 it is called a 'definite attribute', that which makes a noun definite). These are in any case the prototypical

² "The difference in meaning between *den här* and *den där* regards the distance to the speaker, that is, *den här* (like *här*) denotes proximity to the speaker and *den där* (like *där*) denotes a certain distance" (SAG 2, §73-75). See a similar description in Dahl, 2003, p. 50.

constructions for contrastive nominal demonstrative use, specifically in deictic contexts, and can be used both in an adnominal (1) and a pronominal (2) fashion:

- Har du läst den där boken?
 Have 2s read.PST DET DEM.DIST book.DEF
 'Have you read that book?'
- Var hittade du den här?Where find.PST 2s DET DEM.PROX'Where did you find this?'

There is a great degree of flexibility to the Swedish demonstratives, however, such that 'där' can be used adnominally, 'den' pronominally (Dahl, 2003), and so on. Focusing on the paradigmatic distinction between what is classically seen as proximal and distal forms for exophoric use, however, allows us to get to the core of the semantic distinction that underlies the distinction in form and use.

3. Method

3.1 The David Wilkins Demonstrative Questionnaire

The method employed here will be the David Wilkins Demonstrative Questionnaire (hereafter DWDQ). It is an established tried and tested method that has been used for a number of languages (Levinson, et al., 2018). Using it as a method allows for comparison between this study and the already-existing literature on demonstratives from a cross-linguistic perspective. In other words, it provides a *tertium comparationis* with which to engage with cross-linguistic studies of demonstratives. Since its main function is to help explore exophoric demonstratives, with a clear focus on distance and person parameters, it perfectly aligns with the aim of this study. It is especially useful given that it makes it possible to contrast distance-oriented demonstrative systems with systems that may involve other parameters of appropriate use.

Wilkins succinctly describes his questionnaire as follows (1999, p. 43): "This "questionnaire" is an elicitation tool which is meant to help a researcher begin to identify the (extensional) range of use of (some of the) basic spatial demonstrative terms in their research language." This is very much a kind of initial approach to the investigation of demonstrative use in a given research language. It is an elicitation tool that helps uncover the demonstratives' deictic anchoring, distance distinctions, and distinctions of visibility versus non-visibility. It also makes it possible to assess the role of gestures (which will not be looked at in this study), addressee knowledge and attention (epistemic/cognitive state) of the addressee, and different

types of object access (accessibility) for the selection of demonstrative expressions (Wilkins, 1999, p. 43). This is done by manipulating the relationship between speaker, addressee, and referent in various ways in order to see how this affects demonstrative use or preference. Considering this, we can also see how results from the DWDQ can answer many of the research questions directly on questions regarding individual factors, which can then be used to derive the more complex answer regarding the semantics of demonstratives.

3.2 DWDQ: design, purpose, and implementation

The elicitation consists of 25 scenarios shown as images that the researcher is meant to replicate in a real-life scenario (see Figure 3 and 4 for examples of this, S stands for speaker and A addressee, the egg-like object with a cross on it represents the referent in cases where nothing else is pointed at; see also Table 2, p. 20 for the full set of scenes). The researcher then configures the participant(s) and the referents in accordance with the images and utters sentences containing the demonstrative forms and asks the consultant (or the judge; the person who decides which demonstrative form is preferable in each scenario) about their preference (it is left open as to who should be the utterer of the demonstratives in the DWDQ itself). More details will be given in section 3.4.

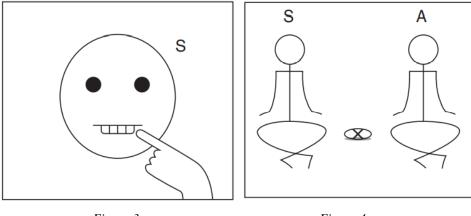


Figure 3. Figure 4.

Depending on the configurations of each scene, the DWDQ facilitates the differentiation between up to four distance distinctions, the exploration of deictic anchoring, vision-distinctions, and the different roles and domains that determine the use and selection of demonstratives (Wilkins, 2018, pp. 43-44).

3.3 Participants

This study included 7 adult L1 speakers of Swedish (of a Scanian variety), 4 men and 3 women between the ages of 25-58.

This type of study is seen as an initial tool for classifying demonstratives of a language, to be used for cross-linguistic comparison. The number of participants, considering the fact that it is a qualitative study and that it is in line with the DWDQ recommendations, should be appropriate. For instance, the average number of consultants in 15 studies described in Levinson, 2018 is 4.4. The number of participants in this study would then appear satisfactory. The findings of this study, and its potential claims, however, will surely have to be tested with a greater number of participants (or perhaps with different supplementary methods that investigate demonstratives in spontaneous speech such as corpus methods, the latter would have to include both audio and video of the overall speech context) in the future.

3.4 Data collection

The data collection involved a procedure more or less in line with what has already been outlined in Section 3.2, but certain adaptations were necessary (the details of which will be given below). It took place in October 2020, both indoors and outdoors (depending on the realization of the scene). Six of the sessions took place in a city or village environment, one at a farm. Moreover, the data was recorded (in writing), in the speech context itself. The researcher acted as the speaker for each scene. The judge was either external to the speech situation or acted as the addressee, depending on the number of people available for each session. The standard approach is for the judge to be external to the speech situation, and for non-judges to assist in acting out the scenes, this was usually the case for this study as well (the exception is remarked upon under the methodological discussion). The two demonstrative forms were uttered in each scene by the researcher, then the judge was asked to give their preference verbally. The researcher then wrote down their responses. The example sentences remained the same for each scene, but between scenes sometimes imperative sentences were used, sometimes declarative statements, sometimes interrogatives, changing according to what felt natural to the researcher. The sentences referred to objects in the immediate environment that were either placed there by the researcher, or if some object relatively similar in size to a book could be found. The most commonly used sentences ran along the lines of: "Vill du ha den här boken?" (Do you want this book?) or "Kolla på den där boken." (Look at that book.). Usually, questions or imperatives were the most natural types of sentences for exemplifying the different demonstrative forms.

In scenes where participants other than the judge were needed, these were asked not to interfere or comment on the judge's behavior or preferences. The roles were occasionally swapped, where the judge could act as the speaker if they felt it was necessary to give their

preference (which sometimes was necessary and greatly helped to produce a clear preference). So, the roles could be varied if the situation called for it, as long as it was clear that the judge knew that they had to decide on their preference based on what the assigned speaker uttered (and so it had to be clear to them who the speaker in each scene). The preference and other observations were written down (by the researcher) before moving on to the next scene. Hesitation on the part of the judge, and their reflections, were documented. DWDQ does not suggest a particular way of recording the data but recommends that at least a written record is kept of the responses of the participants. For this study, a mere list of the number of scenes, 1-25, with a line for the initial responses, including space on the side for notes regarding other observations (such as hesitation, gesturing, confusion, reflections of the judge, etc.) was used.

Asking for the speaker's preference, as opposed to asking for mere assent or dissent, was done in order to elicit a stronger response (and thus more directly invoke the speaker's linguistic intuitions). Hesitation was another parameter looked at. Hesitation could be a sign that the scenario enacted does not align with the information encoded in the two-way distinction of Swedish demonstratives, or that there are borderline cases where there is no preferred demonstrative form. All of this becomes relevant when trying to conceptualize or semantically analyze demonstratives.

The object used as a referent varied somewhat. Objects were usually relatively similar sized: a bottle of cooking-oil, a book (for most scenes), a hat, a pencil, etc. In one scene a pencil, hat, or sweater a participant was wearing was used as an ersatz to a bug (as was required in one of the scenes of the DWDQ). Instead, it was taken that the point was that there was an alienable entity on the speaker's body and so the referent for this scene was chosen accordingly.

3.5 Analysis

The results were analyzed based on the preference for either demonstrative form sentence, categorized in the results as either a preference for 'den här' and 'den där'. Scenes with visible referents were counted in cases where the referent was in the non-peripheral field of vision of the speaker. Likewise, hesitation was determined as noticeably hesitant behavior that was not expressly due to concerns regarding the meta-aspects of the elicitation (for instance, who the speaker is in a given situation, which referent, or asking the researcher to repeat a sentence that was not heard very well, etc.). The tables were designed to give an overview of the results of the elicitation task, so in each table relevant scenes are presented along with the categories looked at (uniformity, speaker preferences, hesitation, and visibility of the referent).

This study will ultimately perform a semantic analysis. Following Bohnemeyer (2012), it can be said that a semantic analysis consists in searching for that which invariably determines a referent across all contexts wherein a word is being used. What is equally important, as we will see, is to identify that which allows for a variance in speaker preferences in the same context. To get at the semantics of demonstratives, then, there should be some way of finding out what kind of semantic content it is that reliably outputs a specific demonstrative form in a given context. By looking at 25 different contexts, it should be possible to see which features are common to all the contexts wherein a certain demonstrative form is preferred and trace the determinant of these preferred forms for every context. A generalization between all scenes where a certain demonstrative form is preferred will be made. The generalization will have to be such that all cases of demonstrative preference in a given context are understandable and explainable. Identifying this concept or determinant of demonstrative use should give us an approximation of the semantic core of the two demonstrative forms.

4. Results

Table 1 summarizes the number of the participants that either preferred 'den där' or 'den här' for each scene, 1-25. This shows cases of discrepant preferences between participants and highlight cases where only one or two outliers kept a scene from having uniform preferences. It also provides an overview of scenes where the judges do not converge significantly on preferring either demonstrative form. It is this result which gives us the ability to then perform a full-fledged analysis of the Swedish demonstratives. The scenes with results relevant for the coming discussion will be shown in detail there (as opposed to the general overview in Table 1) in accordance with the discussion's natural demand for it.

The majority of the scenes elicited uniform responses (as in 7 out of 7 participants had the same preference) in the participants. However, many did not. 15 out of 25 scenes had uniform answers. This is summarized in Table 2. We can also observe from the right column that the vast majority of cases of uniform responses come from situations where the referent is distal relative to the speaker. Only one scene (left column) wherein the referent was proximal to the speaker had uniform preferences.

Table 3 presents the preferences in detail, including cases of hesitation, which will be represented by *H next to the demonstrative form, summarized in the rightmost column. Numbers 1-25 correspond to the scenes presented in Table 1 (for the reader's own comparisons).

In scenes where the referent was not seen by the speaker, 'den där' was the preferred

demonstrative form. Three scenes (11, 15, 18) had referents that were entirely invisible to the speaker. In Scene 11, five out of the seven participants preferred 'den där', in the other two scenes the participants uniformly preferred 'den där'. Scene 6 (Figure 5) has a degree of cognitive inaccessibility (referent is invisible but speaker has knowledge of the referent), and four out of seven

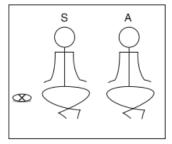


Figure 5, Scene 6, 4/7 (där).

participants preferred 'den där'. Visibility, then, becomes a relevant parameter to keep in mind.

Scene 9, 10, 13, 15, 16, 18, and 23 all have referents that are either near the addressee or a third participant but far away from the speaker. Not counting Scene 9, where one participant preferred 'den här', the rest of the scenes had uniform preferences for 'den där'. This is an indicator that demonstratives are speaker-anchored, but this will require further examination (see also Section 5.4).

Table 1. Show complete results of the participants' preferences. Each image (1-25) represents a scene from DWDQ with the corresponding participant responses. Numbers coupled to 'Här' and 'Där' represent participant preference for sentences that contain the demonstrative forms.

Scene		Scene		Scene		Scene		Scene	
1	Här: 7 Där: 0	6 s ^	Här: 3 Där: 4	11 SA S S S S S S S S S S S S S S S S S	Här: 2 Där: 5	16	Här: 0 Där: 7	21	Här: 1 Där: 6
2	Här: 0 Där: 7	7	Här: 5 Där: 2		Här: 0 Där: 7	17	Här: 0 Där: 7	22	Här: 5 Där: 2
3	Här: 5 Där: 2	8 S A A	Här: 3 Där: 4		Här: 0 Där: 7	18 S O O O O O O O O O O O O O O O O O O	Här: 0 Där: 7	23	Här: 0 Där: 7
4 s A O	Här: 0 Där: 7	9	Här: 1 Där: 6	14 () () () () () () () () () (Här: 0 Där: 7	19	Här: 1 Där: 6	24	Här: 0 Där: 7
5	Här: 1 Där: 6	10	Här: 0 Där: 7	15 ∞≪\$ ○€(Σθ	Här: 0 Där: 7	20	Här: 0 Där: 7	25	Här: 0 Där: 7

Table 2. Presentation of the results of the elicitation task pertaining to scenes that had uniform preferences. Numbers under the scenes refer to the order in which they occur in DWDQ, corresponding also to the number of the scenes in the other two tables.

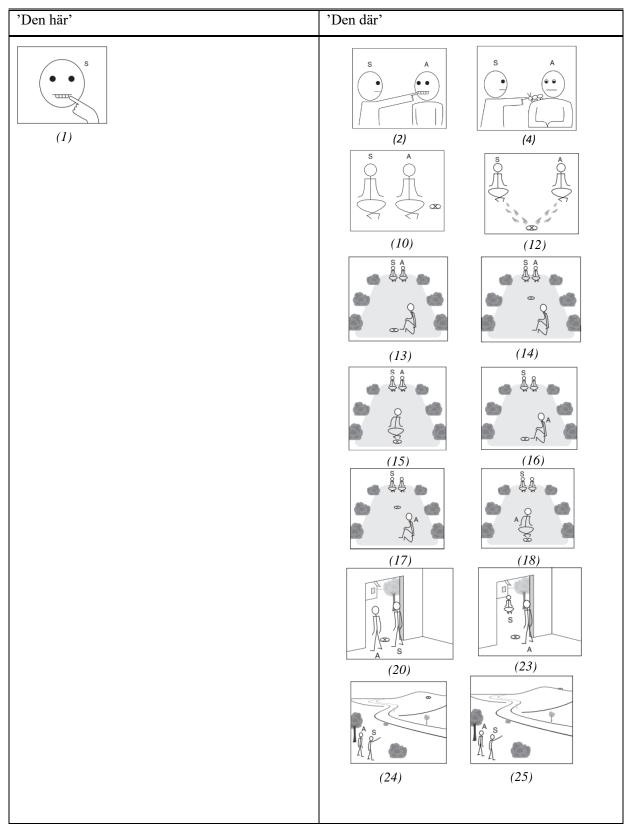


Table 3. Hesitation for individual instances and number of instances of hesitation (*H) for each scene, summarized in the rightmost column.

Scene	P1	P2	P3	P4	P5	P6	P7	*H
1.	här	här	här	här	här	här	här	0
2.	där	där*H	där*H	där	där	där	där	2
3.	här	här	här	här	där	där	här	0
4.	där	där	där	där	där	där	där	0
5.	där	där	där	där	där	här	där	0
6.	här	här	där	här	där	där	där	0
7.	här	där	här	här	här	där	här	0
8.	här	där	där	där	här	där	här	0
9.	där	här	där	där	där	där	där	0
10.	där	där	där	där*H	där	där	där	1
11.	här*H	där	där	där	här	här	där	1
12.	där	där	där	där	där	där	där	0
13.	där	där	där	där	där	där	där	0
14.	där	där	där	där	där	där	där	0
15.	där	där	där	där	där	där	där	0
16.	där	där	där	där*H	där	där	där	1
17.	där	där	där	där	där	där	där	0
18.	där	där	där	där	där	där	där	0
19.	där	här*H	där*H	där	där	där	där	2
20.	där	där	där	där	där	där	där	0
21.	där	där	där	där	här	där	där	0
22.	här	här*H	där	här	där	här	här	1
23.	där	där	där	där	där	där	där	0
24.	där	där	där	där	där	där	där	0
25.	där	där	där	där	där	där	där	0

5. Discussion

The discussion will first expand on the results, giving further hints of the possible claims that can be derived from the data. These will then be the premises that lead into the arguments for why the distance-oriented view of demonstratives is insufficient, relative to what has been observed in this study. Then a quick discussion regarding the deictic center for Swedish demonstratives will be provided, connecting the origo to the utterer of the demonstrative (even if the deictic center is not a point, but a spatial area, it still relates to the speaker, in this view). Finally, a view that seems to better cohere to the data collected in this study will be discussed.

Furthermore, the discussion will be entirely based on what is summarized in Table 1. Not all scenes will be relevant for the upcoming discussion, but those that are will be taken from Table 1 but presented in more detail along with an image of the scene in order to help the reader visualize the situation that elicited the demonstrative preferences.

5.1 General remarks on the data

The first thing gathered from the data is that a majority of scenes had uniform responses, but only one of these had uniform responses for when the referent was proximal to the speaker. This indicates that speakers have uniform intuitions regarding 'den där', while the 'den här' form seemingly results in varying interindividual interpretations.

In Table 2 it is possible to see the number of participants who preferred each demonstrative form. The lack of uniformity in preference for 'den här' in cases where the referent is proximal to the speaker implies that the semantic content, especially in the case of the 'den här', is such that it leaves a lot to contextual interpretation.

Table 3 shows the full set of responses including cases of hesitation. There was generally not a lot of hesitation. Thus, it does not seem possible to make any assumptions about hesitation as a result of semantic processing. Instead, it is very possible that the hesitation was due to the way the scene was presented, to distractions or other variables that were difficult to control for. Perhaps if uniform hesitation or confusion were found in some scenes, there could be discussions regarding the inability of the Swedish demonstrative forms to semantically apply to those scenes. This was not observed, however, which suggests that the participants had strong enough intuitions regarding the appropriateness of either demonstrative form as long as the context itself is clear to them. This, in turn, suggests quite trivially that there is no trouble applying whatever sense character that couples the different demonstrative forms with the various contexts. This means that certain contextual factors likely are overridden while only

those relevant for establishing the referent are considered by the judge. In the discussion below, the semantic analysis will become a matter of ascertaining just which contextual factors are relevant and what semantic encoding it is that decides the contextually relevant factors.

Then there is the matter of cognitive accessibility. It is certainly possible that attention, specifically the referent being located in the speaker's non-peripheral field of vision, is necessary for 'den här' to be deemed universally appropriate. It is suspected – as with the interpretation of demonstrative forms being distance-oriented – that this is merely a by-product of what is being encoded. Not once was it necessary to know whether the speaker was directly looking at the referent in order for the judge to state their preference. We thus find that the semantic character of 'den här' has to be something which either must (as in logically imply) or can (as a form of Gricean implicature) involve cognitive access, as well as in principle have some either real or merely implied connection to spatial concepts.

A final observation is that the participants did have a predilection towards thinking about spatial distance as a main determinant in demonstrative choice. Again, there was a tendency for judges to form their own convention of judgment as the elicitation task was progressing. This was seen in some cases by the participants motivating their preference by saying "Well, it is so far away", or "If it were closer to you, it would be 'den här". Interestingly, this way of reflecting on the task itself did not keep the participants from judging that proximate referents, in certain scenes, still did not warrant the use of 'den här' (Scene 11 and 19, specifically). This could be an indication that proximity and distality are not the encoded concepts, but perhaps the ones most easily derivable from what is actually encoded. Something is overriding the self-reflecting system that assumes the demonstrative forms (especially the alleged proximal form) encode spatial relations between speaker and referent. The remaining discussion will be dedicated to exploring what may actually be encoded in these demonstrative forms.

5.2 On egocentric deictics

While the DWDQ is designed in part to make it possible to ascertain what the deictic center is for the demonstrative forms in a language, the task of motivating and explaining why the Swedish speaker is the anchor for all demonstrative use is not trivial. This is because it is not gathered from the participants' responses alone. The interactions within the elicitation task itself are also of help here. The following will be an attempt to describe the indicators of the choice of demonstrative form being speaker-anchored in Swedish. This is necessary before turning our attention to the question of what may better cohere with the data.

First, let us very simply look at the scenes where the referent is near a participant that is not the speaker and see which demonstrative form is preferred. This data rather clearly shows that there is no anchor other than the speaker. Scene 9, 10, 13, 15, 16, 18, and 23 all have referents that are either near the addressee or a third participant but far away from the speaker. Not counting Scene 9, where one participant preferred 'den här', the rest of the scenes had uniform preferences for 'den där'. Whatever 'den här' encodes, it necessitates relative proximity to the speaker. However, the question still remains why that is.

Another clue as to the demonstrative anchoring comes from the type of information the participants ask for during the elicitation task. For instance, some cases of confusion led to participants inquiring who the speaker was, and them determining the contrast by themselves acting like the speaker, leading to some out-loud reflecting along the lines of: "If I am the speaker, it is 'den här', but if person X is the speaker, it is 'den där', or if you are the speaker, it is 'den där'". Cases of the referent being near the speaker were especially important to clarify for the judge, since it is in these more difficult-to-judge situations where the referent is near either speaker or addressee or third participant that require an anchor. Contrast this with the situation where two people standing next to each other are looking out over the horizon, with one of them referring to some distant object. In such a scene there is no real concern with demonstrative anchors for any external judge. For the external judge, and the participants in this study, it is/was very important to know the relation between speaker and referent, more so than any other relation. This is taken as a major sign that the demonstratives in Swedish are entirely speaker-anchored. It is likely that it is possible to examine this in a more systematic way, if one were to suspect this was not the case. But it seems clear from the sessions in this study, at least, that regardless of what the semantics of the demonstrative forms may be, it was necessary for the participants to know the relation between speaker and referent, first and foremost, in order to arrive at a preferred demonstrative form in a given scenario.

There is a large degree of openness when it comes to what the deictic center really is (that is, there can be many anchors), and it is far from clear whether a deictic center is necessarily semantically encoded in the demonstrative forms (for instance, there are demonstrative forms that are neutral regarding anchoring to participants in a given speech situation, see Diessel, 2013, and the deictic center itself is not always a point, but sometimes zones of varying sizes, as already noted above). When we observe a varied set of preferences for the same scene, there has to be some explanation for this fact. Opening up for different perspectives on the deictic

center of demonstratives may give us precisely what we need. Following Hanks (2011), for example, the framing of demonstratives as having no privileged zero-point can be adopted.

This means that there is no a priori privileged point of reference, merely a set of tendencies in deictic demonstrative use. Allowing for this, we can explain the disparate preferences for the same scene, in part due to their interpretation of the deictic center in the given scenario. For instance, this may allow us to explain why in Scene 20 (Figure 6) we see a

preference for 'den där'. In this case the deictic center may have been expanded to the room one is standing in, or perhaps even to the whole house or apartment, as contrasted with the outside. In the same way there is a great deal of pragmatic interpretations of deictic centers which could factor into the explanation of why participants' preferences diverge in many other scenes. Hanks (ibid., p. 320) concludes that: "Close description of actual deictic usage indicates that elements such as

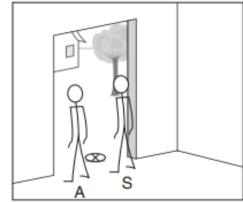


Figure 6, Scene 20, 7/7 (där).

common ground, collaboration between participants, and the relative symmetry of participant access all impact on the use and understanding of deictic tokens." If this is so, then we have a potential set of factors to consider in attempting to make sense of differing preferences of the scenes in DWDQ. He also notes that these factors can be conventionalized and become part of the semantics of demonstratives. Based on the sessions of this study, it seems most likely that the rudimentary or conventionalized semantic deictic center is close to the classical view that holds that it is egocentric (that the speaker is the deictic center). This certainly allows for the deictic center to change, but it seems to always relate to the speaker. For instance, it does not seem like the 'den här' construction can be appropriate unless the speaker is in the area of the extended *HERE-space*. This indicates that the deictic center, if somehow expanded beyond the speaker (seen as a point in space), is still connected to the speaker, making it more of a pragmatic extension of a conventionalized egocentric origo. To understand this extension itself, it seems necessary to first attempt to build a positive account of the demonstrative forms in Swedish.

5.3 Some difficulties for the distance-oriented view

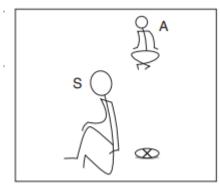
Let us first return to the standard way of viewing Swedish demonstratives (for instance, as it is characterized in WALS, Diessel, 2013; see also Wide, 2008, p. 112 and SAG 2, §61). This view takes distance as primary for the encoding of demonstratives; that distal forms are appropriate

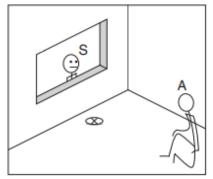
when the referent is far away from the speaker and proximate forms when the referent is nearby. Diessel is the main representative of what is called the spatial view (but really it relates solely to distance), to him, all exophoric demonstratives have the following three distinctive features:

- 1. The speaker is the deictic center
- 2. They contrast distance between deictic center and referent (unless they are distance-neutral)
- 3. They are often accompanied by a pointing gesture

The data gathered for this study does not seem to align with the second point. The initial impression from the data is that this is not a matter of proximity and distality as such. Instead, these can conceivably be seen as notions derived from the semantic character actually in play in demonstrative expressions. Nevertheless, let us first discuss why the traditional view does not satisfactorily explain the data gathered here, in order to have a clear(er) mind when attempting to reanalyze Swedish demonstratives.

Why is the traditional view insufficient in light of the data gathered here? There are a number of scenes that do not seem explainable in the purely spatial framework where the main distinctions are proximity and distality. First, the idea that proximity alone is the determiner of 'här' does not cohere with Scene 11 (Figure 7). Five out of seven speakers preferred 'den där'. Even more striking is the results from Scene 19 (Figure 8), where six out of seven speakers





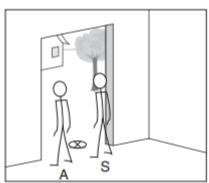


Figure 7, Scene 11, 5/7 (där).

Figure 8, Scene 19, 6/7 (där).

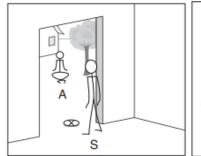
Figure 9, Scene 20, 7/7 (där).

preferred the supposedly distal demonstrative construction. This is even stronger evidence than the image below indicates, since in the elicitation the speaker was standing behind a window, with the referent often just behind the glass, yet the judges preferred 'den där'. This is the scene with the clearest case of proximity where 'den där' was nonetheless preferred. Despite the lack of total uniformity, this should be enough to show that proximity alone is not enough to make 'den här' preferable. The fact that 'den där' had many scenes where the preferences were uniform, but 'den här' only one, could tell us something about the kind of sense character that 'den här' bears. In any case, it is clear that whatever is encoded in the Swedish demonstratives

does not produce clear-cut preferences in the way that could be predicted from a purely distance-oriented demonstrative system.

Scene 19 and 20, however, may be the result of extensions of a kind of HERE-space (Enfield, 2018 & 2003). The latter is not a strictly defined concept but is a term that denotes the fact that speakers interpret various speech contexts as having different separated spaces within it (or segments). It seems possible to see this as a pragmatic aspect of the semantic encoding of 'here', that is, as an extension not of the proximity to the speaker alone, but to the space of the speaker (for instance, the room the speaker is in). So that in Scene 19 and 20 we see that the speaker is not in the same space as the referent, either separated from it by a doorframe or a window. If proximity is that which is within one's *HERE-space*, then the fact that these scenes (19, 20) result in a preference for 'den där' are explainable. We can then say that the speaker's HERE-space is limited to the space behind the window in Scene 19 and expanded to the room in Scene 20. This would be the case, but it does not explain why the participants prefer 'den där' in Scene 11 (Figure 6), since the referent is clearly within the proximity and all possible interpreted HERE-spaces of the speaker. Enfield (2018), however, posits that there could be such a thing as attentionally determined *HERE-spaces*, which could save the interpretation of 'här' as encoding proximity (with attentional focus having a pragmatic influence on what is deemed proximal), with certain pragmatic extensions and delimitations (determined by social and physical spaces, as well as attentional spaces).

There are further problems for the distance-oriented view, though. In Scene 22 (Figure 10),



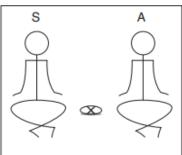


Figure 10, Scene 22, 5/7 (här).

Figure 11, Scene 8, 4/7 (där).

five out of seven participants preferred 'den här'. Compare this to the similar Scene 20 (Figure 9) where all participants preferred 'den där'. This suggests that there could possibly be a speaker-addressee *HERE-space* that leads

to the preference of 'den där' when participants are in the same room. It is possible that in these scenarios there is a kind of conventional situational closure (Goffman, 1963, chapter 9), which involves attentional engagement and interactional or manual engagement. This, however, does not cohere with the window scene, nor Scene 22. For this explanation to work, we would have to imagine these situational closures or *HERE-spaces* to be established more or less arbitrarily since there does not seem to be any consistent prediction of which HERE-spaces will occur in which situations and for what reasons. How would we explain that Scene 22 produces a

preference for the proximal form, but that Scene 20 does not? There simply seems to be no convention, pragmatic or semantic, in place for us to be able to explain this preferential difference. By looking at the distance between referent and speaker alone, we simply cannot explain this variance.

What puts the final nail in the coffin for this theory of *HERE-spaces* and the proximity interpretation of 'den här' – if the number of ad hoc adjustments necessary was not worrisome enough – is that Scene 8 (Figure 11) for a rather inexplicable reason resulted in a majority preference (4/7) of 'den där' by the participants. I see no conceivable explanation for why this neither results in a *HERE-space* interpretation, nor why it is not seen as proximal to the speaker if this is what 'den här' is supposed to encode. There seems to be something that caused some of the participants to interpret this scenario differently, but this difference cannot be caused by the encoding of strictly radial zones around the speaker (which in the current data on Swedish exophoric demonstratives seem to be the deictic center or origo, as will be noted in the following section). Even if 'den där' was not the negation of 'den här', but merely neutral as it pertains to distance, it would not explain why the speakers did not prefer the proximal form for clearly proximal referents. Then there is the notion of symmetry, that is, that a referent is equidistant from a speaker and addressee, as we see in Scene 8 and 20 (Figure 10 and 8, respectively). If symmetry somehow interferes with the use of the supposedly proximal form, then we have to ask ourselves why that is. A referent that is equidistant from speaker and addressee does not suddenly become distal because of this fact alone. This gives us another clue, then, as to what may underlie demonstrative use. Something about the encoding of Swedish demonstratives makes it possible for these neutral scenarios to evoke the preference of the non-proximal form.

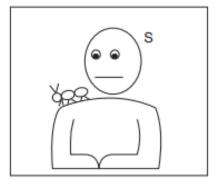
Drawing comparisons to a language with clear proximal and distal categories becomes highly illustrative here. For instance, Terrill (2018, p. 214) in her study of Lavukaleve, a Papuan language of the Solomon Islands, found that Scenes 2, 3, 8 and even Scene 19³ all resulted in a preference for the proximal demonstrative form. She uses the notion of 'saliently close' and 'saliently distant' referents (relative the speaker). It is clear, given what has been said, that this simply cannot be applied to neither of the Swedish demonstrative forms. Something being relatively close to the speaker, or even perceived as saliently close, is not a surefire way to get a preference for what the distance-oriented demonstrative-theorist would call the proximal demonstrative form.⁴

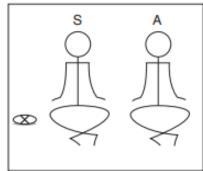
³ All demonstrative forms were allowed in this scene, but the proximal form was still considered best.

⁴ Similar findings from Herrmann's (2018, p. 290) study on the isolate language Warao, that has proximal demonstrative forms. The proximal form in Warao was used for Scene 2, 3, 8, 19 and 20, as well.

5.4 A possible reinterpretation of the semantics of Swedish demonstratives

First, a quick detour on the flexibility of distance-related concepts for the encoding of demonstratives. The reason why demonstratives are so easily reducible to distances, or why it is possible to posit an area in which it is appropriate to use them, seems to come naturally from the fact that a lot of deictic speech behavior is, first of all, embodied. Secondly, it is of course occurring in space. Regardless of the actual semantic encoding of demonstratives, then, it seems perfectly possible to model demonstratives' appropriate or preferred usage with a set of spatial configurations of speaker, addressee, and referent; the direction the speakers and addressees are facing; and specific distances and various spatial diagrams. While it often is possible, it may be a mistake to insist on such a reduction for purposes beyond mere illustration. This is because there are ambiguous spaces where speakers are unable to agree on preferred demonstrative use. The data collected here shows this in three of the scenes, namely Scene 3, 6, and 8 (Figure 12, 13, 14).





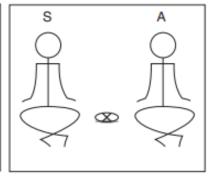


Figure 12, Scene 3, 5/7 (här).

Figure 13, Scene 6, 4/7 (där).

Figure 14, Scene 8, 4/7 (där).

In scene 6 and 8, the majority of participants preferred 'den där' despite the referent being very close to the speaker (clearly within arm's reach). This gives us a hint that there are spaces within the peripersonal space of the speaker that are regarded as non-proximal. This is very surprising, first of all, but more important is the lack of uniformity. It seems that placing referents in the spaces next to the speakers, that is, on the lateral plane, results in speaker preference varying within one and the same scene. In Scene 3, if the speakers had an actual bug on their shoulder (which they did not), perhaps notions such as disgust or fear would create a kind of emotional distancing, which would lead to the preference of 'den där', but since this was not the case, it cannot be used as an explanation (same goes with the other two scenes mentioned, we have no reason to think these would elicit anything that would cause an emotional or psychological distancing from the referent). This is showcased further by two participants preferring 'den där' for Scene 3 (Figure 12). Perhaps there is something about the passivity of the referent in Scene

3 which makes the encoded concept in the 'den här' construction inappropriate (as we will see). The fact that there is potential ambiguity or a divergence in the preferences of demonstrative forms for referents on the lateral plane, means that spatial radial zones as such cannot be taken as the main determinants of demonstrative form preference. Modified zones of use cannot be constructed either, due to these ambiguities, since there seems to be no reason why participants judge these cases differently based on spatial factors (these were kept the same for all participants). So, for the second time, something else is required to explain the level of interpretability which is observed in varied preferences elicited by these scenes.

5.5 Do demonstratives encode reachability?

If spatial concepts (distance) cannot help us, what about reachability? This view has some support from studies that take a neuroscientific approach to demonstrative use research. For example, Coventry et al. (2008) shows that extending one's reach with a stick results in the proximal forms 'this' and the Spanish form 'este' being used more often in a tabletop experiment where the referent was positioned at various distances from the speaker on a large table. In other words, a direct correlation between increased reachability and increased use of proximal forms was observed. Caldano & Coventry (2019) further show that proximal forms are used more often in peripersonal space (the space immediately around the speaker) on the sagittal plane (in front of the speaker), observing "reliable differences between reachable and non-reachable locations" (ibid., p. 5). They also note that the perceived peripersonal space is very flexible, in that it can be extended by increasing the reaching range of the subject or expanded given certain social situations. Keep in mind that this assumes that proximal forms encode proximity of referent relative to a speaker. With this assumption, increased reachability increases the peripersonal space, the latter being the space wherein proximal demonstrative forms are appropriate. But, through Occam's razor (see Baker, 2016), is this not better explained by it directly encoding reachability? Reachability has the flexibility required in order for preferences to differ between speakers, but does it align with the data?

If reachability were the information encoded in the 'den här' form, some scenes could be explained. For instance, we could explain why a referent that is near the speaker, but out of reach due to an obstacle, results in a preference for 'den där'. We could also explain that a referent behind the speaker is deemed more unreachable than one immediately in front of them, making the preferences in Scene 11 quite understandable. Scene 4 (Figure 15) having a uniform preference for 'den där', despite relative proximity, can also be explained since the referent is just outside of arm's reach (the goal was to point to the referent with the index finger as close

as possible to the referent to see if there would be a difference in preference if one touched it, which did not seem to elicit different responses in the participants of this study, a fully extended arm with the index finger barely touching the referent is conceivably a case of non-reachability).

But, as the reader may have already guessed, many scenes cannot be explained by reachability. Take the three scenes mentioned above (Figure 12, 13, 14). These were realized in such a way that the referent was clearly within reach for the speaker, yet participants preferred the supposedly distal, which in the reachability view would be marked as non-reachable. So, while a referent located behind the

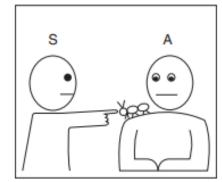


Figure 15, Scene 4, 7/7 (där).

speaker may be somewhat understandably deemed as unreachable, there does not seem to be a reason to expect that referents placed proximally (and clearly within the reach of the speaker, in the so-called 'hemispaces') and laterally to a speaker should elicit the preference of a demonstrative form that encodes something like *non-reachable*.

The literature on perceived reachability both speak for and against this view. There is a degree of ambiguity to perceived reachability, even more so for external observers that are attempting to judge another person's range of reach (Fischer, 2003; Cordovil & Barreiros, 2011; Rochat, 1995). Fischer (2000, p. 317) postulates that the motor system may heavily influence a subject's estimation of reachability. It could then be interesting to see if preferences would change if the participants themselves were the speakers, with a more direct idea of what is reachable to them given their positioning at the time of the utterance. More interestingly, Gabbard et al. (2005) note that reaching range is overestimated when objects are in midline positions (directly in front of the subject). This increased confidence, they say, varies based on two variables: perceived ability to grab the object and perceived task demands. Moreover, in an experiment (ibid.) they found that stimuli presented in the right and left field of vision produced significant underestimation of reachability compared to midline stimuli.

Carello et al., (1989) put forth the important notion that reachability is heavily connected with the notion of affordances (Gibson et al., 1987). Our environment is filled with 'affordances' in the sense that we have useful objects around us (tools), we have shelter and food sources, and so on. These are all kinds of affordances. The latter, Gibson emphasizes, leads to us primarily perceiving the objects that are utilizable for actions of some kind; we perceive affordances first and foremost. This, it is claimed, means that perceiving what is reachable is a matter of perceiving the availability of affordances in one's environment. They call this an ecological perspective on what is reachable.

So, what is the relevance of an affordance view of perception to reachability being encoded in demonstratives? If affordances are primarily what is perceived, then the notion of reachability becomes dependent on the perceived affordance of the referent, relative to the speaker. The question thus becomes whether demonstratives encode the reachability, or the underlying perception of reachability, which may heavily involve the concept of affordance. Both are able to explain the ambiguity that is seen in the data. Nonetheless, this is but one aspect of the character the encoded information needs to have.

Let us take this moment to sketch out what a candidate for the information encoded in the demonstrative is required to have:

- a. An explanation for lateral ambiguity and general divergent preferences
- b. A way to logically or reasonably expand into a more general *HERE-space* which is not necessarily limited to the peripersonal sphere of the speaker (and allow for the transposing of the deictic center into a speaker-addressee *HERE-space* and various other pragmatic extensions and varieties)
- c. Not to be spatially determined or reducible to spatial categories
- d. A concept which demarcates a more limited space of appropriate use than that which is in principle reachable

The main problem for the reachability-view is that it does not allow for an understandable extension of the area of use into a *HERE-space*. If the space demarcated is somehow more constricted than that which would be outlined by in-principle reachability, this also needs to be explained in detail. It is made more problematic by findings of Fischer (2003), who observed a reliable overestimation of other people's reaching ranges, regardless of the reaching person's height. If we not only overestimate others' reaching abilities, but as reflected in the data, deem referents that are clearly within reach to the speaker as unreachable, we run into a rather clear contradiction. It seems, then, that reachability cannot explain the demonstrative preferences of this study.

5.6 Demonstratives as encoders of referent-operationality

The contention here is that the encoded information for 'den här' is not a distance-based concept in and of itself, but that the concept encoded is something that is able to demarcate an area that can be easily mistaken for being, or interpreted, as distance-based. The spatial aspect, in the sense of an area in space, then, is derived from the encoded information in a given speech context, which has a conventional sense and the possibility for expansion along the lines of a Gricean implicature. This concept is a specific form of operationality. But not in the sense of

'capable of being operated', since this would more or less align with reachability (which is about the same as that which is in principle possible to grasp in a given moment). This is because reachability and in principle operationality demarcate a similar area of use, that which we can reach is often that which we can use, since using often, but (importantly) not always, implies reach. This is about active operationality or a referent being operational. That is to say, in the context of demonstrative use, an object is operational if and only if it is an object currently being used or factors into a speaker's immediate activity at the time of utterance. The 'immediate' part is important because we are talking about an 'elicitation task', where, really, all objects involved are part of the overall activity, yet not in the immediate activity of the speaker who has in most cases stopped manipulating the object, placed it somewhere, walked away from it, then uttered the sentences containing the demonstrative forms. All of this hinges entirely on the perception of operationality, which presumably is a very subtle and complex topic. In the theory of perception, sometimes there is talk of object-directed action (Goodale & Humphrey, 1998), but here we have to think about the perception of action-directed or actionoriented objects, that is, the perception of objects as connected to a current activity. The perception of an object's involvement in a current activity is likely a matter of degree, where there is no clear cut-off point between what is operational and what is not. If there is such an ambiguity at play in the perception of action-related objects, this coheres with the very blurry lines and disparate preferences in the data. It also coheres very well with the fact that there was a relatively low number of instances of 'den här' preferences. In any case, based on this it is wagered that perceived operationality is what determines a kind of task space or operational space – what would otherwise be called *proximity*. 'Den här' would then encode that the referent is operational or 'active' in a speaker's activities. The space determined by operationality is illustrated in Figure 16.

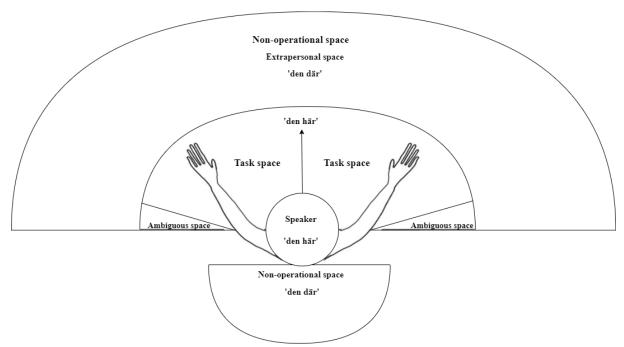


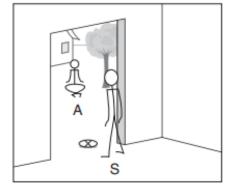
Figure 16. Conceptually determined spatial overview of demonstrative preferences

Here cognitive accessibility (or active focus, or visibility), reachability, and proximity all converge into one concept of operationality. The latter implies the three former concepts; that which is actively manipulated or used is also that which maintains our attention and that which is within reach to us, which also means that in most cases it will be located within our peripersonal space. We can thus say that the Swedish demonstratives still denote a certain relation between the referent and the speaker, only that this relation is more complex than that of mere distance.

This is also what allows for a great deal of interpretation on behalf of external observers of a speech act (spaces of ambiguous operationality relevant when referents are located laterally relative to the speaker). Throughout the elicitation task, a referent is being manipulated by a speaker. As the referent is placed next to the speaker, or between the speaker and an addressee, it is up to the external judge to interpret whether referent is deemed to be part of the speaker's activities. This, it is presumed, is a very subtle distinction to make. In active tasks, or in activity involving objects in general, it seems that an object in front of the speaker, with the speaker's attention on the object, would be seen, *ceteris paribus*, as more directly related to the task at hand than objects on the periphery (especially if the referent were not placed there by the speaker). This seems to best explain the fact that situations where referents are near the speaker, but on the lateral plane, still evoke a preference for 'den där', since these referents have less focus on them, they are not so salient, and they are far more passive relative to the speaker. In this account of the data of Swedish exophoric demonstrative use, 'den där' would denote that which is not part of the speaker's current activity (it encodes that the referent is non-

operational). It does not seem possible for an external judge to deem the referent unreachable,

or that it is not in proximity to the speaker. It seems perfectly possible, however, for the judge to view the referents in these cases as non-operational the moment after the object has been placed and the speaker sits down next to it in order to realize a scene from DWDQ. This would then allow, without contradiction, for a preference of 'den där' in cases like scene 3, 6, and 8 (Figure 12, 13, and 14). Since reachability is logically implied by operationality, it Figure 17, Scene 22, 5/7 (här).



coheres with the neuroscientific results mentioned above (even though these are for English and Spanish demonstratives), where a stick increases the range with which proximal demonstrative forms are viewed as appropriate. A tool (if this tool has some lengthening characteristics) naturally expands operational zones, as well. We can also gain an explanation for why Scene 1 is the only scene to have uniform intuitions regarding the use of 'den här', since one's body parts (in this case the teeth of the speaker) are likely perceived as tools or as inherently operational. Many difficult analyses are required to fully get an idea of what goes into the semantics of demonstratives, though. The results of Scene 22 are difficult to explain regardless of the demonstrative theory employed. If we talk about relative operationality, we can also talk about relative distance, as a determiner of varying demonstrative form preferences. Given the general explanatory difficulties of the other views, however, perhaps relative operationality still remains the best explanation for the results of Scene 22 (Figure 17). Especially if the judge acts as the addressee in this scenario, it is very likely that the speaker's manipulation of the object as well as its ease-of-use relative to the judge, results in an operational interpretation. Alienable objects directly in front of the speaker seem to be primarily viewed as operational, which accounts for the preferential differences between scenarios like Scene 2 and 7, where Scene 2 has an inalienable referent that is part of the addressee's body, resulting in a uniform preference for 'den där' in the participants, while Scene 7 has a referent that is alienable, directly in front of the speaker with relatively high levels of attention. When objects need to be placed on the lateral plane, or far away from the researcher, it can be hypothesized that this allows for 'resting period' of the referent that makes it appear wholly passive, resulting in the preference of the non-operational form 'den där', perhaps even in cases where the referent is near the speaker.

Operationality also allows for a clear expansion of operational spaces if the situation demands it or makes it appropriate. For instance, if two or more people are in a room, referring to something outside of that room by using the 'den där' construction, and using 'den här' for everything inside of the room, it seems that the speaker-anchored encoding of operationality has been extended to the room the speaker is in. So, as opposed to having a purely spatial concept which arbitrarily expands and contracts, we now have the notion of operationality which organically changes depending on what the context demands. This allows an external judge to freely interpret what the operational space is at any given time. A suggestion, then, is that operationality is what is encoded in Swedish demonstratives when used exophorically (with possible extensions into non-exophoric use), specifically, that 'den här' encodes that the referent is operational for the speaker or within a speaker's *HERE-space* (which in turn is determined by perceived operational space), while 'den där' encodes its negation.

The final consideration is whether 'den där' is neutral regarding operationality or if it necessitates that the referent cannot be part of the speaker's current activity. These can be defined more precisely as follows:

(NEGATION): that 'den där' encodes the negation of 'den här' means that **no** case of the referent being operational relative to a speaker allows the utterance of 'den där' without contradiction.

(NEUTRALITY): that 'den där' encodes neutrality as it pertains to operationality of a referent means that any case where the referent is operational relative to the speaker allows the utterance of 'den där' without contradiction.

Some clues that it encodes the negation of 'den här' can be found in the data. For instance, not one of the uniform cases of participants preferring 'den där' had a referent that was in the speaker's peripersonal space or task space. Scene 2 and 4 includes referents that are near the speaker, but in Scene 2 the referent is an inalienable part of the addressee, whereas in Scene 4 it is an object that is clearly within the operational space of the *addressee* that is referenced, not the *speaker*. Turning our attention to the cases where preferences diverged, it becomes highly difficult to distinguish between an interpretation of the referent as being non-operational and it being merely neutral. If a participant judges that a referent is non-operational, obviously there will be no observed contradiction. This would have to be tested in some other way by first establishing a situation where individuals judge a referent to be operational, then test whether there are negative reactions to using the inappropriate demonstrative form in that context. The DWDQ is not designed to observe this kind of distinction. Thus, the question has to unfortunately remain unanswered. However, I believe it is likely that operationality is a matter of degree, meaning that the border between what is and what is not operational is very blurry.

If this is so, it would take a very clear case of operationality (perhaps salient and non-salient cases of operationality, whatever this may mean) of a referent in order to perceive it as contradictory to use 'den där', and, as we see in the data, such cases of clarity are seldomly seen in the scenes of the DWDQ and this reflects in low number of scenes that uniformly resulted in a preference for 'den här'.

To conclude the discussion before the final concluding remarks, it could be good to enumerate the potential successes of this section. It is clear that there are many things that factor into an explanation of demonstrative use for any given language. The visibility of the referent is one of these aspects, this aspect is shown in the results, but also discussed as it pertains to the notion of operationality. Visibility and operationality go hand in hand, and this explains the importance of vision in the operational demonstrative form 'den här'. Operationality, it is deemed, explain the preferences of the participants as a whole, an overview of which can be found in Table 2; at least better than naïve distance theories of demonstrative use does for the Swedish speakers who took part in this study. It also explains how context-dependent demonstratives are in a way that distance, seen naively, does not. It also gives us an appropriate constriction on the notion of reachability, which delimits a far greater area than operationality does. This, in a way that reachability and distance does not, explains why referents on the lateral plane are interpreted differently depending on the judge's idea of the referent's relevance to the speaker's activities. Operationality also explains better the notion of HERE-spaces, than does distance, since we get the reason behind these fluctuations; distance, on the other hand, cannot explain this whatsoever. Finally, this coheres perfectly with egocentric deictic centers, as posited by Diessel (2006). All of these reasons, and especially the arguments underlying them, is what drives the conclusion that distance is a very complicated and somewhat naively approached topic that researchers should avoid taking for granted in their analyses of demonstratives. Many concepts correlate with distance, everything occurs in space after all, but this does in no way mean that the concept of words that correspond with distance involve the encoding of distance-based concepts at all.

6. Concluding remarks

As the discussion has hopefully shown to some degree, we can give a response to the first research question. There is some semantic content being expressed in the demonstrative forms that make their appropriateness vary depending on the context. What they express, furthermore, cannot be reduced to mere zones wherein each demonstrative form is deemed preferable, where something like "den här" would then express "the referent is in the zone of proximity of the

speaker" or "search for the referent in the zone of proximity of the speaker". This view comes across as largely, if not entirely, dissatisfying, in that it does not tackle the question of what it is that determines this zone, and how the zones can expand, detract, and contort depending on the context. An analysis of demonstratives that get at the underlying determiner of these zones seems to also get at the actual information encoded in demonstrative forms. The semantic core of demonstratives, as has been argued for here, is the *concept of operationality*. Whether the analysis is ultimately correct is blatantly debatable, but it is clear that the conventional distance-oriented view appears insufficient for explaining speaker preferences and that reachability too loosely determines a zone of appropriate use. Ultimately, neither approach coheres with the data of this study if distance is seen as radial zones around a speaker. A great deal of supplementation would be required to make the view of demonstrative semantics as distance-oriented requires supplementation, but this is far from impossible. Important to note, then, is that the view is not incoherent or logically impossible, it simply suffers from being underdetermined in the light of this data. A defender of this view could possibly find a way to explain away the problems raised in this paper.

In terms of relevant parameters or variables for demonstrative choices, as was asked in our second research questions, the results show a number of parameters are relevant and that they all converge in the concept of operationality. First, we see that there is a rather clear case of egocentricity to the demonstrative preferences, along the lines of the classical view of demonstratives. Demonstrative choice is highly dependent upon a relation between speaker and referent. While discussing the encoded information of demonstratives, however, it becomes necessary to include that the information that is encoded needs to be expandable in a coherent manner. *HERE-spaces* are formed in everyday demonstrative usage, especially for the purely adverbial form 'här'. This, it was concluded, coheres very well with the notion that *HERE-spaces* emanate from the speaker. When speaker-points are expanded, this is a matter of pragmatics, and it was claimed, with some evidence, that what is encoded in the Swedish demonstratives is a referent-speaker relation with certain pragmatic variations.

The speaker's attentional focus, or the referent being visible to the speaker, was necessarily intertwined with proximity in cases of preference for the 'den här' construction, both of which are deemed essential variables for the preference of that demonstrative form. This was a surprising fact if we assume that proximity is the only concept encoded in 'den här'. This seems far better explained by the notion of the referent being operational or not (relative to the speaker). It is likely impossible for a cognitively inaccessible referent to be operational,

giving us further evidence for operationality being the fundamental concept that underlies the demonstratives; the parameters all cohere very well with this notion.

Another parameter that was looked at was hesitation. This can likely show a lot but was, however, not a particularly relevant factor in this study due to the very few instances of significant hesitation, which in part may be due to the lack of an operational definition and systematic observation of such instances. Wilkins (2018) notes that hesitation in scenes where the referent is equidistant from speaker and addressee can be a sign that the demonstrative system is either strictly speaker-anchored or addressee-anchored, but not both. This, however, was not observed and nothing in particular could be derived from this parameter other than that the semantics of demonstratives is relatively straightforwardly processed and judged by the speakers of this study. Given more instances hesitation, or longer hesitation, there could perhaps be speculations regarding aspects of the semantics of demonstratives that elude 'normal' use depending on certain problematizing contextual cues. Further research, I believe, could benefit from including hesitation in the documentation of the elicitation task and as part of the analysis of said results, although a clearer definition of the notion of hesitation may be necessary.

Finally, responding to question three regarding uniformity. A majority of scenes had uniform preferences. From the fact that not all scenes saw uniform preferences, on the other hand, we can merely derive that the concept that demonstratives encode is one that allows for a great deal of interpretability. This, again, coheres better with the notion of operationality since a naïve distance-oriented concept would presumably not elicit the same kind of variability, all else being equal. An explanation of how perception of distance elicits this kind of variability would be required; an explanation that seems difficult to arrive at given the current literature on the topic. This turned out to be one of the main reasons underlying the reconceptualization of demonstratives argued for in this paper.

The considerations above are in clear need of further testing. Nonetheless, I believe the conclusion from the discussion at the very least offers a potentially helpful alternative conceptualization of Swedish demonstratives, where other views fall short in their explanatory power. They binarily encode that the referent is either operational ('den här') or not ('den där), relative to a speaker or a speaker's extended *HERE-space*. Of course, with the proviso that this depends entirely on the perception of what is operational (in this case, the perception of the operationality of a referent in relation to a speaker). Given the complexity of spatial perception and the perception of others' peripersonal spaces and the fact that concepts such a reachability and affordances and the like can have a significant influence on these perceptions, it is not entirely impossible that the demonstrative forms still encode something like proximity and

distality. This would require extensive research on perception of space in the context of demonstrative use and elaborate explanatory supplementation. Mainly due to explanatory simplicity and coherence with the data, then, the view of demonstratives as encoding the operationality or non-operationality of a referent (relative to a speaker) is preferable. Less explanation is required for the operational view to cohere with the data, compared to the spatial and reachability-based approaches.

It is possible that the results seen here are in part due to challenges in conducting the elicitation task, it would not be surprising to see varying results depending in part on the researcher, but also on the situation, resources, number of participants, and so on. Of course, if one wants to truly find out what Swedish demonstratives encode in a way that is representative of *Swedish speakers*, the number of participants would have to increase significantly as well as be observed in spontaneous interactions to get at actual demonstrative use (see Bohnemeyer, 2012, who argues for the importance of pursuing observations of both spontaneous and elicited interactions in order to best understand demonstratives). Given more time and more data, elicitation task data should be compared with corpus data. I believe this would yield interesting discussions, at the very least. It also seems especially important, and far more difficult, to understand the appropriate areas of use for 'den här'. This is because 'den där' very likely is no more than the negation or neutral form of whatever 'den här' encodes. If there is a more nuanced concept baked into 'den där', it is certainly obscure to the methods applied here.

The DWDQ has, in any case, been an excellent tool for exploring exophoric demonstrative usage and preference. Furthermore, it is a tool that has been far from fully utilized in this study. It is likely that focusing in on the gestures and general behavior of the participants, with full video recordings and audio recordings of the sessions could be hugely beneficial in order to tease out further nuance and potential differences between sessions that may have been the cause of changes in preference. Thus, there is always some degree of likelihood that the preference differences are due to changes in how the elicitation task was conducted from session to session. Scenes or instances where this was deemed especially likely are highlighted in Section 7.

To conclude these concluding remarks, how does operationality relate to the demonstrative's fundamental function of establishing and maintaining shared intentionality? Uttering 'Titta på den här boken' (*Look at this book*) simply urges the addressee to direct their attention towards the book that is currently operational, relative to the speaker. "Vill du låna den där boken?" (*Do you want to borrow that book?*) diverts the addressee's attention to a referent that is currently not being manipulated by the speaker. This seems more likely than the

notion that these expressions direct attentional focus by encoding that the referent is in an undetermined area with potentially varying radius-lengths around the speaker. Something determines the zone of perceived appropriate use. Operationality seems to do exactly this. Operationality of a referent relative to a speaker is what Swedish demonstratives may encode in order for speakers to maintain and direct the attention of their addressees.

6.1 On the semantics of demonstratives

A semantic content such that it determines the preference of a demonstrative form in a given context seems to exist. The contrast itself seems to be perceived not as gradual, but binary, considering the fact that there was very little hesitation. There is no real perception of ambiguity on the level of the individual speaker, only interpersonal ambiguity of certain spaces where referents are interpreted as having different relations to the speaker (that is, whether the referent is operational or non-operational at the time of the utterance). Recalling Kaplan's principles for a moment (Section 1.1.1), demonstratives cannot be seen as directly referring expressions, I believe, in light of this. Their function as referring expressions is still mediated by the semantics associated with the terms; likewise, for various semantic contents associated with gestures that oftentimes accompany the demonstrative forms. Thus, a demonstrative may gain its referent through its demonstration, but a demonstration (as in an indexical gesture) still determines a referent through its sense. So, we can say that the character (the function from context to content) of Swedish demonstratives is what allows for the context to ultimately determine the referent, but is this right? It seems that there is a kind of propositional value to the demonstratives, on any account of them, which would attribute more than sense character to demonstratives. For instance, would we not perceive an operational construction 'Det här trädet vi såg igår var lövfällande' ('This tree we saw yesterday was deciduous') as inappropriate if we are referring to the tree we saw yesterday (unless it is anaphorically used and was recently mentioned)? Would this be experienced as incorrect? Given the right context, once we consider the distinctive quality of demonstratives we also find that there is propositional content that can be evaluated, albeit perhaps not as strongly as many other expressions which require far less contextual cues in order to properly evaluate its propositional value. In terms of fundamental distinctions, however, it is clear that there is a truth-condition expressed in the demonstrative (referent is proximal/not proximal, is operational/is not operational, etc.). The truth-condition of something like 'Jag tycker om den här boken' ('I like this book') would be if the book that the utterer says they like is within the utterer's space of operationality. Demonstratives, in my view, cannot be talked about as mere directly referring expressions if they contain contrastive content. Seen in this light, it may not be so clear that these demonstratives can be regarded as distinct from something like a noun in terms of the way it expresses a sense, and then denote an object or event. The function of a demonstrative is not from an expression to environmental constraints that then establishes a referent in any way different to how expressions normally function. Instead, demonstratives are functions from an expression to its sense, which then establishes its referent, like any other referent-establishing expression (definite description, noun phrases in general, even). Perhaps it can be claimed, then, that demonstratives have a sense proper, not just sense character. Perhaps it can even be said that demonstratives do not themselves denote objects, but areas or activities within a larger context; that they simply, as expressed before, limit the search area of a referent without thereby pointing out the referent itself (unless used adnominally, where the function is the same). What is encoded in demonstratives, and thereby what constitutes their full sense (that is, both content and character), is the information that serves to "narrow the contextually relevant search domain" (Burenhult, 2018, p. 364). For Swedish, this very well could be the rather particular search domain narrower: operationality.

6.2 Further implications and research

The fact that the characterization of Swedish demonstratives as distance-determined was rather easily shown to be underdetermined by the data potentially has some strong implications for future studies on demonstratives. Firstly, it shows that we know far from everything there is to know about demonstratives. Even if we can identify the semantic content involved in demonstrative use, a lot remains to explain how perception is involved in choosing an appropriate demonstrative form. Demonstratives are incredibly versatile and are highly susceptible to pragmatic variation (Diessel, 2006, p. 6). This also means that the methods researchers choose to approach demonstratives with will also heavily influence how they are characterized. Furthermore, if Diessel (2006) is right in that exophoric use is the basic use from which all other demonstrative use is derived, then it becomes vital to understand exophoric use first and foremost if you want to understand how demonstratives develop new functions or meanings. The DWDQ gives us a highly systematic way of approaching exophoric use that lets us test our presumptions regarding demonstrative use. I would wager that researchers of languages where the notion of demonstratives as being determined by distance is seen as fact would likely be forced to reconsider after only a few sessions of the DWDQ.

As hinted at earlier, the claims surely have to be tested with a larger number of participants, first of all, in cases of naturally occurring exophoric demonstratives. To really test

if operationality is the leading determinant of demonstrative form, and thus the sense (character) of exophoric demonstratives in Swedish, some very straightforward experiments could be developed. For instance, situations where objects with varying degrees of relevance to the activity of a speaker could be used as the referent for eliciting the use of demonstratives, thus testing whether degree of operationality factors into demonstrative use, and if so, how. It is also clear that further conceptual work on operationality is necessary (in fact, it is necessary for any conception of demonstratives' semantic content). For instance, does it really require attentional focus or not? Do demonstrative form preferences change depending on the level of attentional focus of the speaker on the referent? Where are the direct boundaries of 'operationality' or the idea of an object being in use or ready for use? What makes an object lose and gain operationality? The idea that Swedish demonstratives encode the operationality of the referent is dependent on the perceived blurriness between operationality and non-operationality. If the line happens to be clear, for both speakers and external judges of speech situations, then this approach simply does not work. There is also a great deal of uncertainty pertaining to the notion of distance and perception of distance; knowledge of which become vital in the conceptualization of demonstratives.

There are also further studies that could be done with the DWDQ in particular, for the Swedish demonstratives. Allowing the participant to act as the speaker may give different results, which certainly should be done to give a full picture of speaker preferences. Then, of course, merely asking for preferences does not give us an idea of what is acceptable. It is possible that there is a great deal more fluidity or neutrality to the Swedish demonstrative forms than what has been shown in this study. Thus, asking for the acceptability of the two demonstrative forms would have to be tested as well to give a complete picture of what the DWDQ has to offer.

It is clear that there is a level of complexity regarding the perception of all potential candidates for what demonstratives encode. In many ways, demonstratives seem to be deeply connected to both the motoric and visual systems in a way that involves several different faculties at once. Clearing these up in order to fully understand what goes on in demonstrative use would be a monumental task. I strongly believe, based on data and subsequent arguments of this paper, that Swedish demonstratives encode a concept like operationality, that happens to connect to visual perception and through that attention, the notion of affordances and our fundamental being-in-the-world (Heidegger, 1927 [1996], pp. 53-62). Given the complexity of the perception of space and reachability, there could be research that shows that spatial concepts and reachability indeed have the kind characteristics enumerated above (a-d). It is, furthermore,

possible to posit more general concepts as what determines demonstrative use in Swedish. Perhaps there are ideas such as degree of relevance to the current speech situation, perhaps to the social situation, or the current activities, all of which have some explanatory power and coherence with the data here. Some of these may better cohere with more animate referents (animals/persons), since talking about degree of operationality in regard to animate referents may come across as strange. Nonetheless, the concept of operationality can be either weakened or modified to fit these different types of referents (the DWDQ does not factor referent-intrinsic properties into the elicitation, which may have caused a bias of seeing these objects as differently operational, whereas this view may not have come across as equally natural if the referents were animate). We are talking about degrees of relevance to a given speech situation, in its most general sense, but how this pertains to the psychology or cognition of speakers is far beyond the scope of this paper. For instance, we would have to ask what determines 'degree of relevance' if not some other percept, such as usefulness of an object or context-affordances; objects' degree operationality or part in current social situations or activities; or saliency or whatever may make something relevant to a person.

In any case, if demonstratives are as fundamental to language as they sometimes are presented as being, then their complexity – in that they are closely related to perception and action – should certainly not be underestimated. To truly understand the encoding of demonstratives, one has to delve into both the perception of objects and of language use in relation to those objects. This area, specifically for the exploration of demonstrative use or language as it relates to perceptions of objects, or the perception of activity or perhaps even the perception of more complex relationships like operationality, is far from well-developed. Nonetheless, it seems clear that an interdisciplinary effort seems necessary in order to uncover what demonstratives encode and how exactly they establish and maintain shared intentionality.

7. Methodological considerations

Some other slight modifications for practical purposes were made due to limitations of either the environment or the context in which the elicitation was made. For instance, some scenes required the elicitation to occur over the size of a football field. This was not possible to enact precisely as the DWDQ recommended, especially not in a city environment. Instead, the maximum distance that could be achieved in-doors was used in most cases, usually ranging from 10-20 meters. This did not seem to have any noticeable impact on the preferences.

When attempting to simulate Scene 3, there was at times significant confusion when trying to come up with a suitable referent, as well as in attempting to clarify what was wanted

from the participants, which may have contributed to the different responses by the participants (see Scene 3 in Table 2). One of the participants who preferred 'den där' initially, once asked about this scene a couple of weeks after the first session, preferred 'den här' when they acted as the speaker. This may have had an influence on the results, but to me, this is unclear.

Another potentially significant point is that for two of the sessions, the judge also acted as the addressee, with a third person being merely imagined (and in one case a sleeping cat was the placeholder third person). This is because a third participant was needed in Scenes 13-18. It is unclear if this is an issue, but it may have caused some unnecessary confusion regarding the roles being played in the scenario. This was due to the fact that it was not possible to gather the three people necessary to realize every scene for every session, but again, it was preferable to get another participant over having perfect conditions for the elicitation task.

Participants were informed of how the study would be conducted beforehand, but the initial stages almost invariably required extra explanation nonetheless which may have not come across in the introduction to the elicitation task. Further studies would benefit from a couple of test runs with the participants, if possible, as it can be confusing to act as the external judge of a speech situation.

Regarding various participant characteristics, one aspect has to be mentioned. There is no a priori reason to think that demonstrative usage varies depending on gender, age (at least not between adult speakers), or other sociocultural factors (other than the language the participants speak and potentially dialect, if this can be included under sociocultural factors). Therefore, the only real concern would be if there can be influence from other languages in the use of demonstratives in Swedish. To circumvent this, only using informants with Swedish as a first language was considered good enough, although this does not obviate the concern regarding potential second language influence on L1 usage of demonstratives. There is, however, as far as I can find, no evidence to support this concern, so no measure to avoid such problems will be considered. On the other hand, there is some evidence for there being a difference in choice of demonstrative, specifically for the proximal form, i.e., 'denna' and 'den här', being used differently depending on the dialect (see Data-Bukowska, & Holmqvist, 2006). This does not mean that the fundamental distinction (classically seen as the distinction between proximity and distality) is lost in these dialects, however. But of course, if one wants to explore demonstrative use as it occurs 'in the wild', then a far broader study would have to be conducted with these aspects in mind.

The order of the scenes is for the "convenience of the researcher" (Wilkins, 2018, p. 53). That is to say, there is a clear progression from scenes where the referent was near the speaker,

slowly increasing the distance and adding a third person to the scenes, so that most scenes towards the end have a tendency towards 'distality' in two-way contrasting systems based on spatiality. The design is presumably to not force the researcher to run back and forth between scenes with varying distance between speaker and referent. This may be a problem, but there does not seem to be a way around this unless you use different speakers for each scene. This is because as soon as one asks a judge for their preferences, a kind of attempt to systematize the responses begins to take shape. One seems to want to create rules for demonstrative use as they are prompted to state their preference over and over. Luckily, the scenes are constructed in such a way to test whether the rules the judge creates reflectively in the elicitation task are really in accordance with their linguistic intuitions. This makes it possible to observe the points which cause confusion or problems for the judge (preventing an easy and straightforward systematization). Confusion or hesitation could mean that there is a clash between an internal reflective rule of demonstrative use *and* intuitions to prefer either of the demonstrative forms in a scene that does not facilitate the application of that rule. This is not a problem. On the contrary, it is exactly what this study aims to observe and learn more about.

One last potential aspect of the collection of data that may have influenced the result is that two of the participants were asked to be judges at the same time as a third judge who also acted as the addressee. In this case the two judges were asked to give their responses in writing to avoid influencing the third participant. This may have also been a leading cause of some confusion in the initial stages for these participants. The responses still differed in certain scenes and they were informed that there was no need for uniformity in their judgments. While far from ideal, it was deemed preferable to take advantage of the opportunity to gain more participants, over the potential drawbacks. In this case the participants who wrote their answers on a form given to them were asked to note if they were unsure or felt any hesitation in their judgment. There are both upsides and downsides to this approach. The downside is that it is not possible to monitor the participant to the same extent, and there is a high risk of the participants influencing each other, which pose potential problems relating to validity. The upside is that the discussion regarding demonstratives that arose was very engaging and interesting. Weighing these against each other, however, using only one judge at a time is recommended. Or, alternatively, group sessions can be held but then the methodology should be adapted entirely for that purpose. If a mixed-methods approach is to occur then these should be clearly separated and handled accordingly, which is not done here. It is unclear if this has any negative ramifications, but it should be noted, nonetheless.

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