ATTENTION, ACCESSIBILITY, AND THE ADDRESSEE: THE CASE OF THE JAHAI DEMONSTRATIVE *TON*[1]

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Abstract

The detailed semantic encoding of demonstrative systems of the world's languages has come under increased scrutiny in recent years. One important finding is that spatial (notably distance) encoding, normally considered to lie at the heart of exophoric demonstrative semantics, may be rivalled as to its 'basicness' by more discourse-related forms of encoding, such as the status of the addressee's attention in relation to the referent. This paper investigates the attentional characteristics of *ton*, a nominal demonstrative in Jahai (Mon-Khmer, Malay Peninsula) previously considered to encode spatial proximity to addressee. It does so in light of naturalistic interaction data from a specific object-identification task originally aimed at eliciting shape-encoding distinctions (Seifart 2003).

Keywords: Jahai, Demonstratives, Attentional contrasts, Addressee, Cognitive accessibility, Matching game.

1. Introduction

1.1. *Demonstratives and attention: A summary of recent research*

Spatial reference is generally considered to form the core of exophoric[2] demonstrative semantics and to be a crucial factor in speaker choice of demonstrative form. In particular, distance distinctions are frequently put forward as the most evidently spatial and fundamental feature of demonstrative systems (see e.g. Anderson and Keenan 1985; Diessel

[2] 'Exophoric' involves external reference to real objects in space; its opposite, 'endophoric', involves discourse-internal reference, e.g. anaphora.

1999: 36-41; 2003: 30-31; Dixon 2003: 85-89). Such distance-based systems manifest themselves in forms distinguishing *proximal* and *distal* locations in relation to the deictic centre, sometimes with an additional *medial* distinction. In numerous languages, distance distinctions are considered to interplay with participant anchoring, so that proximal demonstrative forms may distinguish between proximity to speaker and proximity to addressee, for example.

However, some recent studies of demonstrative usage in individual languages raise objections as to the 'basicness' of spatial parameters in demonstrative semantics, and distance-based distinctions in particular have been called into question. Instead, more pragmatically related explanations are given to account for the encoding of some forms. For example, Özyürek (1998) shows that the Turkish demonstrative *şu*, conventionally considered to encode medial or addressee-proximal distance, does not encode any specification of distance at all between the referential object and the participants but is fully devoted to the pragmatic function of attention drawing. More specifically, it is used only when the speaker assumes that the addressee's visual attention is not on the referent. The distance-encoding proximal and distal forms (*bu* and *o* respectively) are used when the addressee's attention is presumed or already there.

Also, Burenhult (submitted) re-analyses the Jahai medial, characterised by extreme flexibility with regard to the spatial location of its referents, as encoding similar attention drawing. Spontaneous data indicate that it is used to direct the addressee's attention to a new referent, and it is frequently used in reply to location- and item-questioning. This usage is suggested to be connected to general notions of accessibility and participant anchoring, which are important semantic features throughout much of the complex Jahai demonstrative system. Thus the attention drawing characteristics of the 'medial' are considered to be associated with cognitive inaccessibility and addressee anchoring.

Moreover, in his discussion of Tiriyó demonstratives, Meira (submitted) hints that spatial aspects of demonstrative meaning may be secondary to pragmatic aspects like attention direction and shared knowledge. On the basis of data from Tiriyó and Brazilian Portuguese, Meira (2003) also points to the importance of the addressee as a cognitively obvious reference point in relation to the referent for the speaker's choice of demonstrative.

1.2. *The Jahai demonstrative system: An overview*

Jahai, a member of the Northern Aslian sub-branch of the Aslian branch of Mon-Khmer, is spoken by a group of about 1,000 hunter-gatherers in the mountain rainforests of northern Peninsular Malaysia and adjacent parts of southern Thailand. Characteristic features include a fairly rich system of vowel phonemes, a complex system of word formation involving intricate processes of derivational affixation and reduplication, and rich pronominal and demonstrative distinctions (Burenhult 2002).

From a structural point of view, Jahai demonstratives form a morphosyntactically uniform and well-defined form class. Eight location-signalling demonstrative roots, all of which begin with a glottal stop /ʔ/, are used adverbially, typically in adjunct adpositional phrases headed by prepositional proclitics signalling location, source, goal and the like (literally *at here*, *from there*, *to here* etc.). All of these roots may be turned into nominal demonstratives through the replacement of the initial glottal stop with the voiceless alveolar

stop /t/. This process of phonemic supersession, in which a root-external phoneme-cum-morpheme fuses phonologically with its host root and produces an unanalysable form, is a morphological strategy that is unique to this set of eight demonstrative forms and is not found in other areas of Jahai grammar. The resulting forms are typically used adnominally, i.e. they function as modifiers of nouns or pronouns within the noun phrase. As such, the eight forms are associated with a single, post-nominal NP slot. They may also be used pronominally and then represent full NPs by themselves.[3] Thus, the eight forms being identical in their morphosyntactic behaviour, Jahai demonstratives are easily identified and make up a well-defined class of words.

Functionally, however, the Jahai demonstrative system is rich and diverse, the eight distinctions encoding a range of meanings and pragmatic inferences. The system is summarised in Table 1.

Functional distinction	Adverbial form	Nominal form
Speaker-anchored accessible	ʔə̄h	tə̄h
Addressee-anchored accessible	ʔon	ton
Speaker-anchored inaccessible	ʔaniʔ	taniʔ
Addressee-anchored inaccessible	ʔũn	tũn
Speaker-anchored exterior	ʔadeh	tadeh
Addressee-anchored exterior	ʔɲɨʔ	tɲɨʔ
Superjacent	ʔitɨh ~ ʔotɨh	titɨh ~ totɨh
Subjacent	ʔujih	tujih

Table 1. The Jahai demonstrative system.

Four of these distinctions, previously considered by the author to encode distance in relation to speaker and addressee (Burenhult 2001; 2002: 113-117), have recently been tentatively re-analysed in terms of participant-anchored accessibility rather than distance (Burenhult, submitted). In the speaker-anchored forms, 'accessibility' is to be understood as a wide concept incorporating a range of notions related to factors like reachability/approachability, perceptibility, distance, possession/ownership and topicality in discourse. However, the addressee-anchored forms are suggested to encode a more narrow niche of accessibility relating to the addressee's cognitive relation to the referent. The remaining four distinctions encode cross-linguistically unusual spatial parameters pertaining to elevation and exteriority of the referent in relation to the speech situation (Burenhult, in prep). All of the distinctions, represented by their derived nominal forms, are characterised in brief below:

Speaker-anchored accessible /tə̄h/
Associated with referents conceived of as in some way accessible to the speaker, e.g. with regard to proximity, perceptibility, reachability/approachability, possession and topicality in discourse.

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[3] The use of the term 'nominal demonstrative', which incorporates both adnominal and pronominal forms, follows Dixon's recent proposals for demonstrative terminology, so as to avoid unsuitable terms like 'demonstrative pronoun' (Dixon 2003: 65-69).

Addressee-anchored accessible /ton/

Associated with referents considered by the speaker to be 'cognitively accessible' to the addressee, i.e. referents which have the addressee's current or previous attention/knowledge.

Speaker-anchored inaccessible /taniʔ/

Associated with referents conceived of as inaccessible to the speaker, e.g. with regard to distance, imperceptibility, unreachability etc.

Addressee-anchored inaccessible /tũn/

Associated with the introduction of new referents, i.e. referents which do not have the addressee's current or previous attention/knowledge and therefore are 'cognitively inaccessible' to the addressee.

Speaker-anchored exterior /tadeh/

Associated with referents located on the other side of the speaker from the addressee's position; distance is irrelevant.

Addressee-anchored exterior /tɲɨʔ/

Associated with referents located on the other side of the addressee from the speaker's position; distance is irrelevant.

Superjacent / t it ɨ h ~ tot ɨ h /

Associated with referents located above the speech situation, either in the immediate area of the speech situation (including vertically 'above') or with reference to landscape contour ('uphill') or river profile ('upstream').

Subjacent /tujih/

Associated with referents located below the speech situation, either in the immediate area of the speech situation (including vertically 'below') or with reference to landscape contour ('downhill') or river profile ('downstream').

1.3. *The characteristics of Jahai* ton

In the early stages of description, the demonstrative form *ton* was characterised by the author as primarily encoding 'addressee-anchored proximity' (Burenhult 2001; 2002: 113-117). This was motivated by the fact that in exophoric use its referents are typically located near the addressee. This interpretation was supported by a tentative analysis of spontaneous interaction data captured on video (Burenhult 2001). Early field-notes also suggested that it could be used with referents which are in some way associated with the addressee but not necessarily located in close proximity to him/her, e.g. his/her house. Furthermore, *ton* was also described as occurring secondarily as a 'neutral' demonstrative, referring to locations which were not saliently specified. Its endophoric manifestation as a frequent anaphora was also acknowledged.

In a recent re-analysis (Burenhult, submitted), the exophoric characteristics of *ton* are tentatively explained in the context of 'accessibility' rather than 'distance'. This follows from an investigation of Jahai demonstratives by means of the so-called *Demonstrative Questionnaire*, an elicitation tool developed specifically for the detailed study of the extensional range of demonstratives in exophoric spatial use (Wilkins 1999). This showed that *ton*, along with the other three distance-related forms, may exhibit great flexibility with regard to the spatial location of its referents and that distance distinction is insufficient for capturing its underlying parameters. With the support of observations of natural interaction, *ton* is instead suggested to be associated with referents which are considered by the speaker to in some way represent 'shared knowledge'. This may include referents which the addressee is currently attending to or which the speaker has just exhorted the addressee to attend to. But it may also involve referents about which the addressee is considered to have prior knowledge but is not necessarily currently attending to. This interpretation seems to be supported by other features as well, e.g. the fact that *ton* is rarely stressed or accompanied by pointing, and its frequent anaphoric use.

According to this view, *ton* does not primarily encode any form of spatial information and can therefore be used to refer to entities in any location as long as they in some way represent 'shared knowledge' with the addressee. The fact that referents of *ton* are frequently addressee-proximal is seen as a 'typicality effect': Referents located in close proximity to the addressee are the ones that are most likely to be known or attended to by the addressee and therefore prone to be associated with that demonstrative form which signals 'shared knowledge'.

Furthermore, the characteristics of *ton* are hypothetically linked to the more general notion of 'accessibility' which together with participant anchoring is suggested to underlie the whole system of distance-related terms in Jahai. Thus, they are explained as the outcome of a combination of addressee anchoring and the speaker's notion that the referent is accessible; i.e. they associate with referents thought of as accessible to the addressee. Note, however, that in this addressee-focused context, accessibility seems to have a restricted interpretation and involve only facets associated with the addressee's *cognitive* relation to the referent (and *not* primarily other facets, like proximity, visibility, reachability etc.). In other words, speakers use *ton* when they assume that the referent is 'cognitively accessible' to the addressee. This is taken to explain the association of *ton* with referents which are attended to or in other ways represent 'shared knowledge'. It is also taken to explain the extreme flexibility that *ton* enjoys with respect to the spatial location of its referent. The term 'cognitive accessibility' is rather undefined but, given our limited knowledge of the full extent of *ton* usage, it will suffice for our present purposes.

Furthermore, *ton* holds a special position in the Jahai demonstrative system in that it is frequently employed for endophoric purposes. It then mainly functions as a reference-tracking anaphora referring back to previously introduced referents and events. In some endophoric contexts its demonstrative properties appear bleached and it then simply conveys a more general notion of definiteness or 'known'. Arguably, its properties in this non-exophoric and 'un-demonstrative' setting has clear connections to the notion of 'cognitive accessibility' outlined above. Although critical for a full understanding of the *ton* distinction, these non-exophoric aspects of *ton* will not be further addressed here.

Returning to the more evidently exophoric functions of *ton*, one thing that has so far remained unclear is the exact relationship between its exophoric use and the status of

the addressee's attentional relation to the referent. This is to a large extent due to the difficulties in finding and documenting well-defined spontaneous interactional contexts with ample demonstrative reference to a controlled and easily identifiable set of referential objects. But a new elicitation task recently run in the field among Jahai speakers had the unexpected side effect of spurring such spontaneous and abundant demonstrative use of immediate relevance to attentional issues; it is in this context that we shall explore the attentional characteristics of *ton*.

2. The task

2.1. *The Shape Classifier Task*

The Jahai data analysed in this paper consists of naturalistic interaction recorded on video in connection with an object-identification task originally aimed at eliciting shape-encoding distinctions, the so-called 'Shape Classifier Task', or 'ShaClaTa' for short (Seifart 2003). The task is designed to spur spontaneous use of shape-encoding categories (notably shape-encoding classifiers) for the detailed, cross-linguistic study of their grammatical and semantic properties. It takes the form of a 'matching game', in which a 'director' instructs a 'matcher' to solve a problem by means of specific visual stimuli. The two participants are presented with a set of 48 wooden objects of 25 types representing various shapes and sizes. All objects are made of similar wood and are in principle afunctional. The director is given a stack of photos (20 in all) in which subsets of objects from the set have been arranged in various constellations (see the example in Figure 1). The set-up of these scenes is designed to probe for basic contrasts with respect to parameters like dimensionality, axial geometry and round vs. square. The director is instructed to describe orally the scene he sees in each photo so the matcher can identify the correct objects and rebuild with these the scene in front of him to a reasonable degree of exactness. After completion of an arrangement all objects are back in the game again. For more detailed information on how the task is run, see Seifart 2003.

The director has full visual access to the stimuli, the pile of wooden objects and the response array produced by the matcher. The matcher, on the other hand, relies on the director's oral description of the stimuli for the correct identification of objects of the set and for arranging them correctly in constellations (see Figure 2). Matching games of this kind are ideal for inducing entirely spontaneous native speaker language use whose characteristics are of direct relevance to the specific interest of the researcher.
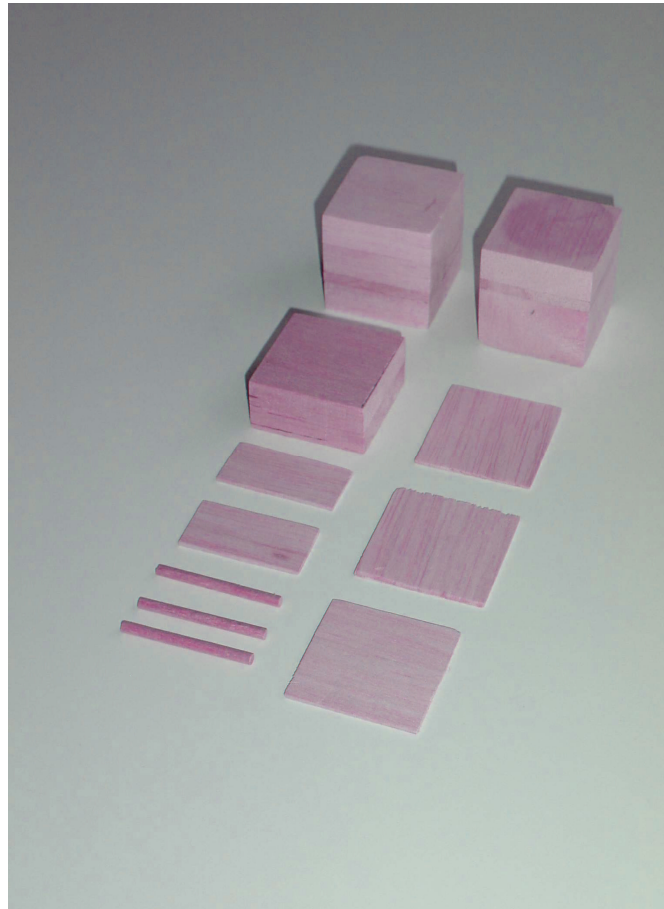
Figure 1. Example of photographic stimuli from the 'Shape Classifier Task' (Seifart 2003).

2.2. ShaClaTa and Jahai

Jahai has a set of about 15 numeral classifiers, most of which are shape-encoding. About half of them are loans from the neighbouring Austronesian majority language Malay. The remaining forms are indigenous but appear to be calques of Malay forms. Classifiers occur non-obligatorily in quantifying contexts and seem to serve an important function in discourse as anaphora for reference tracking (Burenhult 2002: 108-111).

It was in order to obtain more detailed and fine-tuned data on Jahai classifier usage that the 'Shape Classifier Task' was recently run in the field among Jahai speakers. Two sessions of the task were run, involving altogether three native male speakers who alternated as director and matcher (note however that only two speakers at a time participated in the task). The sessions were documented on video and the recordings total approximately 90 minutes.

Figure 2. The Jahai 'ShaClaTa' set-up, with a 'director' with photographic stimuli to the left, and a 'matcher' with the set of wooden objects to the right.

An interesting fact about the Jahai data is that the task failed to spur use of classifiers. Instead, a range of other linguistic strategies were used by the director and matcher in solving the task. For example, objects were identified by means of metaphorical nouns and shape-encoding property verbs. Another frequently used strategy of reference was demonstratives, and all of the eight distinctions of the Jahai demonstrative system were employed. For example, they were used by the director when guiding the matcher to the correct item in the pile of wooden objects, which was visible to both participants. This strategy was particularly popular at the beginning of the sessions, before the participants had become familiar with the objects and given them more specific names. The particular setting thus produced rich data on exophoric demonstrative reference to real, visible objects in 'table-top' space.

A problem with studying attentional contrasts in demonstrative use is how to determine the status of the addressee's attentional relation to the intended referent. Video documentation obviously facilitates observation of determining factors, but the investigator still depends on parameters which are rather difficult to assess. For example, Özyürek (1998) uses gaze direction to determine whether a referent has the addressee's attention or not. In the ShaClaTa set-up, the piled up nature and small size of the objects competing for 'referenthood' makes it impossible to use gaze direction as a cue in determining the attentional relation between addressee and referent. However, the ShaClaTa layout is informative in that it allows for an analysis based on more visible parameters, including the

addressee's proximity to, contact with and manipulation of the referent. Furthermore, the set-up of the task is convenient in that it also illustrates the speaker's interpretation of the attentional relationship between addressee and referent, e.g. in the form of the instant linguistic confirmation or dismissal of the addressee's responses to instructions.

3. Analysis

3.1. *Demonstrative use studied*

Although *ton* is the focus of our interest, it is clear that an understanding of the use of other demonstrative distinctions is necessary for an analysis of attentional contrasts. But since the documented instances of demonstratives in the ShaClaTa data then number in the hundreds and represent diverse types of usage which may not always be straightforwardly comparable, it is convenient to delimit our study somewhat. Firstly, since we concern ourselves with attentional contrasts in the exophoric use of demonstratives, endophoric manifestations are obviously ignored here. Endophoric use of *ton*, for example, which mainly involves the anaphoric construction *lpas ton* ('then', literally 'after that'), is thus not included in the analysis below.

Secondly, the analysis is confined to the nominal (i.e. pronominal and adnominal) forms of demonstratives and does not include their adverbial counterparts. This is to make the data more uniform and manageable.

Our third delimitation involves referential context. In the ShaClaTa demonstrative data it is possible to distinguish at least three different kinds of referential context. These are associated with the three material components of the task. Thus, one type of context involves reference to the response array being set up by the matcher. This may take the form of reference to the objects themselves or fine-tuned reference intended to provide or extract exact information as to where and how an object should be placed in relation to other objects in the array. Another type of context involves reference to the objects in the photographic stimuli. This kind of reference occurs only sporadically in the material. The third and most common type of context involves reference to items in the unorganised pile of wooden objects. Such reference takes the form of 'guiding to object' by means of demonstratives; typically, the director uses demonstratives to direct the matcher to the correct item in the pile. This is the context in which the contrasts of the set of distinctions are put to their most evident use and it is the only referential context to be explored here.

Finally, the analysis will be restricted to the director's use of demonstratives. This delimits our data to instructional usage and excludes interrogative usage. Incidentally, matcher's use of demonstratives is comparatively marginal.

Thus, the following analysis is concerned with situations where the director of the task uses exophoric nominal demonstratives of any distinction for instructional reference to items in the pile of wooden objects. The total number of identifiable instances of such demonstrative reference is 224, and five of the eight possible distinctions are represented. Note that this number counts instances of uttered demonstrative forms (including repetitions) and not just instances of unique reference. Thus, the same referential situation may contribute several instances of demonstratives. A breakdown is given in Table 2.

Functional distinction	Form	Number
Speaker-anchored accessible	tə̃h	66
Addressee-anchored accessible	ton	52
Speaker-anchored inaccessible	taniʔ	24
Addressee-anchored inaccessible	tũn	46
Speaker-anchored exterior	tadeh	-
Addressee-anchored exterior	t ɲ ɨ ʔ	36
Superjacent	t it ɨ h ~ tot ɨ h	-
Subjacent	tujih	-
Total		224

Table 2. Breakdown of total number of analysed instances of demonstratives in the ShaClaTa recordings.

3.2. *The nature of demonstrative reference*

As noted above, the director's guiding of the matcher through the pile of objects frequently involves ample use of nominal demonstratives. In the typical scene, the director introduces the intended referential object by means of a shape noun (e.g. 'lump', 'stick' and 'ring') or a metaphorically used noun (e.g. 'mouthpiece of blowpipe', 'biscuit', 'egg' and 'basket') or a third person pronoun modified by a relativised property-signalling verb (e.g. 'it which is flat'). If the matcher has trouble identifying or finding the intended object on the basis of this nominal or verbal reference alone (as he frequently does, especially at the beginning of the ShaClaTa sessions, before the participants have become familiar with the objects), the director uses demonstratives to guide the matcher to the correct item. Thus, a referential situation, which begins with the introduction of a referent and ends with the matcher's correct identification of it, may involve a sequence of demonstratives. A total of 55 such sequences (with between 1 and 20 instances of demonstratives each) have been identified in the data. In most cases demonstratives are pronominal; that is, they are used in isolation with the approximate meaning 'this' or 'that'. Adnominal forms, as in 'this ring' or 'that ball', are used less frequently. Examples (1) and (2) illustrate typical sequences. Relevant demonstratives are in bold and simply glossed as 'DEM'.

(1) ʔaɲket ʔoʔ   k=bulat,   ʔoʔ   k=deʔ   tɲkal,
     to.take 3S   REL=to.be.flat.and.round 3S   REL=to.make mouthpiece

     tɲkal   blaw   **tə̃h**, **tə̃h** **tə̃h**, kjɔm   ʔoʔ   k=deʔ
     mouthpiece blowpipe DEM   DEM DEM   underside 3S   REL=to.make

     ʔmpɔɲ   ka=ʔũn,   pɛ̃w-pɛ̃w-pɛ̃w,   pɛ̃w,   **tə̃h**, ʔmpɔɲ ba=ʔə̃h,
     hole   LOC=DEM   other-other-other   other DEM   hole   GOAL=DEM

     haʔih   **ton**   lɛh
     correct DEM   EMP

'Take the one which is flat and round. The one that 'makes' a mouthpiece [of a blowpipe]. **This** mouthpiece of a blowpipe. **This** one, **this** one. Underneath the one that 'makes' a hole. A different one, different one, different one! A different one. **This** one. The hole here. Yes, **that** one'.

(2) lagiʔ nɛj,   **tṵn-tṵn-tṵn**,   kjɔm   ʔũn,   **tṵn-tṵn**,   **tṵn**,   **tə̰h**,
     again one   DEM-DEM-DEM   underside DEM   DEM-DEM   DEM   DEM

kjɔm   ʔoʔ ʔə̰h, ba=ʔũn   lagiʔ, ba=ʔaniʔ,   ba=bulaʔ,
underside 3S   DEM   GOAL=DEM   again   GOAL=DEM   GOAL=ball

haʔih   **ton**
correct   DEM

'One more. **That** one, **that** one, **that** one! Under there! **That** one, **that** one! **That** one. **This** one. Under the one here. Further over there. Over there. To the ball. Yes, **that** one'.

Looking at the functional characteristics associated with each demonstrative form, some clear patterns become immediately apparent. All of the forms used in the task except *ton* are used to guide the matcher to an object which as far as can be determined from the video recording does not have his immediate attention. Invariably, they call for the matcher to focus on an item which is not attended to at the time of reference, most typically with the aim of directing his attention from an incorrect item to the correct one. These forms are never used once the correct item has been identified.

Each such form appears to carry specific information as to how the matcher's attention should change, usually spatially. Thus, the speaker-anchored accessible form is used to guide the matcher's attention to an item located 'directorwards' from the item currently attended to. The speaker-anchored inaccessible form guides the matcher's attention to an item located on the other side of the item currently attended to from the point of view of the director. Note that these two forms are not necessarily associated with specific parts of the pile of objects, but are used typically in relation to the matcher's current attention. Thus, for example, the speaker-anchored accessible form may be used to refer to an item anywhere in the pile as long as the matcher's current attention is on an item beyond that. This separates these forms from the addressee-anchored exterior form, which - although also usually guiding the matcher's attention to an item located on the other side of the item currently attended to from the point of view of the director - is associated with that part of the pile which is saliently towards the area behind the matcher. These three forms thus have clear spatial (directional) association. The addressee-anchored inaccessible does not seem to have such directional guiding properties as the spatial distribution of its referents is random with respect to both direction from the item currently attended to and location within the pile. Instead it appears to have a general function of just drawing the matcher's attention to an object which is not attended to. None of these four forms are used to refer to an object which has the matcher's current attention.

But our main interest of course is the function of the addressee-anchored accessible form *ton*. This differs from the above four forms in that it is never used to guide the

matcher 'somewhere else', i.e. to an object that does not currently have his attention. On the contrary, it appears intimately associated with referents which are in some way currently attended to or manipulated by the matcher. It is typically used to confirm that the matcher has picked out the correct item: "Yes, that one". This includes situations in which the matcher is getting close to finding the correct item, and the director then uses *ton* to signal that the matcher is 'getting warm' and should *not* divert his attention. There are also examples in which it is used to reject an incorrect item: "No, not that one". Importantly, *ton* is not associated with specific spatial locations in the pile of items. For example, it is not restricted to reference to items located on the matcher's side of the pile, i.e. to addressee-proximal items. Like the addressee-anchored inaccessible form it is spatially unbiased; items in any part of the pile are qualified for *ton* reference as long as the director considers them to be within the addressee's attention.

So a general impression is that four of the five demonstrative distinctions used in the data are associated with the directing of the matcher's attention to something that is not attended to, and that only *ton* is associated with referents which he is attending to.

To substantiate this impression, the following two sections describe the order of demonstrative forms in referential situations (3.3) and the status of the matcher's attention as revealed by his physical relationship to the referential object (3.4).

3.3. *Order of demonstratives in referential situations*

Looking at the order of demonstratives in the sequences of demonstrative reference associated with particular referential objects, there is a clear tendency for the addressee-anchored accessible form *ton* to occur as the last distinction of a sequence. This can be seen in examples (1) and (2) above. Other distinctions do not show any such pattern of ordering. Further examples of this are given in (3), where, for clarity, the demonstratives have been extracted and listed in the order they occur within each referential sequence.

(3) a.   tũn - tɲ ɨʔ - **ton**

  b.   taniʔ - taniʔ - **ton**

  c.   tũn - tũn - tə̃h - tə̃h - tə̃h - tə̃h - tə̃h - tũn - tũn - tə̃h - tə̃h - tə̃h - tə̃h - tə̃h - tũn
         - tũn - tə̃h - tɲ ɨʔ - tə̃h - **ton**

  d.   tɲ ɨʔ - tɲ ɨʔ - tɲ ɨʔ - tɲ ɨʔ - **ton** - **ton**

  e.   taniʔ - tɲ ɨʔ - tɲ ɨʔ - tũn - tə̃h - tə̃h - **ton**

There are exceptions to this pattern as *ton* occasionally turns up elsewhere in such referential sequences. Some such instances involve the negative reference mentioned in 3.2, i.e. reference of the type "No, not that one", and in effect then represent separate referential situations (with another referent) which split up the main sequence. There are five such examples in the data. There are also a couple of examples of evident mistakes by the director, i.e. the director thinks that the matcher has picked out the right item and confirms with *ton* but then realises he was wrong and continues guiding the matcher with other distinctions. Finally, there are a couple of instances in which the director indicates with *ton* that the matcher is 'getting warm' but the matcher still fails to identify the correct item and the director has to return to other distinctions for continued reference. However, the vast

majority of the instances of *ton* are sequence-final, as would be expected from a form associated with the addressee's attention. Note that not all referential sequences end with the demonstrative *ton*. Frequently the matcher gets other types of confirmative feedback, such as "yes" or "correct".

3.4. *Physical relation to the referent*

As was indicated in section 2.2, the addressee's attentional relation to the referential object in the ShaClaTa set-up is perhaps most conveniently probed in the context of his physical relation to it. Therefore, this section will involve an analysis of the relationship between the director's use of demonstratives and the matcher's physical relation to the intended referent.

Since we know in each referential situation which item is the intended referent, we are in a position to easily determine whether the matcher is in physical contact with it or not. Physical contact is here taken to mean either holding or touching the object manually. The procedure employed here to analyse such physical contact in relation to demonstrative use simply involved playing the video recording, freezing it at the moment of the director's utterance of a demonstrative and determine whether there was physical contact or not between the matcher's hand and the intended referential object at that moment. Table 3 illustrates the results for all of the demonstrative distinctions used.

Functional distinction	Form	Total no.	No. w. physical contact
Speaker-anchored accessible	tə̃h	66	1
Addressee-anchored accessible	ton	52	35
Speaker-anchored inaccessible	taniʔ	24	0
Addressee-anchored inaccessible	tũn	46	0
Addressee-anchored exterior	tɲ ɨʔ	36	1

Table 3. Demonstrative distinctions in relation to matcher's physical contact with referent.

Although the figures seem to show that there is a clear association between the use of *ton* and physical contact, perhaps the most significant point to note is the almost total dissociation of physical contact from the other four demonstrative forms. The two exceptions both represent final instances within quick repetitions of that same form and therefore not single, unique reference. In the preceding instances in these repetitions there is no physical contact between matcher and referent, and the exceptions therefore give the impression of being very marginal examples of accidental overlap.

Looking in more detail at the nature of the physical contact in the 35 cases of *ton*, 29 instances coincide with the matcher's holding the object whereas the remaining six coincide with his touching it while it is still resting on the ground.

But a fairly large number of instances of *ton* (17) do not coincide with physical contact and remain unaccounted for. In order to explain these we need to change the parameters somewhat. Therefore we will expand the physical relationship between matcher and referent to involve 'physical proximity', i.e. including cases in which the matcher's hand is in close proximity to the intended referent. This is rather more difficult to determine, but the crude criterion used here is that the matcher's hand should be close

enough to the object for him not to have to move his hand/arm in order to grasp it. Grasping of course requires some movement of the hand but not significant vertical or horizontal movement. Accordingly, physical proximity is considered here to exist if the matcher's hand is in contact with the referent (as defined above) *or* immediately above it. Table 4 illustrates the results of the analysis of coincidence between the director's use of demonstratives and the physical proximity of the matcher's hand to the referent according to these parameters.

Functional distinction	Form	Total no.	No. w. physical prox.
Speaker-anchored accessible	tə̄h	66	2
Addressee-anchored accessible	ton	52	50
Speaker-anchored inaccessible	taniʔ	24	0
Addressee-anchored inaccessible	tũn	46	4
Addressee-anchored exterior	tɲ ɨʔ	36	1

Table 4. Demonstrative distinctions in relation to physical proximity of matcher's hand to referent.

Again, the association between the director's use of *ton* and the physical proximity of the matcher's hand to the referent seems clear. The proximity expansion of the physical parameter helps to embrace practically all instances of *ton* usage without significantly including other distinctions.

Looking in detail at the referential contexts of instances produced when the matcher is in physical contact with the referent (35 cases), it is clear that these are typically associated with the director's confirmation that the matcher has picked out the correct item: "Yes, that one". Instances produced when the matcher's hand is in close proximity to (but not in direct contact with) the referent (15 cases) typically represent examples in which the director uses *ton* to alert the matcher that he is close to the referent: "You're getting warm".

In sum, an analysis of the coincidence of the director's demonstrative use with the matcher's physical relation to the referent provides evidence of a marked distinction between *ton*, associated with a close physical relationship between matcher and referent, and the other forms, characterised by not having such an association.

4. Discussion

4.1. *Attentional contrasts*

From the point of view of attentional contrast, perhaps the most interesting pattern to appear in the data analysed above is the functional distinction between *ton* on the one hand and the remaining four forms on the other. The latter (the speaker-anchored accessible, speaker-anchored inaccessible, addressee-anchored inaccessible and addressee-anchored exterior) are all consistently used to divert the matcher's attention. This diversion may have spatial associations (as in the case of the speaker-anchored accessible, the speaker-anchored inaccessible and the addressee-anchored exterior) or be just diverting in general (as in the case of the addressee-anchored inaccessible). Incidentally, it is probably safe to assume that the three demonstrative distinctions that did *not* turn up in the ShaClaTa data (i.e. the

speaker-anchored exterior, superjacent and subjacent forms, which all encode strictly spatial relations; see Burenhult, submitted, in prep) would have had the same diverting function, if used.

The addressee-anchored accessible form *ton* contrasts sharply with this diverting function in that it is consistently used to signal that the matcher should *not* divert his attention. This may take the form of simple confirmation that he has picked out the correct item, or more direct instruction that he is attending to the correct item and should look no further (the 'getting warm' examples). As we have seen, these features are clearly reflected in the predominantly sequence-final position of *ton* in referential situations as well as its association with a proximal physical relation between the referent and the matcher's hand. The fact that *ton* is never used to give diverting instructions is significant. If *ton* was defined as encoding spatial proximity to addressee (as in the author's original analysis), it would be expected that it would be used to divert the matcher's attention 'matcherwards' in the spatial sense. This is not the case, and *ton* can therefore not be placed on a par with the other distinctions.

Thus, the distinction between *ton* and other forms revealed by the present study is in line with the tentative proposal that *ton* does not carry any form of spatial information but strictly encodes that the referent represents something which is in some way known or attended to by the addressee. The remaining forms in the rich set of Jahai demonstrative distinctions are mutually concordant in that they are associated with the opposite function: Attention drawing. Incidentally, this pattern forms an interesting mirror image of the Turkish demonstrative system as re-analysed by Özyürek (1998), where one form (*su*) encodes only attention drawing while the two forms encoding distance (proximal *bu* and distal *o*) are used once addressee attention has been established.[4]

It is interesting in this context to look briefly at the conceptual 'opposite' of *ton*, the addressee-anchored inaccessible form *tun*. This behaves in line with *ton* in that it does not provide any explicit information as to the spatial location of its referents. This is to be expected from a form encoding nothing but attention drawing and it supports the notion that the addressee-anchored distinctions are specifically associated with attention and knowledge rather than location, for example. However, *tun* is distinguished from *ton* and patterns clearly with the other distinctions in that it is used to divert the matcher's attention.

4.2. *The extent of* ton

The ShaClaTa data analysed here certainly does not provide the whole picture of what *ton* usage is like. Other types of data, including ShaClaTa data *not* analysed here (e.g. reference to the response array), reveal divergent aspects of *ton* usage. For example, it can be shown that the use of *ton* does not have to coincide with a close physical relation between the addressee and the referent as long as *ton* is used to refer to an entity which has been introduced previously and which is therefore known to the addressee. Also, the present

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[4] Note, however, that in Turkish, unlike Jahai, *visual* attention is the all-important factor in the speaker's choice of demonstrative. The attention drawing form has to be used if the addressee's visual attention is not on the referent. So if a speaker wishes to re-introduce a referent which has been mentioned and visually attended to earlier by the addressee but is no longer visually attended to, the attention drawing form is used again (Özyürek 1998).

analysis does not explore the endophoric functions of *ton*, nor its potentially non-demonstrative function of signalling definiteness or 'known information' in general. From that perspective the present analysis is limited.

What we seem to have accomplished though is a rather subtle identification of that functional cut-off point within exophoric referential situations where *ton* first becomes appropriate. It can be concluded that speakers do not only use *ton* to signal that the referent is known to the addressee, i.e. for 'shared knowledge' already established. Speakers also use *ton* with the specific purpose of de facto *establishing* such shared knowledge. As we have seen, *ton* is the form used to signal that the addressee is attending to the correct item. This was particularly evident in those cases where the director used *ton* to indicate that the matcher was 'getting warm'. In these cases the addressee does not know prior to the speaker's utterance of *ton* if the item attended to is the correct one. So, although the item has the addressee's attention, it cannot be said to represent shared knowledge prior to the utterance.

As mentioned, other data not analysed here contain ample evidence of a reversed situation: Previously introduced referents which are not attended to by the addressee may also be referred to with *ton*. Here, the referent of *ton* represents shared knowledge but can no longer be said to have the addressee's attention.

It is therefore misleading to characterise *ton* in terms of either 'addressee attention' or 'shared knowledge'. Neither of these definitions covers the total range of exophoric *ton* usage. Instead we need to cast the net a bit wider and it is proposed here that 'cognitive accessibility' or 'cognitive association' remain wordings that better capture the true relationship between addressee and referent in the context of *ton*.

5. Conclusion

The present study supports the idea that attentional contrasts and related phenomena may represent a fundamental form of encoding in demonstrative systems, thus challenging the presumed primariness of spatial distinction. The revelation by Özyürek (1998) of a demonstrative form in Turkish encoding only attention drawing is here supplemented by a form in Jahai encoding roughly the opposite, namely 'cognitive accessibility to the addressee'. This distinction appears to be cross-linguistically unusual, but it would not be unreasonable to assume that closer examination of presumed spatial distinctions in other demonstrative systems may reveal similar encoding.[5] If the descriptive history of Jahai is anything to go by, forms considered to encode addressee-anchored proximity are good candidates.

Furthermore, although the full range of functions of the addressee-anchored accessible form *ton* is not elucidated by the present analysis, we have at least been able to identify and define an important cut-off point in its exophoric usage. The task is now to work towards the other end of the spectrum, i.e. to investigate the fuzzy border between its exo- and endophoric uses, and beyond.

Finally, the study has shown that it is not altogether impossible to find and document well-defined spontaneous interactional contexts where the details of

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[5] So far I am only aware of one potential counterpart: A demonstrative form in Kuuk Thaayorre, a Pama-Nyungan language of Northern Queensland (Alice Gaby, personal communication, October 2003).

demonstrative reference may be studied at pleasure. Our experiences from the Shape Classifier Task may be helpful in developing even finer techniques for the elicitation of attentional contrasts in demonstrative use.

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