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Article:

The acquisition of demonstratives in a complex noun class system

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Abstract

We present an exploratory study of 2 to 3-year-old children's acquisition of the demonstrative system of Eegimaa (ISO 369-3 bqj), an endangered language belonging to the Jóola cluster of the Atlantic family of the Niger-Congo phylum, spoken by about 13,000 speakers in southwestern Senegal. Eegimaa demonstratives express distance from speaker (proximal, medial and distal) and the agreement categories of number and gender, as well as having four morphological types that create an additional dimension of complexity for children to learn. These demonstrative types are each associated with a range of syntactic functions with partial overlaps.

From nearly seven hours of recordings, including children at three age points (2;0, 2;6 and 3;0), we extracted 218 demonstrative tokens from the children's speech, matched with 205 tokens from a sub-sample of caregiver speech. The youngest children can be described as restricting their use of demonstratives to a small set of learned items, with evidence of generalisation and productivity arising over the course of development, alongside an increase in frequency and development in distribution patterns of the various demonstrative forms to more target-like usage in the 3;0 sample. At age three we observe more variation by syntactic function. As has been found in other languages, children acquiring Eegimaa seem to make use of the diverse forms of demonstratives early, but they do not yet make use of the full range of forms even at age three, when they are beginning to produce more systematic forms of the demonstratives across syntactic contexts and with a variety of genders.

(**Word count**: 9567 including references)

1   Introduction

Demonstratives are communicative devices that indicate the location of a referent relative to a deictic centre and coordinate the interlocutors' joint attentional focus (Diessel 2006: 469). As such, they are connected to two central elements of child-caregiver interaction, namely, (i) language describing the 'here and now' and (ii) language anchoring what is said in referents and contexts jointly attended to by the interlocutors. It is unsurprising, then, that demonstratives should be among the first words that children learn (Clark & Sengul 1978). However, although demonstratives are produced from early on, their full deictic meaning, involving a relative, potentially shifting deictic centre and contrastive distances like proximal and distal, is mastered only much later (Clark & Sengul 1978). An aspect of usage specific to demonstratives is that children can use them to make reference to an entity without knowing the word for its referent (Diessel 2006: 472; Peeters & Özyürek 2016). Hence, they are often produced with accompanying gestures, such as pointing (Levinson 2018; Cook & Goldin-Meadow 2006; Iverson & Goldin-Meadow 2005; Vihman 2014). In our study, we examine the acquisition of demonstratives in Eegimaa (Atlantic, Niger-Congo), in which a specific demonstrative form indexes the referent, the deictic location and its grammatical context.

Demonstratives are not always simple, generic pro-forms that can stand in for a more specific lexical item. When a child acquiring a language like Eegimaa wants to draw attention to an entity, she must choose a demonstrative expression from one of ten genders, each of which includes up to 9 different demonstrative forms. Agreement markers indicate both gender and number feature values in addition to deictic markers. The Eegimaa demonstrative system is speaker-centered: besides showing agreement with the noun associated with the referent, all demonstrative forms combine with one of three deictic suffixes which indicate the degree of proximity of the entity relative to the speaker (proximal, medial and distal). Eegimaa demonstratives have a complex morphological structure, but they are both frequent and salient in child-directed speech. And while the morphological complexity may make the system challenging for children, the alliterative marking of agreement may also facilitate acquisition of these structures by increasing their systematicity and salience. Given the complexity of demonstratives in Eegimaa and their frequency in young children's speech, they constitute a useful starting point for investigating the acquisition of a complex gender system.

Research on first language acquisition in African noun class/gender systems has mostly been carried out in Bantu languages (see Demuth 2003; & Demuth & Weschler 2012 for overviews), where a stage-like progression is reported: Children first produce nouns without prefixes, then add filler prefixes and eventually achieve adult-like use of prefixes. Grammatical agreement, including agreement on demonstratives, is said to be acquired in a similarly stage-like progression, with children starting with shadow vowels before producing well-formed agreement markers. Like Bantu languages, Eegimaa uses prefixes to mark noun classes and agreement. However, we will show that our data, from a small mixed sample of longitudinal and cross-sectional recordings of children aged 2;0, 2:6 and 3;0, provides no evidence of such a stage-like progression but instead shows early holistic learning of (unanalysed, morphologically complex) words. Initial production is relatively accurate but in limited contexts only, particularly those that are least variable in the input (although not the most frequent). By age 3 we begin to see the first limited evidence of productivity.

Here then we investigate children's and their caregivers' use of demonstratives, focussing on analyses of the forms that demonstratives take and the syntactic contexts in which they are used. We pursue the general question: How do children acquire (Lewis, Simons & Fennig 2014) the complex demonstrative system of Eegimaa? Because this project is the first to investigate the acquisition trajectory in Eegimaa, we treat this as an exploratory study, and refrain from positing hypotheses. In this study, we aim to map the relation between frequency in the input, complexity of the forms and variability in their functions, in order to lay the groundwork for further studies of acquisition of the Eegimaa nominal system. More specifically, we ask:

1. When and how do children begin to generalise across the exemplars of demonstratives encountered in the input?
2. To what extent do children show sensitivity to the syntactic context of the different demonstrative forms?
3. Does children's early demonstrative usage reflect the use of demonstratives in child-directed-speech (CDS), or in what ways does it differ?

2 Background

2.1 Eegimaa and its gender/noun class system

Eegimaa (ISO 369-3 bqj), also known as Banjal, is an endangered language belonging to the Jóola cluster of the Atlantic family of the Niger-Congo phylum, spoken by about 13,000 speakers (Lewis, Simons & Fennig 2014) in southwestern Senegal in the former region of the Casamance. Like many Niger-Congo languages, Eegimaa has a noun class system in which all nouns belong to a morphological class and are assigned to a gender by agreement. Given the various, often confusing uses of the terms "class" and "gender", it is important to briefly define the terms we use here.

We first distinguish NOMINAL MORPHOLOGICAL CLASS, i.e., the class to which a noun belongs, as revealed by the noun class prefixes (NCPs) it occurs with. For example, the nouns *ga-an* 'branch' and *ga-toj* 'leaf' belong to one morphological class, marked by the singular prefix *ga-* and its plural correspondent *u-* (example 1), while *e-joba* 'dog' and *e-vval* 'stone' are from another, with the singular and plural prefixes *e-* and *su-/si-*, as shown in example (2). These nouns are said to belong to different morphological classes because they take different singular and plural NCPs.

(1)   ga-an (V.SG)   'branch'   u-an   (V.PL)   'branches'

    ga-toj (V.SG)   'leaf'   u-toj   (V.PL)   'leaves'

(2)   e-vval(II.SG)   'stone'   si-vval (II.PL)   'stones'

    e-joba (II.SG)   'dog'   si-joba (II.PL)   'dogs'

The second important category is that of GENDER or AGREEMENT CLASS, indicated with roman numerals in examples (1) and (2) above. Nouns are said to belong to the same gender if they trigger the same agreement on targets like verbs, adjectives and demonstratives in the singular and the plural. For example, the nouns *ji-ggaj* 'panther' and *e-joba* 'dog' belong to the same gender[1], because they trigger the same agreement on the definite article and demonstrative, as illustrated in (3)-(6), even though their prefixes show that they are from different morphological classes, namely *ji-/si-* and *e-/su-*, respectively [2].

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[1] This approach obviates the problems associated with the traditional, most common, system for analysing African noun class systems, which requires that the singular and plural agreement patterns of the same noun, e.g. (3) and (4), are analysed as different classes, and which cannot straightforwardly account for discrepancies between morphological marking and agreement. Eegimaa has 15 traditional noun classes (Sagna 2008; 2010), but it has 10 genders (Sagna 2019) according to the agreement classes defined here, following Corbett (1991; 2006) and Aronoff (1994). Our analysis of the morphosyntactic properties of the Eegimaa demonstratives follows the gender agreement class approach (Sagna 2019; 2022).

[2] Noun class prefixes *si-* and *su-* (and others with the form *Ci-/Cu-*) are allomorphs whose alternation is phonologically conditioned by backness harmony (Bassene 2012). In the glosses, nominal class prefixes are represented using their phonological forms. Their number feature values are put between brackets along with their gender membership information.

(3) ji-ggaj   ɣayu   uye
     ji-panther(**II.SG**)   **II.SG**.DEF   DEM.**II.SG**.PROX
     'Here is the panther.'

(4) si-ggaj   sasu   use
     si-panther(**II.PL**)   **II.PL**.DEF   DEM.**II.PL**.PROX
     'Here are the panthers.'

(5) e-joba   ɣayu   uye
     e-dog(**II.SG**)   **II.SG**.DEF   DEM.**II.SG**.PROX
     'Here is the dog.'

(6) su-joba   sasu   use
     su-dog(**II.PL**)   **II.PL**.DEF   DEM.**II.PL**.PROX
     'Here are the dogs.'

Table 1 presents nominal morphological classes and their associated gender agreement, using the form of one of the four possible demonstrative shapes (which we later refer to as DEM 2). We use this demonstrative type for illustration as it turns out to be common in the child language production data.

Table 1: Nominal morphological classes and demonstrative agreement in Eegimaa (Adapted from Sagna 2022: 81-82)

SG	PL	Count	Example	Gloss	DEM2 Agreement
Ø	bug-	1	an/bug-an	'person/-s'	**-m-** / **-bug-** (G I)
Ø	su-	2	Payya/si-ppayya	'father/-s'	
a-	gu-	10	a-tti/gu-tti	'brother/-s'	
a-	e-	34	a-labe/e-labe	'priest/-s'	
a-	u-	71	a-ttepa/u-ttepa	'builder/-s'	
Ø	su-	12	púddum/sú-puddum	'viper/-s'	**-y-** / **-s-** (G II)
e-	su-	482	é-be/sí-be	'cow/-s'	
y-	s-	5	y-aŋ/s-aŋ	'house/-s'	
ju-	su-	1	ji-ggaj/si-ggaj	'panther/-s'	
ba-	su-	1	bá-jur/ sú-jur	'young woman'	**-b-** / **-s-** (G I)
b-	w-	2	b-aŋ/w-aŋ	'living room/-s'	**-b-** / **-w-** (G III)
bu-	u-	207	bu-tum/u-tum	'mouth/-s'	
ba-	u-	73	ba-giŋ/u-giŋ	'chest/-s'	
f-	g-	2	f-ar/g-ar	'stomach/-s'	**-f-** / **-g-** (G IV)
fu-	gu-	297	fu-ar/gu-ar	'root/-s'	
fa-	gu-	1	fa-tama/gu-tama	'navel/-s'	
fa-	ga-	4	fá-gur/gá-gur	'kind of feline/-s'	
ga-	gu-	3	ga-ñen/ gu-ñen	'hand/s'	**-g-** / **-g-** (G V/IV)
g-	w-	2	g-añ/w-añ	'clothing/clothes'	**-g-** / **-w-** (G V)
ga-	u-	345	ga-rafa/u-rafa	'bottle/-s'	
ju-	mu-	12	ju-ppu/mu-ppu	'bird/-s'	**-j-** / **-m-** (G VI)
n/a	m-	1	m-al	'water'	
n/a	ma-	24	ma-agen	'truth'	
ja-	n/a	1	ja-mmeŋ	'crowd'	

ju-	gu-	1	jí-çil/gú-çil	'eye/s'	**-j- / -g-** (G VI/IV)
ñu-	u-	5	ñí-it/ú-it	'palm tree/-s'	**-ñ- / -w-** (G VII)
ña-	n/a	7	ña-tiñ	'pain'	
ñ-	n/a	1	ñ-ondoŋ	'back of the head'	
ti-	n/a	2	ti-nah	'sun/time'	**-t-** (G XII)
t-	n/a	1	t-iñ	'precise place'	
d-	n/a	1	d-íñ	'place inside'	**-d-** (G IX)

2.2 The morphosyntactic structure of Eegimaa demonstratives

Previous descriptions of demonstratives differ in terms of the associations they make between form and function (Bassène 2007: 47-51; Sagna 2008: 115-119). In this section we recognise the potential for functional overlap between the different demonstrative shapes that we identify, and we provide more detail in the description of the most important grammatical properties of these demonstratives. The Eegimaa demonstratives constitute a tightly integrated formal system made up of elements deriving from several different grammatical categories. Thus, the system is highly abstract, in the sense that it represents more than one grammatical category. It is unified on the functional side by expressing the broad field of deixis, but each demonstrative form includes gender agreement, deictic suffixes and variability according to demonstrative type, as discussed in the next section. Eegimaa demonstratives occur as pronominals, adnominals (postnominals), adverbials and identificationals (including predicate contexts in non-verbal clauses). Our discussion of Eegimaa demonstratives follows Diessel (1999), who categorises demonstratives, based on form and distribution, according to the following grammatical categories: demonstrative pronoun, demonstrative determiner, demonstrative adverb, and demonstrative identifier.

2.2.1 Morphological forms

We distinguish four types of morphological shape in Eegimaa demonstratives, according to the way they realize agreement (see Table 2). These are labelled here as DEM1, DEM2, DEM3, and DEM4. Demonstratives are assigned to different genders based on their combination with agreement markers, which conflate gender and number agreement. The most abstract schema of each demonstrative form is represented in Table 2. Here, the **C** (for consonant) highlighted in boldface refers to the agreement markers, which can occur once or twice in the same demonstrative word. All these word forms must take either a proximal (-*e*), medial (-*u*) or distal (-*a/-ua*) spatial suffix (-*SUFF* in Table 2), to indicate the location of an entity relative to the speaker. Table 2 can be read in conjunction with Table 3, which illustrates the word forms abstractly represented here.

Table 2: Abstract representation of the shapes of demonstratives using the singular forms

DEM type	DEM1	DEM2	DEM3	DEM4
DEM shape	**C**-SUFF	u-**C**(**C**)-SUFF	**C**-a(a)-**C**-SUFF	**C**-ou-**C**(**C**)-SUFF

The full paradigm of Eegimaa demonstratives is illustrated with all the genders in Table 3, using singular forms[3]. As shown in the table, Gender I, unlike the other genders, has no initial agreement consonant in any demonstrative form. The table shows that DEM1 has the simplest form, as it consists of just an agreement marker and the proximal suffix -*e*. This

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[3] Each demonstrative form from Gender I to Gender VII (Table 1) has one plural correspondent. Genders VIII to Gender X are non-count genders.

demonstrative is incompatible with the medial or distal demonstrative suffixes. DEM2 consists of a stem *u*, an agreement marker and any one of the three deictic suffixes indicating degree of proximity. DEM3 consists of an initial agreement marker (or zero for Gender I), followed by a vowel that may be analysed as its root, a second agreement marker, and a spatial deictic suffix. Finally, in DEM4 the vowel sequence /*au*/ (or dialect variant /*ou*/) may be analysed as the root. In both DEM3 and DEM4 the gender agreement marker occurs twice, and the second occurrence is followed by a spatial deictic suffix. Note that unlike DEM3, where the use of the distal demonstrative requires vowel lengthening, the second gender agreement marker of DEM4 is geminated in the distal form. It may be relevant to acquisition of the system to note, in passing, that length – of consonant or vowel – can be seen as an iconic expression of distal demonstrative meaning. It should also be noted that the medial form of DEM3 is formally identical to the determiner (definite article). Bassène (2007: 47-51) argues that it is DEM3 that functions as a determiner when it occurs with a noun in NP. However, the definite article is a different function word altogether, which has now lost its referential function. We argue that it originates from DEM3 through a common process of grammaticalization, from demonstrative to definite article, widely reported in the literature (Diessel 1999: 25 and references therein). Table 3 shading marks genders used to express location (which serve as adverbials). The NAs in Gender X indicate that this gender is a defective gender, and does not show agreement on all agreement targets (Sagna 2022: 98). For example, it does show agreement on certain pronouns, but not on demonstratives.

Table 3: Paradigms of the four types of Eegimaa demonstratives for all genders in singular.

Gender	DEM1			DEM2			DEM3			DEM4		
	PROX	MED	DIST	PROX	MED	DIST	PROX	MED	DIST	PROX	MED	DIST
I	e			ume	umu	ummua	ahe	ahu	aaha	ahume	ahumu	ahummua
II	y-e			uye	uyu	uyyua	yaye	yayu	yaaya	yauye	yauyu	yauyyua
III	b-e			ube	ubu	ubbua	babe	babu	baaba	baube	baubu	baubbua
IV	f-e	Not used with DEM1		ufe	ufu	uffua	fafe	fafu	faafa	faufe	faufu	fauffua
V	g-e			uge	ugu	uggua	gage	gagu	gaaga	gauge	gaugu	gauggua
VI	j-e			uje	uju	ujjua	jaje	jaju	jaaja	jauje	jauju	jaujjua
VII	ñ-e			uñe	uñu	uññua	ñañe	ñañu	ñaaña	ñauñe	ñauñu	ñauññua
VIII	t-e			ute	utu	uttua	tale	talu	taala	taute	tautu	tauttua
IX	d-é			úre	úru	úddua	dáre	dáru	dáara	dáure	dáuru	dáuddua
X	Not used with demonstratives											

The four morphological forms of demonstratives described in this section differ in their distribution across Diessel's four syntactic contexts, though there is some overlap. DEM1 is exclusively an adnominal, while DEM3 is generally only found in pronominal position. Only its distal form has been found to occur as a determiner (see example (13)). DEM2 and DEM4 can be found in both adnominal and pronominal positions. A more detailed discussion of the differences between these demonstratives follows below, where we examine the occurrence of demonstratives as modifiers, as full NPs, as copulas and predicates and as adverbials.

2.2.2 Demonstrative categories: Nominal demonstratives

In applying the syntactic contexts proposed by Diessel to the Eegimaa system we place pronominal, and adnominal (postnominal) within an overarching class of nominal demonstratives, which express agreement in Genders I to VII. Adverbial demonstratives, on the other hand, are restricted to the expression of genders VIII and IX. This distinction, based on available gender values, fits with Dixon's (2003) bipartite classification into nominal and

adverbial demonstratives. Exceptionally, Gender III also includes locative meaning among its many semantic properties and can be used with adverbial demonstratives.

2.2.2.1 Nominal demonstratives as NP modifiers

Eegimaa NP modifiers occur in postnominal position. All four morphological types discussed in this section occur as modifiers, also termed adnominal demonstratives (Diessel 1999). DEM1 is used only as a determiner, as illustrated in examples (7) and (8) taken from participant observation data, and it cannot occur in isolation in any syntactic context. This genre-specific demonstrative, found, for example, in songs and narratives, is unattested in our corpus of child-directed and children's speech. Hence, we will not discuss DEM1 further.

(7) u-jog-om   a-ññil   e
    2SG-hold-1SG.OBJ   a-child(I.SG)   DEM1.**[I.SG].PROX**
    'Hold this child for me.'

(8) fu-jam   f-e   fu-ʈʈañi-e!
    fu-rainy.season(IV.SG)   DEM1.IV.SG-**PROX**   IV.SG-be.difficult-CPL !
    'This rainy season is really hard!'

DEM2 is used in several syntactic contexts, including as a postnominal modifier in an NP, as exemplified in (9). In this context, it follows the definite article. DEM4 (also illustrated in (9)) is also used as a nominal modifier, with the same meaning but without the definite article. DEM4 seems to combine the definite article and DEM2. We hypothesise that DEM4 appears to be the result of grammaticalization of these two forms. Contrast the use of DEM2 in (9) – where it is the final element of the NP – with its use in (15), where it is the main predicate. The bracketing in (9) and (15) reflects this distinction. These examples show that demonstratives can occur in free variation[4] with overlapping semantic content.

(9) [aare   ahu   umu]NP / aare   ahumu   na-lob-e
    Øfemale(I.SG)   I.SG.DEF DEM2.**I.SG.MED**/ Øfemale(I.SG)   **I.SG**.DEM4.**I.SG**.MED   REAL.ISG-speak-CPL
    'That woman has spoken.'

2.2.2.2 Nominal demonstratives as full NPs

DEM2, DEM3 and DEM4 are all used as pronominal demonstratives. DEM2 and DEM4 can both be used in isolation in a pronominal function, as shown in example (10). In this context, there is variability in the use of DEM2 and DEM4.

(10) umu   / ahumu   a-ja-e   e-lob
     DEM2.**I.SG**.MED   / I.SG.DEM4.I.SG.MED   I.SG-go-CPL   e-speak
     'That one [person] is about to speak.'

When DEM3 is used as a pronominal demonstrative, it expresses contrast between two entities. For example, (11) uses DEM4 to describe the taste of a wine from one container, which is contrasted with the one in (12). In these examples, the antecedent noun is from

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[4] The forms *ahu umu* is often used in slow speech. In normal and rapid speech, it is realised as *ahumu* with no semantic difference. This supports our argument that DEM4 derives from a combination of the definite article and DEM3.

Gender VI. The distal form of DEM3 may occur in an NP, as in (13), where it shows variability with DEM4.

(11) ju-nub   jauɟe   jú-ssum-uʈ!
     ju-wine(VI.SG)   **VI.SG**.DEM4.**VI.SG**.PROX   VI.SG-be.sweet-NEG
     'That palm wine over there is sweet!'

(12) jaɟe   jú-ssum-e!
     VI.SG.DEM3.**VI.SG**.PROX   VI.SG-be.sweet-CPL
     'This is sweet!'

(13) ju-nub   jaaja   /joujua   jú-ssum-e!
     ju-wine(VI.SG)   **VI.SG**.DEM3.**VI.SG**.DIST   / **VI.SG**.DEM4.**VI.SG**.DIST   VI.SG-be.sweet.CPL
     'That palm wine over there is sweet!'

2.2.2.3 DEM2 as a nonverbal copula

When nominal demonstratives are used as nonverbal copulas, they take the form of DEM2, as illustrated in (14) with the medial deictic suffix. In this context, DEM2 can also take other deictic suffixes, such as the proximal demonstrative spatial deictic suffix. DEM2 is used as a nonverbal copula to locate the subject of the nonverbal clause as being in the process of doing something; this may be literally translated as 'be at/in the process of Xing'. This is a common way of forming nonfinite verbs in African languages (Heine, Claudi & Hünnemeyer 1991), which may be subsumed under the category of the identificational function of demonstratives (Diessel 1999). Identificational demonstratives occur as predicates in nonverbal clauses and agree in gender and number with the subject of the clause. Their closest equivalents in English are locative predicates as in *X is here*. They differ from presentational demonstratives discussed in 2.2.4 in that the latter occur pre-nominally, do not participate in agreement, and cannot occur as predicates in nonverbal clauses.

(14) aare   abu   umu   /ume   ni   bu-rokk
     Øfemale(I.SG)   I.SG.DEF   DEM2.I.SG.MED   / DEM2.I.SG.PROX   PREP   bu-work(III.SG)
     'That woman is working.'

DEM2 is preferred in identificational contexts in nonverbal clauses, where it occurs as a locative predicate, as exemplified in (15) and (16). None of the other demonstratives is attested in this context. When a demonstrative occurs as a locative predicate in a nonverbal clause context, it is adjacent to the subject and agrees with it in gender and number.

(15) [aare   abu]_NP   umu!
     Øfemale(I.SG)   I.SG.DEF   DEM2.**I.SG**.MED
     'The woman is there!'

(16) anaare   umu!
     Øwoman(I.SG)   DEM2.**I.SG**.MED
     'A woman is there!'

2.2.3 Demonstrative categories: Adverbial demonstratives

As noted above, demonstratives in Genders III, VIII and IX are the only ones that can occur in an adverbial context. These locative genders express three types of locations: general

location (Gender III), precise location (Gender VIII) and location inside a place (Gender IX). The agreement markers which indicate these genders are highlighted in boldface in Table 3.

Table 4: Eegimaa adverbial demonstratives

Gender	DEM2			DEM3			DEM4		
	PROX	MED	DIST	PROX	MED	DIST	PROX	MED	DIST
III	ube	ubu	ubbua	**babe**	**babu**	**baaba**	**baube**	**baubu**	**baubbua**
VIII	ute	utu	uttua	**tale**	**talu**	**taala**	**taute**	**tautu**	**tauttua**
IX	úre	úru	úddua	**dáre**	**dáru**	**dáara**	**dáure**	**dáure**	**dáuddua**

The DEM2 locative forms can be used interchangeably with DEM3 and DEM4 as adverbial demonstratives, as illustrated in (17) with Gender VIII. This is also the case for Genders III and IX. This is another case of variability in the use of different demonstrative types.

(17) aare   aʋu   ban   a-robo utu/ ʈalu/ ʈouʈu
Øwoman(I.SG) I.SG.DEF IMM.FUT I.SG-sit DEM2.VIII.MED/VIII.DEM3.VIII.MED/VIII.DEM4.VIII.MED
'The woman is going to sit right there.'

2.2.4 Demonstrative categories: The presentational demonstratives

Eegimaa has a non-agreeing "deictic presentative" (Diessel 1999: 11) (here, 'presentational demonstrative'), which uses the Gender IX forms of DEM2, DEM3 and DEM4 in isolation in prenominal position, in constructions similar to the English *this is X*. This form, illustrated in (18), does not participate in agreement, as the agreement forms are frozen. That is, in this case the use of nouns from different genders (Gender VI or Gender II) results in no change in agreement marker on the presentational demonstrative.

(18)   úre   / dáre   / dáure   ji-ggaj   /   e-joba
DEM2.PRES.PROX / DEM3.PRES.PROX / DEM4.PRES.PROX   ji-panther (VI.SG) /   e-dog(II.SG)
'This is a panther/ a dog.'

Table 5 shows which demonstrative types can occur in each syntactic function. In the adnominal column, all four demonstrative types discussed in 2.2.1 occur as modifiers, also termed adnominal demonstratives; hence all the cells of this column are shaded. From the point of view of the demonstrative types, DEM1 is exclusively adnominal; therefore, only the adnominal cell is shaded. DEM3 is generally found in pronominal position, but it is also found in adnominal and adverbial position. The only context where it does not occur is the identificational contexts, as a copula or a predicate in non-verbal clauses. DEM4 has a similar distribution to DEM2, occurring in all but the identificational syntactic context, as shown by the unshaded cell in the identificational column. The only shaded cell in the identificational column is that of DEM2, a context in which none of the other demonstratives is attested. As can be observed in Table 5, all demonstrative types except DEM1 can occur in isolation as adverbial demonstratives.

Table 5: Association of morphological shapes with occurrence in syntactic context (shown in shaded cells)

	Adnominal	Pronominal	Adverbial	Presentational (No AGR)	Identificational
DEM1					
DEM2					
DEM3					

DEM4					

It is not always clear what determines the choice of the different demonstrative types in the adult language, as shown by the free variability of use of the different demonstrative forms in several examples above. Accordingly, our analysis of the data will examine the distribution of demonstrative types as observed in both CDS and child speech, in order to compare child and adult forms on an empirical basis.

3   Theoretical approach and typological considerations

Our approach draws on usage-based theories of child language acquisition (Ambridge & Lieven 2011; Tomasello 2003; de Ruiter et al. 2018), which assume that children acquire their native language based on the input that they are exposed to, in the context of their physical and social experiences in the world. Language learning is seen to rely on general cognitive mechanisms, including pattern recognition, categorisation via prototypes and generalisation via analogies (Ibbotson 2013).

Central to this approach is the notion of chunks, initially learned as holistic units mapping some phonetic material to some semantic content. Children's early language consists of chunks of varying sizes, mostly derived from strings encountered in the input. These are first learned as unanalysed but meaningful whole word forms or multi-word units, to be analysed only at a later stage into inflectional exponents and lexemes and generalised to parts of speech and syntactic roles.

Once the language learner has amassed a store of chunks, s/he begins to implicitly recognise patterns and deconstruct the chunks into smaller elements that can either contribute semantic information (such as nouns and diminutive markers) or express semantic and syntactic information (such as agreement marking, both within the noun phrase and across parts of speech). When these patterns are recognised, the child starts to use both the lexical units and the morphological marking in more diverse ways, generalising across contexts of use and across words of similar kinds.

Also emblematic of usage-based and constructivist approaches is the notion that there is a scale of lexical and grammatical units rather than a binary division. Functional markers are associated with varying degrees of semantic information. The acquisition of inflectional noun marking has been researched in a handful of European languages with richer morphology than English, such as Polish (Dabrowska & Szczerbinski 2006), Finnish (Räsänen, Ambridge & Pine 2016) and Estonian (Argus 2012; Vihman, Theakston & Lieven 2020), and also cross-linguistically (Granlund et al. 2019).

The noun class prefixes of Niger-Congo are similar to the number and case markers of Germanic, Slavic or Finnic in that they can signal information such as number or location, and may recur on agreeing elements, yet they differ crucially in at least one respect. Most nouns in Eegimaa require the use of an overt noun class prefix and concomitant gender agreement markers. European languages tend to have a basic nominative form, contrasting with various marked forms, whereas in Eegimaa the noun always co-occurs with its class prefix. Hence, prefixes may well be learned together with their associated noun forms. The question arises as to whether the process of acquisition of noun class prefixes in systems like that of Eegimaa is similar to the acquisition of case-marking systems of the more intensively studied European languages. In this study, we give a description of the acquisition of one

domain within the Eegimaa system of nominal morphology in order to begin constructing a more general picture of the acquisition of Eegimaa, which it will eventually be possible to compare to both typologically similar and more distinct languages.

4 Method

We analyse naturalistic child language production data collected in four Eegimaa-speaking villages located in the Casamance area of southwestern Senegal. The data used in this paper come from a corpus study compiled according to a mixed longitudinal and cross-sectional design. The project collected data from six children in a longitudinal group every two weeks, between the ages of 1;10 and 4;0, and 10 children in a cross-sectional group, each recorded once at 3;0 and once at 4;0. Children were recorded during outdoor play, where they interact with multiple playmates, including older siblings, friends, and multiple caregivers, including parents, extended members of the family and other members of the language community. The children are raised monolingually but are also exposed to Wolof through brief encounters with visitors. Between ages 3 and 5 they begin school at the local nursery, where they are addressed in Eegimaa. Teaching in French begins at age 5.

Recordings took place both at home and in and around the nursery school. The recordings were made with JVC GY-HM170E video camera recorders. During recording sessions, the target children and caregivers wore small backpacks holding a wireless body pack transmitter. A lapel microphone was connected to the receiver and clipped to the strap of the backpack at the level of the chest to facilitate unintrusive recording during play. A receiver was attached to the body of the camera, allowing high quality speech to be recorded from 50 meters away.

Data

This study uses data at three age points only, ages 2, 2;6 and 3. As the transcription is ongoing, for this paper we analysed 6 hours and 54 minutes of recordings from 10 samples in the three age groups. Two children, Sanum and Juomen, have longitudinal data to compare at ages 2 and 2;6. We have data for Jandy at age 2;6 and 3. Hence, the three children included in the 2;6 sample can each be compared to their own usage at another age point. Additionally, we have two children with analysable data only at age 2 (Ejjen and Nara) and two with data only at age 3 (Ebbay and Muna). The data is drawn mostly from the longitudinal group, and in each age group the children vary in age by up to one month. In Table 6, we present an overview of the participant sample analysed in this paper, with pseudonyms and ages, the durations of individual recordings and the children's participant group (longitudinal or cross-sectional).

Table 6: Summary of the children's and the CDS data

Age group	Participants (gender)	Age	Recording time (hrs: min)	Group	Total child utterances	DEMs used by child (% of total)	DEMs used in CDS (%;total CDS utterances)
2 yrs	Sanum (m)	1;11.17	01:01	Longit	182	15 (8%)	66 (12%; 547)
	Ejjen (f)	1;11.0	00:33	Longit	70	14	

						(20%)	
	Nara (f)	1;11.0	00:37	Longit	147	26 (18%)	
	Juomen (m)	2;0.5	00:30	Longit	99	5 (5%)	
2;6	Jandy (f)	2;5.1	00:36	Longit	130	28 (22%)	
	Juomen (m)	2;6.18	00:33	Longit	122	9 (7%)	
	Sanum (m)	2;6.0	00:50	Longit	220	35 (16%)	60 (7%;868)
	Ebbay (m)	3;0.0	00:42	X-Sec	144	14 (10%)	
3 yrs	Jandy (f)	2;11.28	00:33	Longit	391	21 (5%)	
	Muna (m)	3;1.10	00:59	X-Sec	409	51 (12%)	79 (11%;721)
Total			**6:54:10**		**1,914**	**218**	**205**

From the 1,914 child utterances transcribed in these sessions, we found 218 demonstratives. For a representative sample of child-directed speech (CDS) we analysed data from two mothers each interacting with their child (Sanum at 1;11, Sanum at 2;6 and Muna at 3;1). From these sessions we extracted a total of 205 demonstratives, which is comparable in size to the 218 demonstratives used by the children.

5   Results

Demonstratives allow us to probe children's use of noun classes as they pertain to agreement marking outside the context of holistically learned lexical units (i.e., nouns with their prefixes). Demonstratives bear gender agreement, as discussed in Section 2, but the noun controlling the agreement is not necessarily overtly expressed. Moreover, demonstratives are agreement targets that may agree with any of the noun classes.

Our analysis of Eegimaa-speaking children's acquisition of demonstratives begins at age two, an early point of morphosyntactic development and demonstrative usage. We compare children's early demonstrative usage at this age to usage at age 2;6 and 3;0 as well as to the input. Because our data is sparse, we report not only aggregated data but also individual children's usage, in order to investigate whether the patterns hold generally or seem instead to reflect idiosyncratic usage.

## 5.1   Use of demonstratives in child speech and CDS

The aggregated child data shows, at all three ages, more frequent use of DEM2 than any other demonstrative form, followed by DEM4 and DEM3. DEM2 accounts for 67.5% (147 out of a total 218) of the recorded instances of demonstratives in child speech, while DEM4 makes up 28.5% (62), and DEM3 only 4% (9).

DEM2 usage also accounts for the majority of demonstrative uses for the individual children in eight of ten sessions, ranging from 31% to 93% of all demonstrative forms. Both Juomen and Sanum reflect the overall pattern, using more DEM2 than DEM4 at both the ages for which we have data. Juomen shows little use of demonstratives at either age, with four DEM2 uses to one DEM4 use at age 2, and five DEM2 to four DEM4 at age 3. Sanum uses demonstratives

much more overall, with the ratio of DEM2 to DEM4 increasing between the two ages: 11:4 at age 2 and 28:6 at 2;6.

One two-year-old (Nara) and one three-year-old (Jandy) use DEM2 less than the other forms (31% and 34%, respectively). Jandy's data at age 2;6 shows an overwhelming preference for DEM2, at 72% (20 DEM2, 8 other DEMs), before declining to 34% at age three (7 DEM2 : 13 DEM4). At age 3, Jandy's usage is more CDS-like.

Figure 1: Frequency of demonstrative types by age group. (Age groups are labelled on the right edge of the figure.)
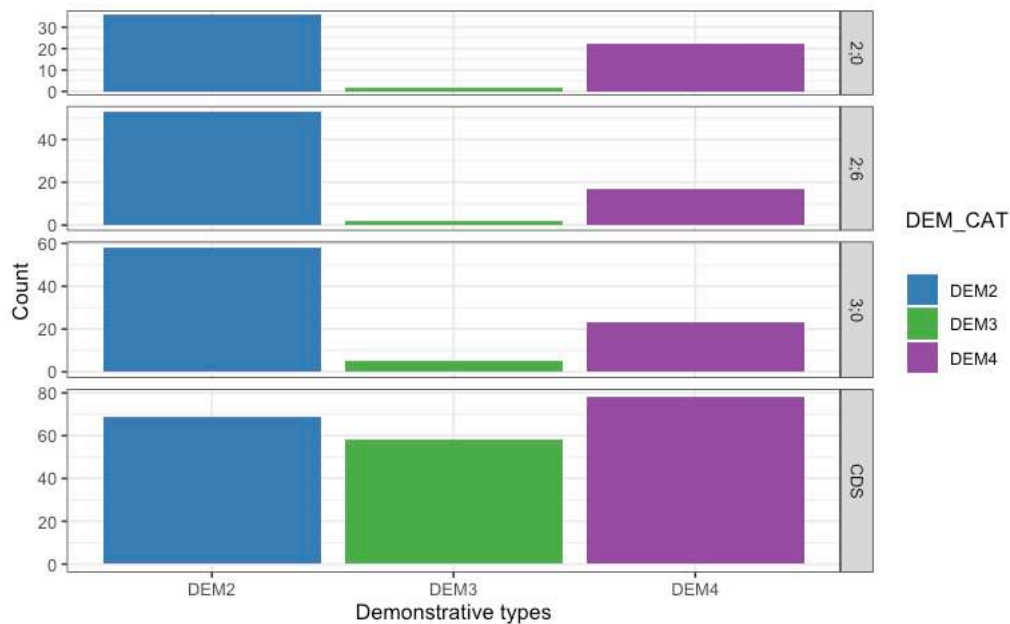
The relative frequency of the demonstrative types in children's speech is markedly different from what is observed in the adults' usage. In the CDS, the three DEM types are used with nearly equal frequency, with DEM4 consistently preferred across all three samples. The aggregated CDS data show a slight preference for DEM4 (38% of all demonstrative usage), followed closely by both DEM2 (34%) and DEM3 (28%).The difference in relative frequency and the near absence of DEM3 in the children's data need to be accounted for.

5.1.1   Demonstrative use according to syntactic context

Figure 2 shows that the syntactic contexts where demonstratives are most frequently found in CDS (adverbial, 36% and pronominal demonstratives, 28%) are, for the most part, frequent in child speech as well. Two of the syntactic contexts with low frequency of demonstrative use in CDS (determiners and presentationals) correspond to the least used contexts for children as well. The high frequency of identificational demonstratives in the children's speech, however, contrasts with their low frequency in CDS (13%).

The children make use of identificational demonstratives at each age point, and individual children reflect the same trends as shown in the group data. Sanum increases adverbial demonstrative use from five to 15 overall but shows a much greater increase in identificational uses (one at age 2, 14 at 2;6). Juomen has only two adverbial demonstratives at age 2 and none at 2;6. Pronominal usage is less regular: Juomen uses pronouns only at age 2;6, Sanum's pronominal demonstrative use decreases from nine to five.

Jandy, the longitudinal child with data at 2;6 and 3, shows much more identificational usage at 2;6 (16 tokens), compared to seven adverbials and four pronominals, whereas at age 3, we find only two identificational demonstrative tokens, compared to eight pronominals and some determiner usage (only one at 2;6, four at age 3).

Figure 2: Frequency of demonstrative use in syntactic contexts, by age group.
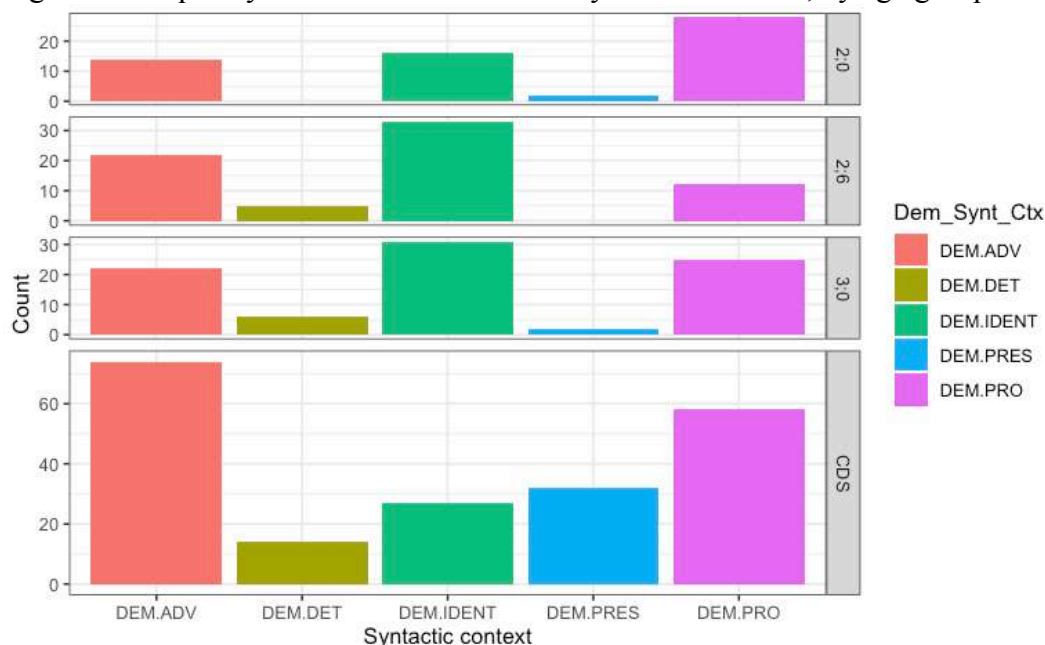
The most frequent demonstrative function in the children's usage is identificational, as in (19), accounting for 37% of all uses, across all ages (80/218). These are followed in frequency by demonstrative pronouns (30%: see (20)) and adverbial demonstratives (26%: see (21)). The children rarely use either demonstrative determiners (22)-(23), which occur only 11 times (5%), or presentational demonstratives (2%: (23))[5]. Focusing on errors in demonstrative forms, we see an error of substitution in agreement markers (see (19) and (22)).

(19)   Identificational demonstrative (SAN, 1;11.7)

Mamama   *ubu [: umu]
Mamama(I.SG)   DEM2.**III.SG**[I.SG].MED
'There is Mamama!'

(20)   Pronominal demonstrative (NAR, 1;11.0)

u-◻ar   gouge
2SG-take   DEM4.**V.SG**.PROX
'Take this one!'

(21)   Adverbial demonstrative (JUOMEN, 2;0.5)

a-ja-e [: e-jae]   boubbua
I.SG-go-CPL [: GII-GO-CPL].   DEM4.**III.SG**[I.SG].MED
'She has gone over there!'

---

[5] Note that all the examples from (19) onwards come from our corpus. In the examples below, children's errors are indicated by an asterisk with target forms in square brackets.

(22)   *Demonstrative determiner* (JUOMEN, 2:6.18)

ji-nde   *jouye [:jouje]

ji-thing(**VI.SG**)   DEM4.**VI.SG**.PROX

'This thingamajig!'

(23)   *Presentational demonstrative* (EJJ, 3:0.0)

udu   may   e-ssak

DEM2.[II.SG].MED   also   e-bag

'This is also a bag.'

Figure 2 reveals a clear difference between child speech and CDS in the distribution of demonstratives across syntactic contexts. In the CDS, demonstratives are most frequently used as adverbials (74 instances out of 205, or 36%), while adverbials are only the third most frequent syntactic function for demonstratives in child speech. Pronominal uses make up 28% of demonstratives (58 tokens) in the CDS, followed by presentational demonstratives (32 tokens, or 16%), which occur only rarely in child speech, with a total of four tokens. Identificational demonstratives, so frequent in the children's data, comprise only 13% of the CDS uses (27 tokens), followed only by a similarly low number of demonstrative determiners (14 tokens, or 7%).

5.1.2   Demonstrative forms according to syntactic contexts

Figure 3 shows the same syntactic context distribution as Figure 2, with a breakdown into DEM types, showing their interaction. Here we can see that the syntactic functions which show no variability in CDS, identificational demonstratives (DEM.IDENT), always marked with DEM2, and the demonstrative determiners (DEM.DET), which always use DEM4, are also used almost invariably in the child data. Presentational demonstratives are used very little by any of the children. The children seem to use identificational demonstratives because of both their function ("This is X") and their relatively transparent mapping of form and function.

Figure 3: Distribution of demonstrative types, by age group and syntactic context.
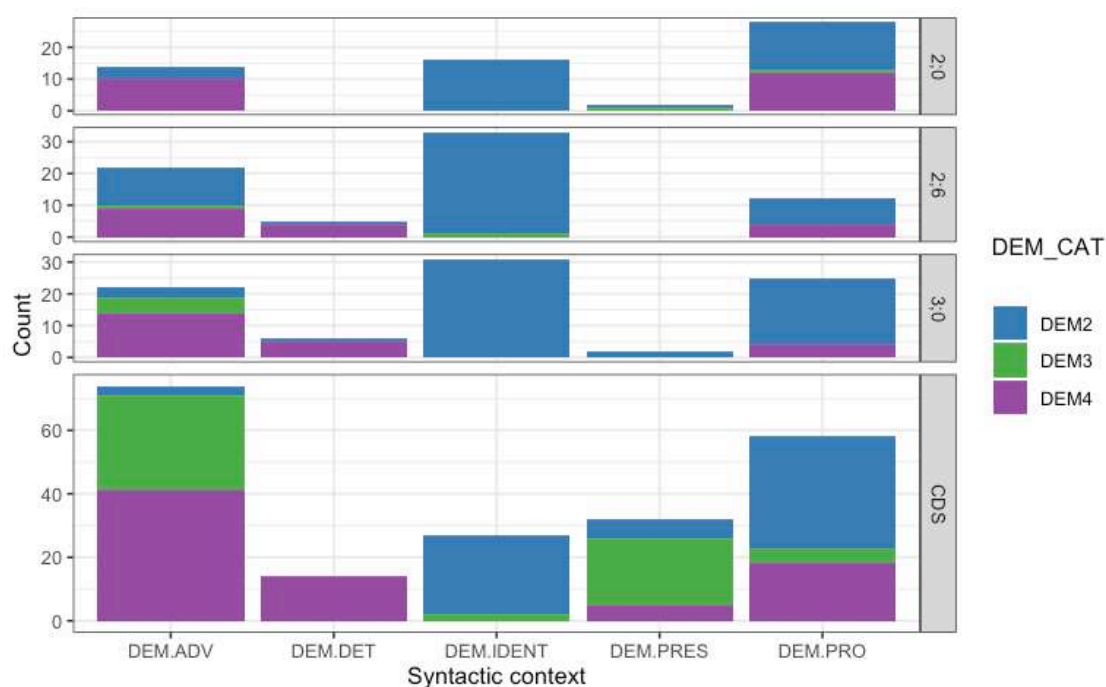
The most frequent syntactic contexts in the CDS, adverbial and pronominal uses, both occur with more than one demonstrative type: adverbials are used with DEM3 and DEM4, and pronominals are attested with all three demonstrative types. The children initially use DEM2 much more than any other type, despite its less frequent use in adult speech. At age two, the children show some variation in their use of demonstratives with pronominals and adverbials. One child, Nara, uses all three demonstrative types as pronominals in a target-like way. Juomen avoids the use of demonstrative pronominals at this age and the remaining two children use DEM2 for pronominals at age two only.

For adverbial demonstratives, the CDS uses only DEM3 and DEM4, whereas the children use DEM2 and DEM4. Here, we find predominant use of DEM4 by two children (Sanum and Nara). One child, Juomen, uses DEM2 and DEM4 equally, whereas Ejjen uses only DEM2.

By 2;6, all the children increase their use of DEM2 across the board, ranging from 55% to 79% use of DEM2 out of all demonstrative tokens. They make more use of identificationals than the caregivers do; here, DEM2 is the only option (44%, or 32 of the 72 instances of demonstratives at 2;6). They concomitantly expand the use of DEM2 in the variable contexts of adverbials (17%) and pronominal demonstratives (11%). DEM2 usage becomes a generalised default of sorts by age 2;6, used in all the contexts that exhibit variability.

By age three, children's demonstrative usage in adverbial contexts has developed noticeably in the direction of CDS, with both DEM3 and DEM4 attested, and a retreat from overuse of DEM2 in this context. Only DEM2 is used in identificational contexts, and pronominals still prefer DEM2; we do not witness a retreat from the use of DEM2, seen at age 2;6 in pronominals, and usage at age three is even less target-like than that at age two. Children's individual usage varies: Jandy clearly differentiates by syntactic context, with DEM4 used most in adverbial and determiner contexts both at age 2;6 and 3;0. DEM2 is used mainly in identificational contexts earlier on, at age 2;6. By age 3;0 both DEM2 and DEM4 are also used

as pronominals. Muna, who uses more demonstratives than any other three-year-old in our dataset, shows variation in adverbial and determiner contexts.

Overall, children make little use of DEM3, and only in contexts where it occurs in CDS as well. At age three we see differentiation by syntactic context, which more closely reflects the CDS. There is also a low rate of use of demonstrative determiners at 2;6 and 3;0, where DEM4 is used more frequently, reflecting CDS usage. Note that demonstrative determiners are not produced at all at age two, probably because the children produce few word combinations at that age and tend to use demonstratives in isolation, as single word units.

5.2 Demonstrative forms according to gender

Figure 4 shows the relation between genders and the syntactic contexts in which demonstratives are used. The choice of gender is connected to which referents are spoken about. Here the situational context and topic of conversation affect usage more than rate of acquisition or individual usage preferences. Juomen, for instance, uses genders I, II and III at age 2, but I, II and VI (with diminutive and evaluative meaning) at 2;6. Both Juomen and Sanum increase their use of gender II (the default), but Juomen has only 2 tokens. Sanum produces three tokens of gender II at age 2, increasing to 12 in the 2;6 session. He makes more use of genders III (general locative) and VI (diminutives) at age 2;6.

Figure 4: Distribution of demonstrative gender, by age group and syntactic context.
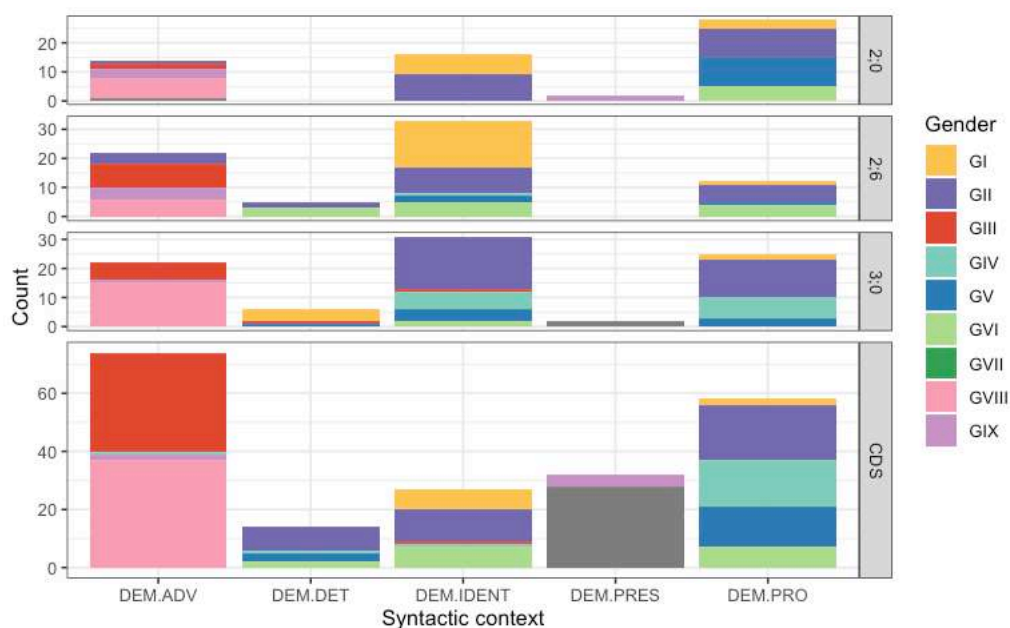
Adverbials are clearly differentiated from all the other syntactic functions, with Gender III used almost exclusively in adverbial function in both CDS and child speech. In its non-locative meaning, Gender III is associated with semantic properties such as assemblages and includes most of the words denoting trees. In its locative meaning, GIII expresses general location, which can be rendered in English as 'in an area' (see (21). As described in Section 2, Gender III has both nominal and adverbial demonstrative functions in both child speech and CDS.

Out of 35 CDS uses of Gender III demonstratives, 34 are adverbials. The children produce a total of 18 demonstratives in Gender III, 90% of which were used in (locative) adverbial contexts, as well as one demonstrative determiner and one identificational usage. Gender VIII

is a locative gender that functions exclusively as adverbials in both the CDS and child speech.

In the other syntactic contexts, the variability in children's usage is similar to that in CDS, with Gender II, the default gender, used more by children than in CDS, particularly in identificational and pronominal contexts. Gender I, the human gender, is also used more by the younger children than in the CDS, but it is used in the same general contexts. At age three, we find Gender I usage with demonstrative determiners, where it is absent in CDS (as in (24)). This may be a sign of more productive use of genders, where we find children using gender marking in ways not modelled in the CDS.

(24) a-ndɛ   umu   a-ñuf-ɛ [ˑna-ñup-ɛ]
      CLa-thing(.I.SG)   DEM2.**I.SG**.PROX   **I.SG**-squat-CPL
      'Lit: That so-and-so [person] has squatted' (MUN 3;1.10)

5.3   Demonstratives and deictic suffixes

We found no relation between deictic suffixes and gender agreement markers: each deictic suffix can be used with any gender. Usage depends entirely on the deictic context, and no general preferences or patterns emerged. Nor is the use of deictic markers restricted to specific syntactic contexts. Demonstratives co-occur with all the deictic suffixes in various syntactic contexts, although proximal suffixes dominate in adverbial and pronominal contexts in CDS and at age 2;0.

Likewise, the use of deictic suffixes is unrelated to the use of demonstrative types. At age 2, the children use distal and medial suffixes only with DEM2, while proximal suffixes are used with all three of the DEM types. At the other ages and in the CDS the proportional use of demonstrative types is roughly equivalent with all the deictic suffixes.

6   Discussion

Eegimaa has a complex demonstrative system with four demonstrative types that are differentiated morphologically and in their distributional properties. However, there are also distributional overlaps between them. We turn now to the questions informing our study, drawing on evidence from this small sample of children to form a picture of how Eegimaa-speaking children acquire the complex demonstrative system of their language.

1.   When and how do the children begin to generalise across the exemplars of demonstratives encountered in the input?

The youngest children in our study can be described as restricting their use of demonstratives to a small set of learned items, demonstrating little contrastive use. At age two, DEM3 and DEM4 are used almost exclusively as proximal deictics. Only two genders, I and II, are attested with all three deictic forms in the children's production at this age, and each child uses at least two of the deictic suffixes with Gender I. With Gender II, only one child, Juomen, uses a single (medial) deictic suffix. The other three children use the three deictic suffixes with varying frequency.

Evidence of generalisation and productivity arise over the course of development, alongside an increase in the frequency and distribution of the various demonstrative forms. By 2;6, the

children use DEM2 in a generalised way across the board. They make much greater use of identificational contexts (44% of all demonstratives at this age), which occur invariably with DEM2 in CDS, and they also use DEM2 forms more than any other form as adverbials and pronominals, which are variable in the input. The children seem to be sensitive to the presence of variability, even if their own usage does not follow target-like patterns: The children predominantly use DEM2 and DEM4 as adverbials, but DEM2 forms are vanishingly rare as adverbials in the input, where, instead, adverbials alternate between DEM3 and DEM4.

By age three, the children's production shows a retreat from overuse of DEM2 in adverbial contexts. The three-year-olds' adverbial demonstrative usage shows further development in the direction of the CDS, first seen at 2;6, with both DEM3 and DEM4 attested.

2. To what extent do children show sensitivity to the syntactic context of the different demonstrative forms?

The children show some sensitivity to differences in demonstrative usage by syntactic function, even at age two, but demonstrate far more target-like distribution of use by age three. They predominantly use identificational demonstratives, but the two-year-olds also all produce demonstrative adverbials (with DEM2 and DEM4). Three out of four use demonstratives as pronominals, but here we see individual differences. At age 2;6 all three children show limited usage of demonstrative determiners, with DEM2 and DEM4 used in that context. The other contexts show more DEM2 usage.

At age three we see more variation by syntactic function, and a variability profile for adverbials which approaches that seen in the CDS, with more DEM3 usage alongside DEM4 and less use of DEM2. Pronominals continue to be used primarily with DEM2, unlike the CDS, with some variability.

3. Does children's early demonstrative usage reflect the use of the different demonstrative types in child-directed speech?

As discussed above, the two-year-olds' demonstratives are accurate but restricted, with few errors but non-target-like distribution of the forms. At 2;6 the children's usage shows signs of generalisation, and by age three their usage more closely reflects the distribution of demonstrative types in the CDS. The children also show productivity at age three beyond what is found in the CDS, for example, in the use of Gender I for demonstrative determiners, whereas such usage is absent from the CDS data.

Although DEM4 is the most frequent demonstrative type used in CDS in these recordings, the younger children make more use of DEM2 before age 3. The children's preference for identificational demonstratives, which almost invariably use DEM2, may partially account for this bias, but the phonology of the forms is likely to have as much of an effect as the frequency and distributional patterns. The vowel-initial DEM2 forms are shorter and simpler than DEM4 forms, which are consonant-initial in most genders and always involve double agreement marking. The near absence of DEM3 in the children's data, despite its regular usage in CDS, may be explained by two observations (a) DEM3 is not the only option in any syntactic function (that is, it is used only in variable contexts), (b) children do not produce presentational demonstratives, one of the contexts in which the CDS makes the most use of DEM3. Beside presentationals, DEM3 occurs frequently in adverbial contexts alongside DEM4, and that is the only function in which children begin to reliably produce DEM3 forms at age three.

Much like what has been found in other languages, children acquiring Eegimaa seem to make use of the diverse forms of demonstratives early, but they do not yet make use of the full range of forms even at age three, when they are beginning to produce more systematic forms of the demonstratives across syntactic contexts and with various genders.

4. The role of variability

Generally, our data indicate that the children are learning from the distributional properties of the input, but they are not directly reproducing them. In particular, the role of variability is crucial to the acquisition of the demonstrative forms. Functions which are consistently mapped in CDS through a one-to-one relation with demonstrative forms are matched in the children's language in this period in which grammatical forms are first deployed. This is evidenced by the use of DEM2 with identificational demonstratives and DEM4 with demonstrative determiners. The other functions also show variability, less target-like usage (adverbials, pronominals), or avoidance in the children's production (presentationals).

As for gender, this is more closely connected to the referents which each interlocutor talks about, and here we see similar patterns in the child speech and the CDS. Already at age two, children are using demonstratives with multiple genders, but they are not reproducing the mappings seen in the CDS. By age three, the children are distinguishing between the adverbial use of locative and other genders, showing marked development toward the patterns available in the CDS.

We found no relation between deictic suffixes and syntactic function or gender agreement: any deictic suffix can be used with any function and any gender, with no general preferences or patterns emerging. As early as age two the children use all three deictic markers. Hence, it is pertinent to ask whether the expression of distance is mastered earlier in Eegimaa than has been found in English and other languages (Clark & Sengul 1978). The data at hand lacks information as to whether the distance markers are used appropriately in the children's speech, but this will be an important question to address in future research.

7 Conclusion

This paper presents new data from an Atlantic language, with a small community of families raising their children monolingually. The data provide a glimpse into the acquisition of a morphologically complex language with intricacies very different from the familiar, more researched European languages with complex nominal morphology. Eegimaa has a rich paradigm of demonstratives, where each form carries information about the number and gender of the referent, its distance from the speaker, and a less well-defined formal property (demonstrative type), with more complex mapping to syntactic function.

Children acquiring Eegimaa use various demonstrative forms early on, at age two, but show no sign of generalisation or productivity until 2;6. They begin to reproduce the patterns of variability we find in CDS only at age three. Yet variability affects the children's productions: forms with transparent, invariable one-to-one mappings are learned early, and children demonstrate sensitivity to the presence of variability, producing variable but less target-like patterns in the variable contexts.

More research is needed on the three-way deictic functions of the demonstratives and the children's deictic usage. From the present study it can be said that young Eegimaa speakers are sensitive to variability in the input and fairly accurate at producing demonstrative forms, but begin only gradually to show acquisition of the demonstrative system and productive use of the diversity of functions available in the language.

Abbreviations

∅	Zero prefix	IMM.FUT	Immediate future
ADV	Adverbial	MED	Medial
AGR	Agreement	NEG	Negation
C	Consonant (But represents agreement in Table 2)	NP	Noun Phrase
CAT	Category	OBJ	OBJ
CDS	Child-directed-speech	PL	Plural
CPL	Completive	PRES	Presentational
DEF	Definite	PRO	Pronoun
DEM	Demonstratives	PROX	Proximal
DIST	Distal	SG	Singular
G	Gender (represented using Roman numerals)	V	Vowel
IDENT	Identificational		

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