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Pluralization, feminization and pitch accent in Djibouti Somali nouns

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Abstract: The goal of this paper is to present newly collected data of Djibouti Somali and show how it offers insight into the architecture of nouns. Djibouti Somali, as Standard Somali, is characterized by the presence of inflectional classes. Building on my own fieldwork material, I discuss both the empirical statements and the theoretical implications that emerge from the observation of three aspects of noun inflection: (1) pluralization strategies, (2) the position of pitch accent with respect to gender and (3) the opposition between Absolutive and Nominative case. In particular, the fact that Djibouti Somali uses mainly two suffixes to pluralize nouns, leads us to the hypothesis that the inflectional system of this variety consists of only two inflectional types. Basic non-derived nouns belong to what I call type A, whereas suffixed nouns belong to type B. This dichotomy is confirmed by the behavior of pitch accent with respect to both gender and syntactic case. Finally, I propose that the distinction between type A and type B can be accounted for, in the context of a formal analysis, by postulating the existence of a contrast between null vs.

overt nominalizer.

Keywords: Cushitic, Somali, noun inflection, pitch-accent, pluralization, feminine marker

1 Introduction

In this paper, I focus on the inflection of Somali nouns. I present newly collected data of Djibouti Somali and show how it offers insight into the architecture of noun structures. The data challenges the traditional view of Somali, which postulates the existence of noun classes.

The Somali language belongs to the lowland East-Cushitic group and is spoken in Somalia, Djibouti, Ethiopia and Kenya. The standard variety (henceforth SOM) has emerged from Northern Somali dialects, spoken in Northern Somalia (also known as Somaliland, a *de facto* independent State), Djibouti and Ogaden (the southeastern portion of the Somali Regional State in Ethiopia); see Banti (2011) and Tosco (2012) for an overview of the situation of Somali language. Spoken Djibouti Somali (henceforth DJI) is therefore closely related to the standard variety.¹ About 40% of the Djibouti population has DJI as mother tongue, although only French and Arabic benefit from “official language” status (see <http://www.ethnologue.com/country/DJ/languages>.)

Somali nouns are organized in inflectional classes.² There is little agreement in the literature (Andrzejewski 1964, 1979; Banti 1988; Hyman 1981;

¹To my knowledge, little to no attention has ever been paid to DJI (see Morin 1986, 2003 for some texts in Djibouti Somali). Those Djiboutians that speak Somali usually say they speak “Somali” even though with “some Djibouti accent” (Djibouti-ville is only 20 km away from the border with Somaliland). Abstracting away from socio-linguistic differences holding between speakers, I consider DJI as a locally-spoken variety of Northern Somali.

²As will become clear in Section 2, the term “noun class” must be understood as “inflectional nominal pattern”.

Lecarme 2002; Orwin 1995; Puglielli & Siyaad 1984; Saeed 1993, 1999) on the exact number of classes: Hyman (1981) proposes only three distinct classes, whereas Andrzejewski (1979) counted up to ten of them. Yet, all the authors consistently propose to look at the following three parameters in order to determine the number of classes: (i) the position of pitch accent, (ii) the gender in the singular and in the plural and (iii) the way the plural is formed. Building on Godon (1998) and Lampitelli (2013), I claim that there are only two noun types. I will use empirical evidence from the DJI data in order to support this view and propose an analysis of nouns consistent with a syntactic approach to word formation, as advocated by Distributed Morphology (Halle & Marantz 1993; Embick 2010).

The paper is organized as follows. In Section 2, I introduce the noun classes of SOM. Section 3 focuses on the collected data as well as on the analysis of pluralization, feminization and pitch accent in DJI. In Section 4, I sketch out a novel analysis of the architecture of nouns in DJI. Section 5 is the conclusion.

2 Noun inflection in Standard Somali

The goal of this section is to present the complex inflectional system of SOM nouns. This step will prove crucial for interpreting the data of DJI.

Andrzejewski (1964, 1979) noted that Somali has a prosodic system mixing tone features and stress. More precisely, he identified four tones: low, high, mid and falling. Falling tones occur only on long vowels and diphthongs. Each noun follows a particular accentual pattern, which consists of one or more accentual units, a fixed alternation of tone and stress. Hyman (1981) demonstrated that the phonetic differences heard in the realizations of tones can be reduced to a binary phonological opposition: high and low tone. He claimed that stress,

which is associated either to the last or to the penultimate mora, is realized as high tone. In other words, Somali is a pitch-accent language. I follow Hyman's notation and will mark only the high tone with an acute accent on the stressed vowel: *í*. Examples of distinctive pitch-accent contrasts are shown below:³

(1) Pitch-accent contrasts ⁴

- a. **ínan** 'boy' vs. **inán** 'girl'
- b. **háan** 'throat' vs. **haán** 'water vessel'
- c. **qáan** 'young camel(s)' vs. **qaán** 'debt'

As mentioned in the introduction, the position of pitch-accent is one of the three parameters that are used to determine the inflectional pattern of a given noun. The second is the gender of the noun with respect to its number. Somali has two genders, masculine and feminine, as can be seen below.⁵

- (2) a. **nín-ka** **báa abees-ó** **ark-áy**
man-Det.M.Abs FM snake-F.Abs see-3sgM.Past.Red
'THE MAN saw a snake'
- b. **naág-ta** **báa abees-ó** **arag-t-áy**
woman-Det.F.Abs FM snake-F.Abs see-3sgF-Past.Red
'THE WOMAN saw a snake'

³I adopt Standard Somali spelling. The following particular correspondences with the IPA notation apply: <sh>=[ʃ], <kh>=[x], <dh>=[d̪], <x>=[ħ], <c>=[ʕ], <'>=[ʔ], <j>=[tʃ/d͡ʒ] and <y>=[j].

⁴Tone is distinctive mainly in nouns and sometimes in verbs (for mood and/or tense) (**ma**) **keenín** 'he didn't bring it' vs. (**ha**) **keénin** 'don't bring it' (cf. Andrzejewski 1956). In addition, some words of different categories are distinguished by tone alone, e.g. **kú** 'in, on' (Prep) vs. **ku** 'you' (Pro), **lá** 'with' (Prep) vs. **la** 'one' (Pro) (examples from Saeed 1993:23).

⁵In Somali, verbal agreement is reduced under certain conditions. More precisely, all persons have the 3sgM form except for 3sgF and 1pl. In addition, reduced agreement forms take pitch-accent on the last syllable. The reduced agreement paradigm is referred to as the Reduced paradigm (Saeed 1993:72-74) and is used in two situations: (1) in relative subject clauses and (2) in main clauses, only when the subject is focused. More details on focused subjects can be found in the remainder of this section.

In plural forms, however, some nouns change their gender. As we will see further in this section, the change of gender in plural forms depends on the noun class the noun belongs to.

- (3) a. **nim-án-ka** **báa abees-ó** **ark-áy**
 man-pl-Det.M.Abs FM snake-F.Abs see-3pl.Past.Red
 ‘THE MEN saw a snake’
- b. **naag-á-ha** **báa abees-ó** **ark-áy**
 woman-pl-Det.M.Abs FM snake-F.Abs see-3pl.Past.Red
 ‘THE WOMEN saw a snake’

The form **naag-á-ha** in (3-b) corresponds to the bare plural **naag-ó** followed by the determiner **ka**: **-ha** is the surface form of underlying **-ka**, the M form of the determiner.⁶ Thus, the noun **naag** ‘woman’ is F in the singular (2-b) and M in the plural (3-b).

This phenomenon, which I will refer to as gender polarity (Meinhof 1912; Lecarme 2002), occurs in both directions, M to F and F to M:⁷

- (4) Gender polarity
- a. **naág-/ta/** F sg. > **naag-ó-/ka/** M pl. ‘the woman’
- b. **ínan-/ka/** M sg. > **inamm-ó-/ta/** F pl. ‘the boy’
- c. **mádax-/ka/** M sg. > **madáx-/ta/** F pl. ‘the head’

Finally, the third parameter to determine the number of inflectional classes is the way in which plural is formed. Somali nouns pluralize according to five patterns involving three morphological strategies: suffixation ((5-a) to (5-c)),

⁶See Barillot (2002) for the analysis of the phonological processes involved in the allomorphy of determiners **-ka** (M) and **-ta** (F). In addition, note that the suffix **-ó** becomes **-á** when it is in a non-final position. The same happens to suffix **-é**: **baré** ‘teacher’ vs. **baráha** /**bar+e+ka**/ ‘the teacher’. I will return to this later, in Section 4.

⁷See Maniscalco (2015) for a recent account of the gender system in Somali. In Maniscalco’s analysis, gender is seen as the pairing between a singular and a plural form, similarly to what happens in typical noun class languages.

reduplication (5-d) and prosodic shift (5-e).

(5) Pluralization patterns:

- a. add the suffix **-ó** (attaches to both M and F nouns and can change the gender of the noun).
ex.: **ínan** M sg. > **inamm-ó** F pl. ‘boy’ and **naág** F sg. > **naag-ó** M pl. ‘woman’.
- b. add the suffix **-yáal** (attaches **only** to M nouns ending in **-é** and changes the gender of the noun).
ex.: **baré** M sg. > **bara-yáal** F pl. ‘teacher’.
- c. add the suffix **-oyin** (attaches **only** to F nouns ending in **-ó** and changes the gender of the noun).
ex.: **shaqó** F sg. > **shaqo-óyin** M pl. ‘work’.
- d. add **-á-** and a copy of the last consonant of the stem (it applies **only** to monosyllabic M nouns)⁸
ex.: **míis** M sg. > **miisás** M pl. ‘table’.
- e. move the pitch-accent one vowel rightwards and change the gender of the noun (it applies **only** to M nouns).
ex.: **mádax** M sg. > **madáx** F pl. ‘head’.

Putting together the position of pitch-accent, the gender polarity and the pluralization patterns in (5) corresponds roughly to the classification of nouns proposed by both Saeed (1993, 1999) and Orwin (1995).

In Saeed and Orwin’s system, the nouns are classified according to their

⁸As pointed out by an anonymous reviewer, a few monosyllabic F nouns pluralize through reduplication of the last consonant of the stem: **bud-/ta/** F sg. ‘the tomb’ > **budad-/ka/** M pl. ‘the tombs’, **qoor-/ta/** F sg. ‘the neck’ > **qoorar-/ka/** M pl. ‘the necks’. These nouns seem to be rare and, for this reason, I will not deal with them. As I show in the next section, a monosyllabic noun can select for patterns other than reduplication to express plurality.

basic forms. The basic form of a noun corresponds to the absolutive case: there is a general consensus in taking Abs. as the default case (Banti 1988; Puglielli & Siyaad 1984; Saeed 1993). The Abs. is used when a noun is either a focussed subject or a direct object (regardless whether it is focussed or not).⁹ In addition to the Abs. case, Somali has three other syntactic cases: nominative, genitive and vocative. The nominative case is used only for unfocussed subjects, whereas genitive serves to express possession.¹⁰ Vocative is used to denote the addressee. In this paper, I will deal mainly with absolutive and secondarily with nominative. Genitive and vocative will not be analyzed; see Frascarelli & Puglielli (2005, 2007a,b) for the syntax of absolutive and Lampitelli (2013) for the morphological structure of absolutive, nominative and genitive.

Table 1 shows seven noun classes, divided into two main sets. The first set, labelled type A, contains those nouns that end in a consonant in the singular and bear either a final or a penultimate pitch-accent.¹¹ The other set, labelled type B, contains those nouns ending in either **-é** or **-ó**, and bearing a final pitch-accent in the singular. Five classes (1 to 5) belong to type A, whereas only two, 6 and 7, form type B.

Type A is quite a heterogeneous group: class 1 includes all those nouns

⁹In Somali, an NP is focussed when it precedes either **báa** or **ayáa**, or when it is the last element in the **wáxa** construction. Cf. Saeed (1993:10-12; 233-235) and Orwin (1995:92-93; 159-161) for details. This means that word order depends on the position of focus/sentence particles. In declarative sentences containing a focused NP, word order is usually SOV. See Saeed (1993:215-244) and Gebert (1986) for further details.

¹⁰The Somali case system is more complex than it may seem at first sight. For instance, Nom. is used to express only a subset of possible subject configurations. In all other cases, Abs. is preferred (see Tosco 1994 and Andrzejewski 1984 for details). In addition, note that only the last item within the NP receives Nom. marking, be it a noun, a determiner, an adjective or a verb. All the other items, in turn, display Abs. case. This is what Saeed (1993) refers to as “premodifier form”: nouns in premodifier form always display Abs. case. The reader is referred to Saeed (1993:144-147) and Le Gac (2001) for more details.

¹¹As a matter of fact, a restricted group of nouns ending in **-i** (also spelled as **-y** when following a vowel) exist: **mindí** ‘knife’ F sg., **ardéy** ‘student’ M sg., **béri** ‘day’ M sg., etc... These nouns can belong to any of class 1 to 5, but never to either class 6 or 7.

Table 1 – Noun classes, absolutive

class	type	singular		plural		
		bare N	gender	bare N	gender	
1	A	naág	F+	naagó	M	‘woman’
2	A	baabúur	M+	baabuurró	F	‘truck’
3	A	ílig	M	ilkó	M	‘tooth’
4	A	míis	M	miisás	M	‘table’
5	A	mádax	M	madáx	F	‘head’
6	B	baré	M	barayáal	F	‘teacher’
7	B	shaqó	F	shaqóoyin	M	‘work’

whose singular form does not end in **-o**, and whose plural ends in **-o** and is masculine. These nouns are mostly feminine (this fact is indicated by F+ in Table 1) in the singular and the pitch-accent is always on the final vowel. A small group of class 1 nouns behave differently with respect to the second vowel of their stem: this vowel alternates with zero in the plural, as in **galáb** sg. vs. **galbó** pl. ‘afternoon’ (see Godon 1998 and Barillot 2002 for more details.) Nouns in class 2 obey similar constraints: their singular form does not end in **-e** and their plural ends in **-o** and is feminine. Also, their singular is mostly masculine (this is marked as M+ in Table 1) and the pitch-accent is always on the penultimate vowel. In addition, the last consonant of the stem is geminated when the plural suffix **-o** is added; if this consonant is a guttural, **j** or **s**, the expected gemination is replaced by the cluster **-Cy**: **dariiq** sg. vs. **dariiqyó** pl. ‘road’.

As mentioned, both class 1 and class 2 display exceptions with respect to the gender of the singular. According to both Saeed (1993) and Orwin (1995) some nouns belonging to class 1 are M and some nouns belonging to class 2 are F. I will not deal with these exceptional nouns: besides the fact that their exact number is unclear, their presence does not affect the proposals of this

paper.

Classes 3 and 4 contain masculine nouns that do not change their gender in the plural (a few F nouns exist in class 4, see footnote 8 above.) Both classes include nouns with a predictable syllabic structure. In class 3, the singular must be bisyllabic, and the two vowels are identical: $C(V)V_iCV_iC$. The pitch-accent is on the penultimate vowel. The plural is formed by suffixation of **-o**. The second vowel undergoes syncope, making the syllabic structure of these plurals as follows: $C(V)VCCo$. In comparison, class 4 contains monosyllabic nouns, consisting of a closed syllable with either a short or a long vowel: $C(V)VC$. When the vowel is long, the pitch-accent is penultimate. Their plural is formed by inserting the vowel /**a**/ at the end of the stem; then a copy of the last consonant of the stem is added to its right.

The heterogenous status of classes 1 to 5 is confirmed by class 5. Nouns belonging to it have 1 to 3 syllables, bear a penultimate pitch-accent and are all masculine in the singular. Interestingly, their plural is formed by changing the gender (from M into F) and by moving the pitch-accent one vowel rightward. In other words, no segmental suffix is used to pluralize these nouns. An anonymous reviewer raises the question of whether the fact of changing the gender and the pitch-accent shift belong to the same process or they are two separate morphophonological mechanisms. In Lampitelli (2013), I claim that the pitch-accent marks the syntactic case and follow Godon (1998) in arguing for a fixed position of the pitch-accent in the Abs. case. According to this analysis, the gender changes because the pitch-accent moves one vowel rightward in the plural.

Type B consists of classes 6 and 7. Both classes contain only those nouns that end in either **-e** or **-o** in the singular: the former includes M nouns ending in **-e** (cf. **baré** ‘teacher’), whereas the latter includes F nouns ending in **-o**

(cf. **shaqó** ‘work’).¹² Both have a specific plural suffix which is added to the singular form (cf. **barayáal** ‘teachers’ and **shaqóoyin** ‘works’). In addition, the plural forms change the gender of the singular.

The vowels **-e** and **-o** behave as suffixes. In fact, they both display fixed gender and trigger a specific suffix in the plural. Although the plural forms exhibit polarity, gender is always predictable in type B nouns. In addition, these suffixes may be used to create a noun out of a verbal root, as in the examples below:

- (6) a. **baré** ‘teacher’ vs. **bar** ‘to teach’
 b. **furé** ‘key’ vs. **fur** ‘to open’
 c. **sheekó** ‘story’ vs. **sheeg** ‘to tell’¹³
 d. **hurdó** ‘sleep’ vs. **hurud** ‘to sleep’¹⁴

Other type B nouns, in contrast, are built on roots that are not found in isolation: **aabbé** ‘father’, ***aabb**; **hooyó** ‘mother’, ***hooy**; **dabó** ‘tail, back part’, ***dab** (The root **dáb** is found in nouns, and means ‘fire’ M class 4.) Following Puglielli & Siyaad (1984) and Lecarme (2002), I assume that all type B nouns are derived precisely because they are suffixed.¹⁵

¹²Type B recalls Andrzejewski’s (1964:33-34) fifth declension. In his dissertation, Andrzejewski classifies all masculine singular nouns ending in **-e** and all feminine singular nouns ending in **-o** within a single group.

¹³/k/ is realized as [k] (spelled as **g**) in final codas and as [k^h] (spelled as **k**) elsewhere. See Armstrong (1934) for details.

¹⁴The root is /**hur**d/, the second **-u** appears in the verb to avoid final CC clusters, see Barillot (2002) for an analysis of /CVCC/ verbs in Somali.

¹⁵Another anonymous reviewer raises the question of whether Somali plural is inflectional or derivational. The behavior of Somali plural looks inflectional if one considers the following two features. First, suffix **-o** (classes 1, 2 and 3) does not bear inherent gender: **o**- plurals can be either M **naagó** ‘women’ or F **babuurró** ‘trucks’. Second, gender plurality is bidirectional (M > F and F > M), whereas pitch-accent shift goes *only* from left to right, that is from M to F (class 5): **búug** M ‘book’ → **buúg** F ‘books’, **naág** M ‘woman’ *→ ***naág** M ‘women’ is ungrammatical. Classes 6 and 7, in turn, seem derivational to the extent that suffixes **-yáal** and **-óyin** attach to suffixed singular forms and impose their own gender. I return to this discussion at the end of the paper, in Section 4 where I present an analysis of noun classes in the light of the DJI data.

To conclude, I take type B nouns to be complex items derived by attaching a vocalic suffix to a consonant-final root. In contrast, type A contains those nouns that are basic and non-derived (=unsuffixed). The structural difference between type A and type B is formalized in Section 4.

In the next section, I present the data collected in Djibouti and focus on the analysis of pluralization, feminization and pitch-accent in DJI.

3 Noun inflection in Djibouti Somali

This section is organized in four subsections. In the first subsection, 3.1, I introduce the data collected in Djibouti and a few general facts regarding fieldwork activity. In subsection 3.2, I explore the strategies of pluralization in DJI. In subsection 3.3, I analyze a few cases where the position of pitch-accent is distinctive with respect to the gender. Finally, subsection 3.4 shows the behavior of pitch-accent with respect to the opposition between Abs. and Nom.

3.1 Djibouti Somali

The data was collected in Djibouti, in June 2012, as part of the fieldwork activity conducted by the author in collaboration with the Université de Djibouti.

Fifteen people were interviewed: they are all born in Djibouti, either in the capital city Djibouti-ville or in the neighboring villages. Informants are 16 to 31 years old, except one whose age is unknown. Eleven informants are male, four are female. All the informants are literate, holding either the Middle School Certificate (*Brevet*) or the High School Certificate (*Baccalauréat*). The usual teaching language is French.

The data has been collected in the following two manners:

- (7) Collection of data
 - a. Transcriptions during the interviews
 - b. Recording of the informants

The corpus contains two kinds of items:

- (8) a. Noun entries (the form of both the singular and the plural of a noun)
- b. Sample sentences

Appendix A includes the complete list of the noun entries; each singular form is accompanied with the corresponding plural form(s). The sentences used as sample, in turn, are given within the text when needed.

The data will be used to study the following three aspects of noun inflection:

- (9) a. the strategies of pluralization
- b. the position of pitch-accent with respect to gender
- c. the opposition absolute vs. nominative

Section 3.2 focuses on point (9-a): it is shown that, in DJI, pluralization involves mainly two suffixes (contrarily to what has been shown in SOM). Section 3.3 presents the discussion involving the expression of gender in DJI (point (9-b) above) and, finally, point (9-c) is dealt with in Section 3.4 where pitch contours are displayed showing that two kinds of opposition absolute vs. nominative arise.

3.2 The plural marker in Dji

The corpus contains a sample of 150 noun entries (see Appendix A). This sample has been established on the basis of the examples of SOM provided by Orwin (1995), Saeed (1993) and Puglielli & Siyaad (1984). As stated in the introduction, DJI is a locally-spoken variety of Somali: for this reason, I adopt the SOM noun classes as a starting point for collecting DJI data. Appendix A is organized according to this principle: each noun is allotted one (or more) noun classes depending on what one expects to find in SOM. Plural forms, in turn, correspond to those produced by DJI speakers during the interviews.

The data were gathered as follows. The author pronounced the singular form of each noun in Somali (in a random order) and each informant proposed one or more possible plural forms. Showing the written form of the nouns was avoided: Somali speakers in Djibouti usually do not know the official spelling of their language. As one anonymous reviewer points out, future research should test which plural form is listed first by each native speaker. This fact could prove useful in determining which forms are default in DJI.

The results of this inquiry clearly show that, in DJI, there is a strong tendency to form the plural in the following two ways:

(10) Strategies of pluralization in DJI

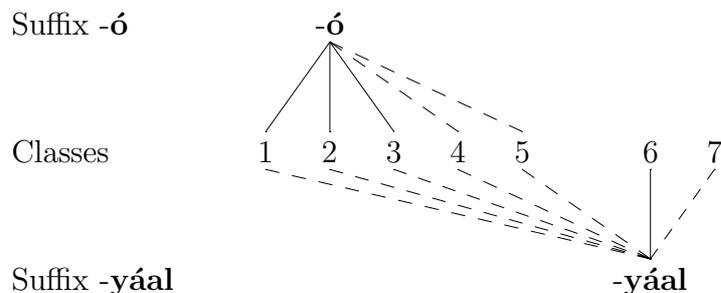
- a. suffixation of **-ó**
- b. suffixation of **-yáal**

The suffix **-ó**, which in SOM is used to pluralize classes 1, 2 and 3 (cf. Table 1 above), can also be used to pluralize nouns belonging to classes 4 and 5. In a similar way, the suffix **-yáal**, which in SOM is found only as the plural of class 6, applies to a larger range of classes, namely classes 2, 3, 4, 5, 6 and 7. In

addition, there are cases where **-yáal** is used to pluralize class 1 nouns, too.

This situation is schematized below:

(11) Distribution of **-ó** and **-yáal** in DJI:¹⁶



The continuous lines represent the distribution of each suffix found both in SOM and in DJI, whereas the dotted lines represent the distribution of these suffixes found only in DJI.

The situation depicted in (11) suggests that we are dealing with a simplification of the complexity of SOM noun morphology. More specifically, classes 1 to 5 (labelled type A in Table 1 above) accept two suffixes in DJI, contrary to the situation found in SOM where each class is defined according to a number of morphophonological constraints (gender of the singular, syllable structure, position of pitch-accent, presence/absence of particular suffixes, etc...). As for type B, class 6 remains as in SOM; class 7 accepts both the standard suffix **-oyin** and the suffix **-yáal**.

Table 2 shows the respective occurrences of **-ó** and **-yáal** across each class. The data in Table 2 read as follows. Take, for instance, class 2. The corpus contains 59 items belonging to this class. Among these items, 55 can be

¹⁶The distribution of **-yáal** is strikingly similar to a cognate suffix **-yal** appearing in Maay, spoken in Lower Jubba in Southern Somalia. In this language, vowel-final nouns pluralize exclusively with a **-yal** suffix, whereas consonant-final nouns have three possible plural forms: (1) one using an **-o** suffix, (2) one using the same **-yal** as for vowel-final nouns and, (3), one using both suffixes. The following example illustrates this situation: **af** ‘mouth’ vs. **af-o**, **af-yal**, **af-o-yal** ‘mouths’. I thank an anonymous reviewer for bringing this fact to my attention. See Paster (2010:179-182) for more data and analyses.

pluralized with suffix **-ó** (this number represents 93% of total occurrences of class 2 nouns), whereas 46 items can be pluralized with suffix **-yáal** (that is 78% of class 2 nouns). Finally, marginal plurals are listed in the last column: 2 items can be pluralized through reduplication, 4 display irregular plural forms and 2 trigger pitch-accent shift. A given noun can adopt more than one plural strategy: this explains why the total amount of plural forms exceeds the number of class 2 nouns. (Recall that the main goal of this paper is to show that new pluralization patterns arise in DJI.) The complete information about each noun is provided in Appendix A. Finer statistical investigations will have to establish a larger representative sample of nouns in order to study the corresponding pluralization patterns and their frequencies of realization for each informant.

Table 2 – Occurrences of suffixes **-ó** and **-yáal**

class	# items	-ó	%	-yáal	%	other plurals
1	37	34	92%	9	24%	6 (rdp), 1 (irr)
2	59	55	93%	46	78%	2 (rdp), 4 (irr), 2 (shift)
3	7	7	100%	4	57%	-
4	26	9	34%	12	46%	25 (rdp), 2 (oyin)
5	7	4	57%	7	100%	7 (shift), 1 (rdp)
6	6	-		6	100%	3 (-oyin)
7	11	-		5	45%	11 (-oyin)
total	153 ¹⁷	109	71%	89	58%	

It is worth noting the following facts. First, 46 nouns, out of 59 belonging to class 2 (thus M in the singular), take the suffix **-yáal** (in addition to regular **-ó**). Second, only 9 nouns, out of 34 belonging to class 1 (thus F in the singular), pluralize with **-yáal** in addition to regular **-ó**. Third, class 3 (M in the singular) has 4 cases out of 7 which take **-yáal** in the plural. Recall that class 3 nouns do not change their gender in the plural. As for classes 4

¹⁷This number corresponds to 150 distinct nouns. Three of them have been counted twice: **géed** M 1/3, **mádax** M 2/5 and **maalín** F/M 1/2 as they belong to two distinct classes. Irregular plurals are given in Appendix A when known by the informants.

and 5, in SOM, neither of these classes pluralizes using suffixation; in DJI, in turn, both **-ó** and **-yáal** can be used (with stronger preference for the latter). Finally, note that **-ó** does not work with type B nouns. The suffix **-yáal**, on the other hand, does apply to both class 6 (100% of the occurrences) and class 7 (45% of occurrences) nouns.

Interestingly and not surprisingly, loans can be pluralized with both **-ó** and **-yáal**, as the following example shows:

(12) The plural in loans:

- a. sgsg.. **terrain** [teraŋ] ‘field’ (cf. French [teʁɛ̃])
- b. pl. 1: **terranó**
- c. pl. 2: **terranyáal**

Recent loans are all M: **ordinatээр(-ka)** ‘computer’, **boortáabl(-ka)** ‘cell phone’, **skóol(-ka)** ‘school’, **telfísyon(-ka)** ‘TV’, etc. In SOM, some older loans, such as **búug** M cl 2/4 ‘book’ and **boostó** F cl 7 ‘post office’ are fully integrated in the system and take regular plurals. Some loans from Arabic, in turn, maintain the original broken plural: **márkab** M ‘ship’ > **maraakiíb** F ‘ships’, **kúrsi** M ‘chair’ > **kuraasí** F ‘chairs’, **qálin** M ‘pen’ > **qalmaán** F ‘pens’. In some cases, two possible plural forms exist: regular **kursiyó** F ‘chairs’ and **qalimmó** F ‘pens’ are attested and confirmed by the informants (see Appendix A). For more details on loans in SOM, see Mioni (1988); Saeed (1999); Zaborski (1967).

As for SOM regular plurals of class 4 and class 5 (reduplication and pitch-accent shift), these strategies are quite marginally used in DJI:

(13) Marginally-used strategies of pluralization:

- a. reduplication of the last C of the stem + insertion of /a/;

b. Pitch-accent shift

In SOM, the strategy (13-a) targets exclusively monosyllabic M nouns, such as **miís** ‘table’ (class 4). The DJI data show that the constraint on monosyllabicity is not enough to enforce reduplication to pluralize a noun. In fact, as Table 2 shows, there are cases of reduplicated plurals occurring in classes other than class 4 (6 in class 1; 2 in class 2 and 1 in class 5). As for (13-b), in turn, only the M nouns can be pluralized by moving the pitch-accent one vowel rightwards: **mádax** ‘head’ (class 5). For instance, the overwhelming majority of the informants (12 out of 15) did not propose **madáx** ‘heads’ as the corresponding plural of **mádax** ‘head’: rather, they proposed either **madaxyó** or **madaxyáal**. The form **madáx** ‘heads’, however, has been recognized as a plural when mentioned by the author. As can be seen in Table 2, pitch-accent shift is regressing: 7 nouns out of 7 from class 5 have two distinct ways to pluralize: (i) pitch-accent shift and (ii) suffix **-yáal**.

Finally, we have to discuss the status of the suffix **-oyin**. In SOM, this suffix is used to pluralize exclusively those nouns ending in **-ó** in the singular (they belong to class 7 and are F in the singular). In DJI the situation is as follows. We find, as expected, **-oyin** in class 7 (although in competition with **-yáal** in 5 cases out of 11). In addition, three nouns pluralize with this suffix in class 6 (also in competition with **-yáal**) and, finally, two instances of **-oyin** are found in class 4 (that of reduplicated plurals).

Table 3 recapitulates the comparison between plurals in SOM and in DJI.

Compared to the rich inflectional inventory of SOM, DJI has generalized the use of two suffixes: **-ó** and **-yáal**. This fact is especially interesting in light of the observation that SOM exhibits variation in the pluralization patterns.

¹⁸Suffix **-yáal** cannot attach to **naág**.

Table 3 – SOM and DJI plurals

c1	SOM/DJI		SOM	DJI	
	singular	gen	plural	plural	
1	gabádh	F	gabdhó	gabdhó, gabdhyáal ¹⁸	‘girl’
2	baabúur	M	baabuurró	baabuurró, baabuuryáal	‘truck’
3	ílig	M	ilkó	ilkó, iligyáal	‘tooth’
4	míis	M	miisás	miisó, miisyáal, miisás	‘table’
5	mádax	M	madáx	madaxyó, madaxyáal, madáx	‘head’
6	baré	M	barayáal	barayáal	‘teacher’
7	shaqó	F	shaqóoyin	shaqóoyin, shaqayáal	‘work’

Godon (1998) reports that her informant accepts two plurals for most M nouns belonging to either class 2 or class 5: **díbi** M cl 5 ‘bull’ > **dibí** F pl. (pitch-accent shift), **dibiyó** F pl. (suffixation of -ó) ‘bulls’. Saeed (1993, 1999) and Orwin (1995) claim that some nouns display more than a plural form, but no complete work on this topic has been done on SOM to my knowledge. This situation encourages further study about the status of the noun classes in the language: we are dealing with an ongoing process of simplification of noun inflection in DJI, although marginal pluralization patterns are still in use (as Table 2 shows.) I will turn to this topic later, in Section 4, where I discuss the theoretical implications of the data presented so far.

In the following subsection, I explore the relation between gender and pitch-accent.

3.3 The position of pitch-accent with respect to gender

Since Hyman (1981), there is consensus about the fact that pitch-accent occupies either the last vocalic position or the penultimate one. Hyman managed to reduce to a binary contrast what Andrzejewski (1956, 1964, 1979) described as a very complex system of interactions between stress and tone. More recently, Le Gac (2001:110-125 and 2003:53-54) observed that, in SOM, the contrast

between the following pairs of nouns is maintained:

- (14) Pitch accent contrasts (absolute)
- a. **ínan** M ‘boy’ vs. **inán** F ‘girl’
 - b. **béer** M ‘liver’ vs. **beér** F ‘garden’

Hyman’s analysis has the advantage of predicting the correlation between gender and the position of pitch-accent. Masculine nouns have penultimate pitch-accent, whereas feminine nouns display final pitch-accent.

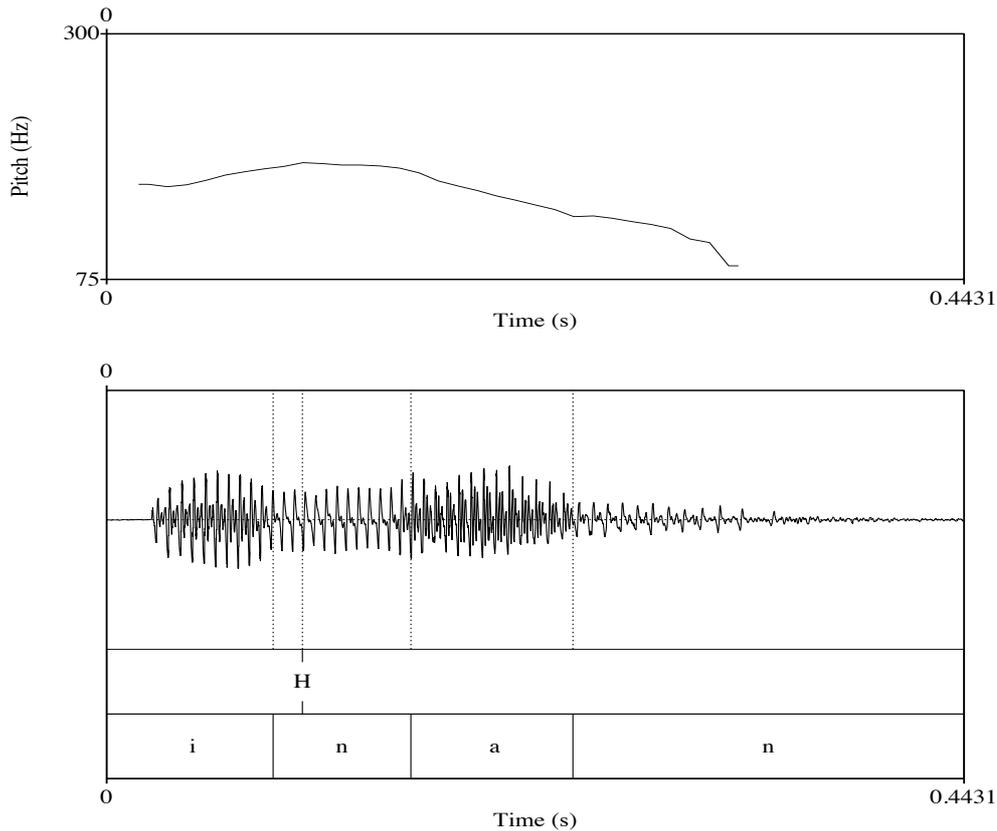
The DJI data confirms the hypothesis on the correlation between the position of pitch-accent and the gender of the noun. The phonetic analysis of Djibouti-collected recordings reveals that the pitch is found at the expected positions when the nouns are considered in isolation. This generalization, however, holds true only for type A. In fact, as Le Gac (2001) has already noticed, type B nouns behave in a different way. Both class 6 and class 7 display final pitch-accent in the Abs. case, thus neutralizing the distinction of gender.

In this section, I show the pitch tracks and highlight the pitch-accent contrasts between masculine and feminine nouns. I start with the well-known pair **ínan** M sg. Abs. ‘boy’/**inán** ‘girl’ F sg. Abs.; then, I show two pairs containing monosyllabic nouns with a long vowel. These pairs are: **naág** F sg. Abs. ‘woman’/**míis** M sg. Abs. ‘table’ and **gées** M sg. Abs. ‘horn’/**heés** M sg. Abs. ‘song’ (type A). Finally, I show the pair **baré** M sg. Abs. ‘teacher’/**shaqó** F sg. Abs. ‘work’, where two suffixed nouns are compared (type B). The examples are selected from the recordings of a unique speaker, a 30 year-old male born in Dikhil (Southern Djibouti).

As for type A, the opposition between **ínan** M sg. Abs. ‘boy’ and **inán** F sg. Abs. ‘girl’ is confirmed by all the informants. Figure 1 shows M **ínan**,

whereas Figure 2 shows the F counterpart **inán**. The contrast between initial and final pitch-accent is strikingly clear: in Figure 1 pitch-accent is initial, whereas in Figure 2 pitch-accent is final.

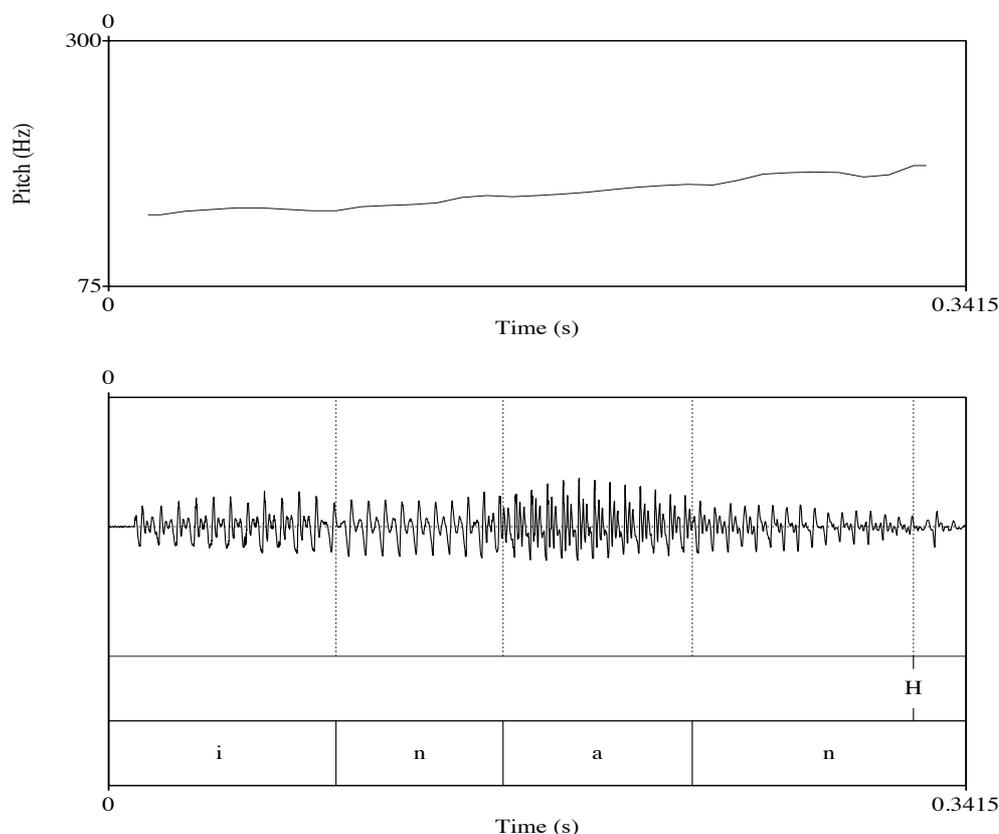
Figure 1 – **ínan** M sg. Abs. ‘boy’



The situation is more complex in the monosyllabic nouns. The informants that I interviewed do not generally recognize minimal pairs based on monosyllabic nouns, except for a few cases. For instance, the contrast between **néef** M sg. Abs. ‘pet’ and **neéf** F sg. Abs. ‘breath’ is known to 6 informants. While recording these pairs, however, I could notice that the informants weren’t spontaneous and they sometimes hesitated. Because of the weak distinctive status these nouns have in DJI, I decided not to include such minimal pairs in my discussion.

Despite this fact, pitch contrasts are distinguished in pairs such as **míis**

Figure 2 – **inán** F sg. Abs. ‘girl’



M sg. Abs. ‘table’/**náag** F sg. Abs. ‘woman’ and **géés** M sg. Abs. ‘horn’/**heés** F sg. Abs. ‘song’. In the former pair, the nouns share only the syllabic structure CVVC; in the latter they share the syllabic structure (again, CVVC), the vowel /e/ and the final consonant /s/. Figures 3 to 6 show these contrasts.

As for type B nouns, there is no contrast with respect to gender. In fact, both **baré** M sg. Abs. ‘teacher’ and **shaqó** F sg. Abs. ‘work’ display final pitch-accent. This means that suffixes -e and -o, respectively M and F, bear high tone. In other words, whilst pitch-accent position correlates with gender in non-derived nouns (type A), it does not to do so in derived suffixed nouns (type B).

The F0 curves in Figures 7 and 8 present unequivocal proof confirming the neutralization of the position of pitch-accent in type B. Note that, in my

Figure 3 – **míis** M sg. Abs. ‘table’

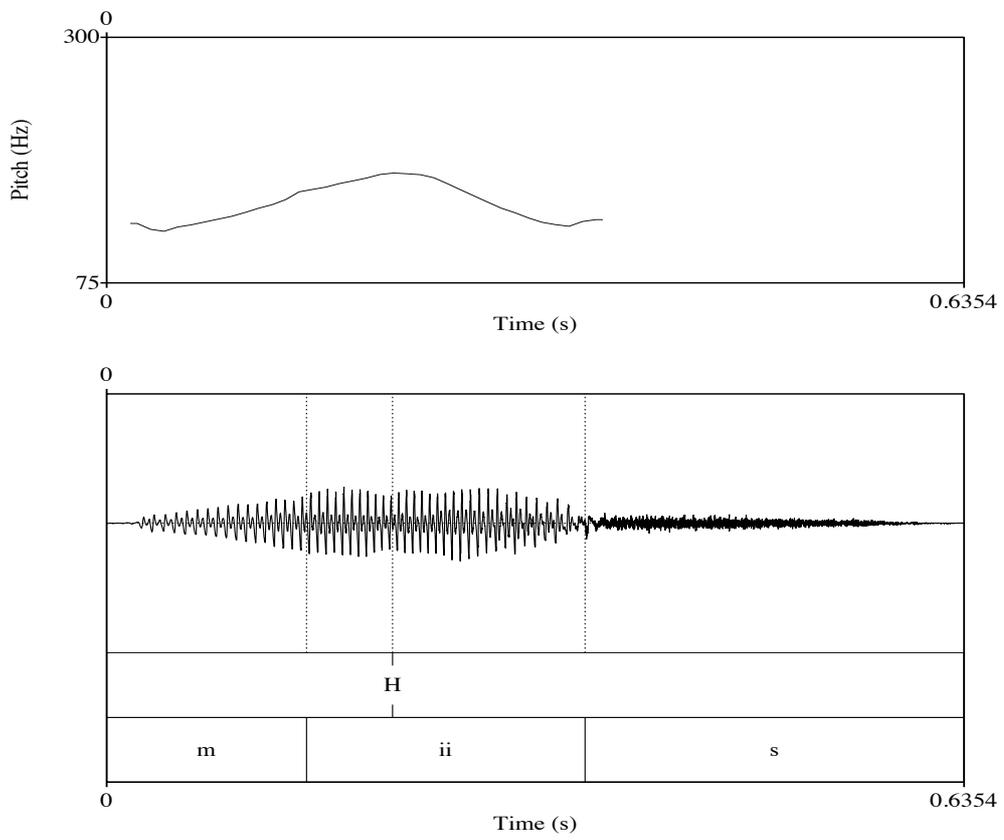


Figure 4 – **naág** F sg. Abs. ‘woman’

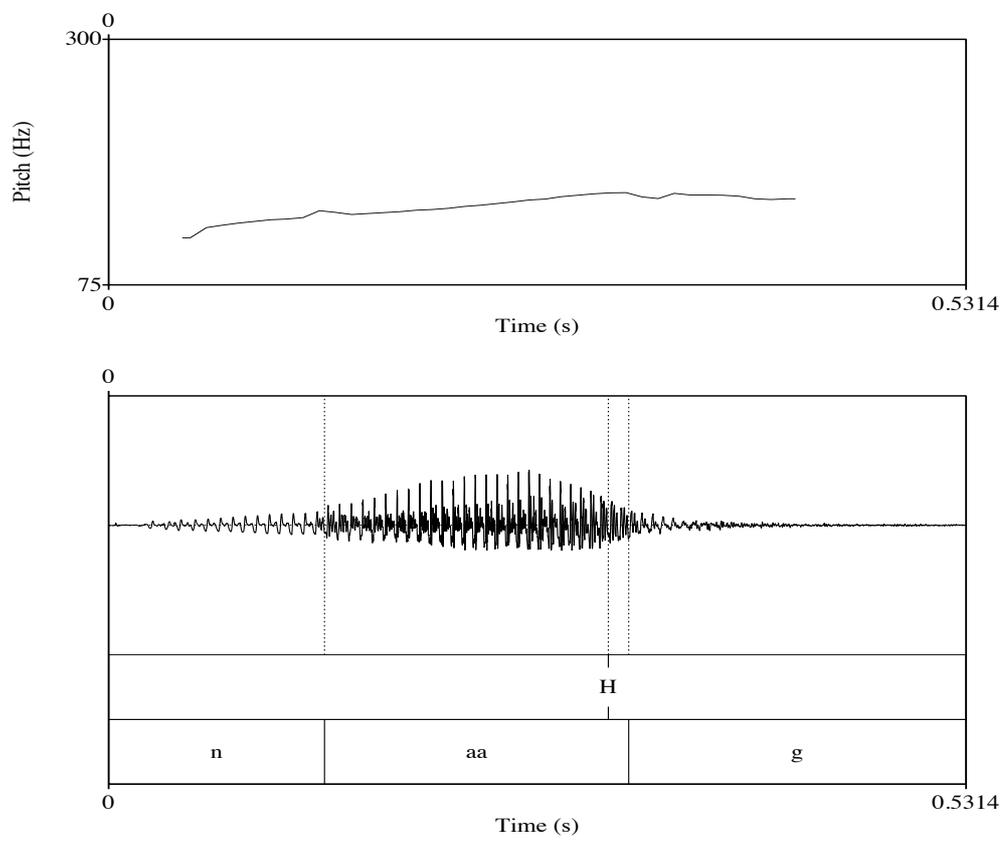


Figure 5 – géés M sg. Abs. ‘horn’

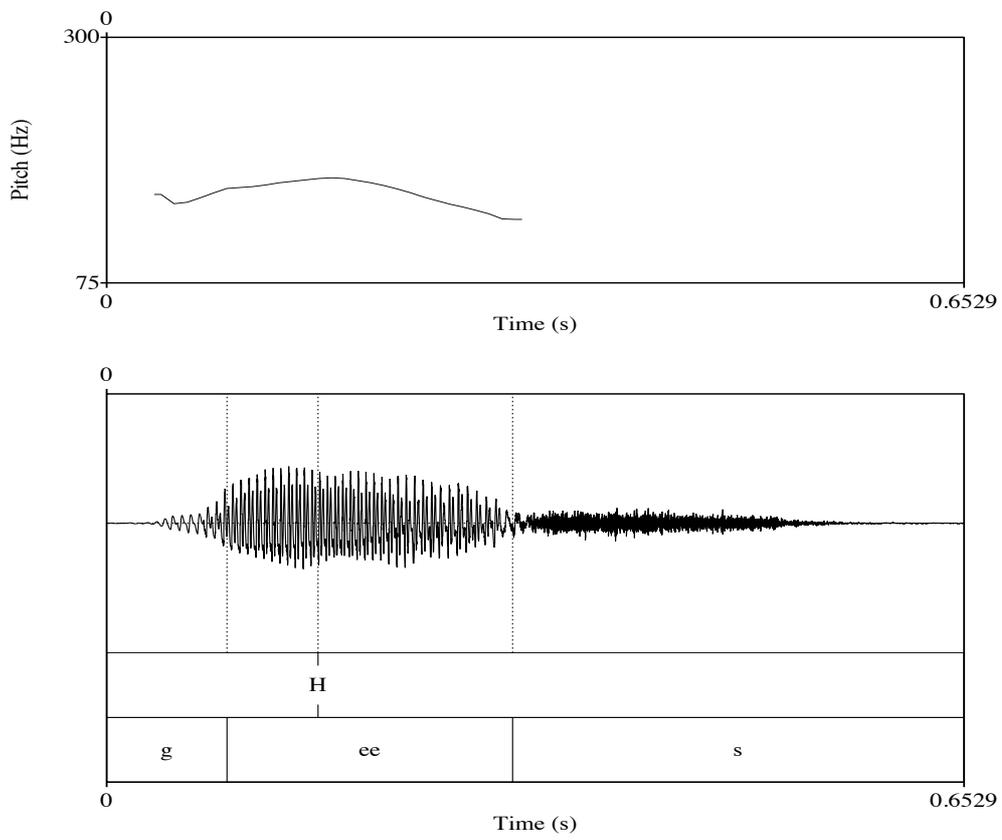


Figure 6 – heés F sg. Abs. ‘song’

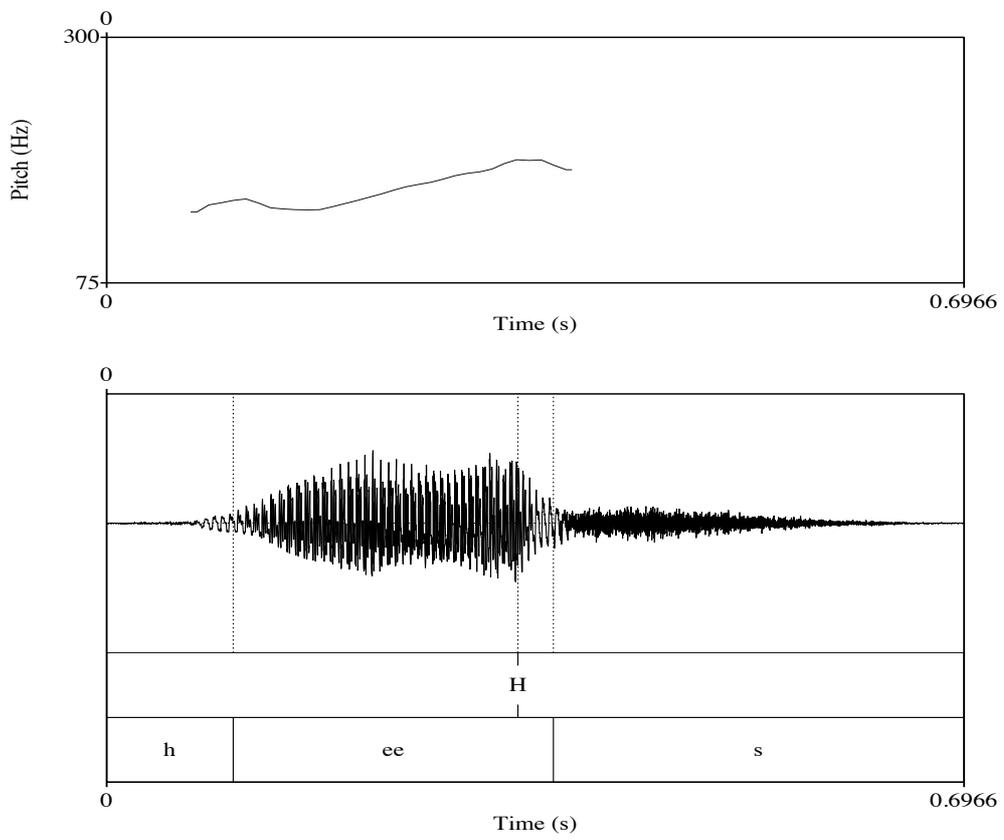
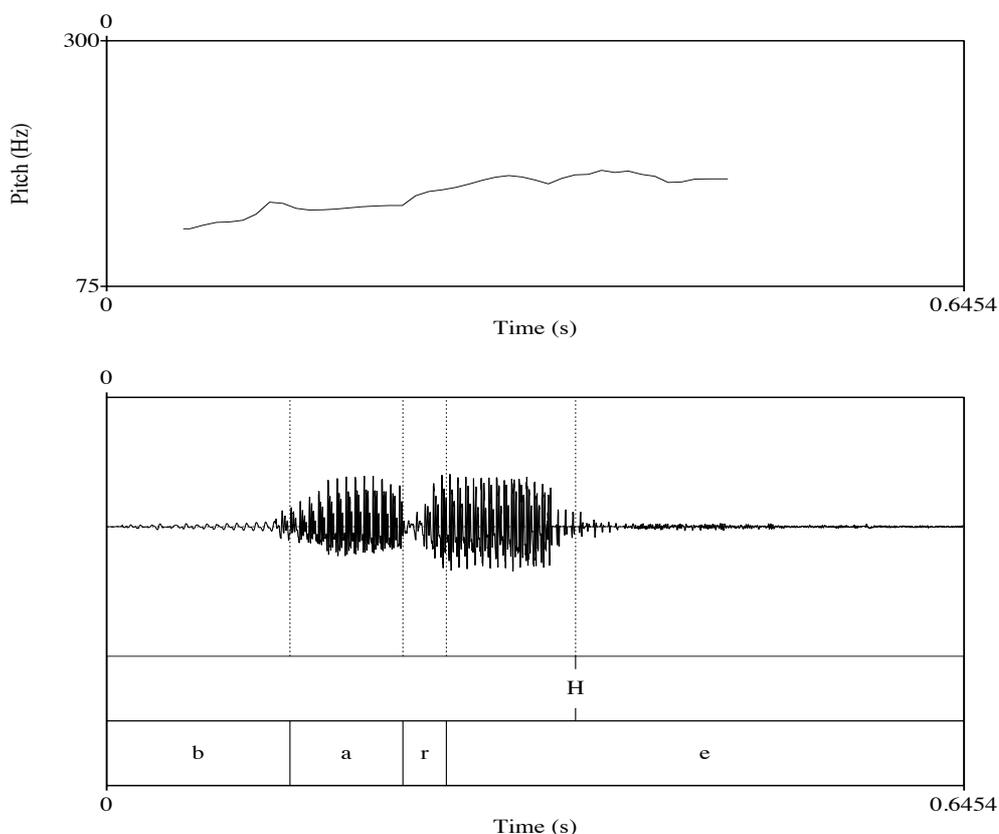


Figure 7 – **baré** M sg. Abs. ‘teacher’

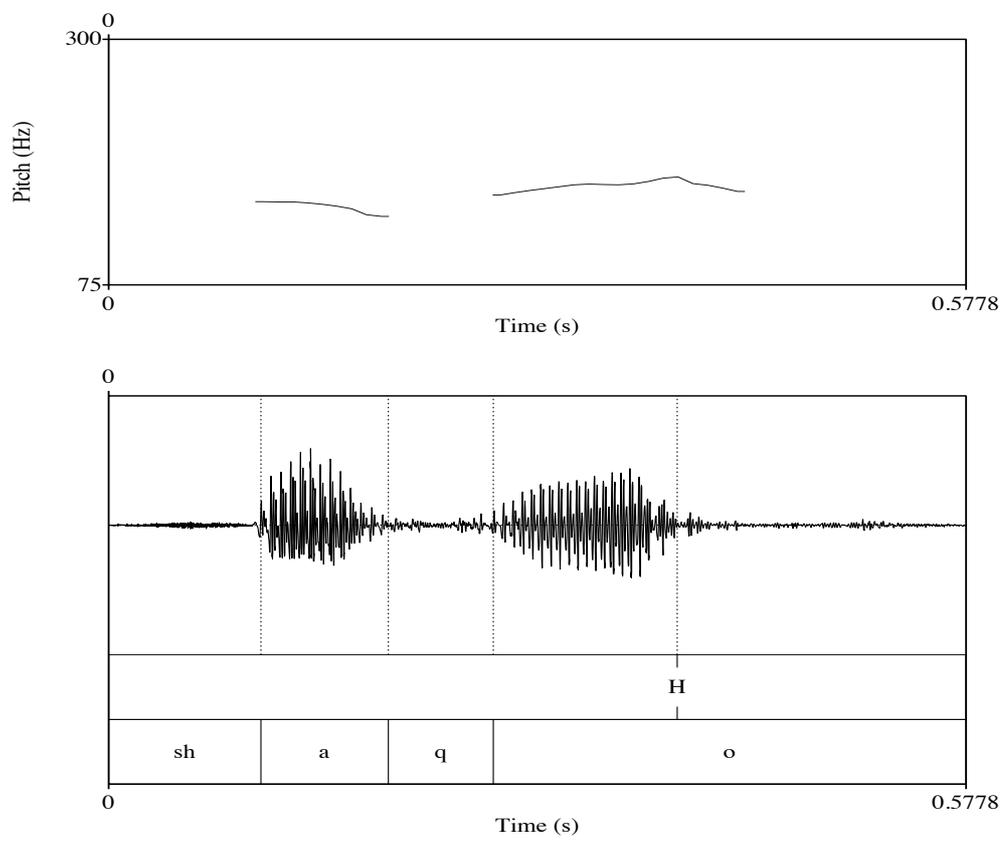


corpus, there is only one case, out of 11 nouns ending in **-ó**, that displays exceptional behavior. This noun is **sheekó** F sg. Abs ‘tale, story’ and it sometimes appears as **sheéko** at absolutive. I have no explanation this deviance from the general pattern of **-ó** nouns (cf. Le Gac 2001:65).

The examples provided in this section show that we have two distinct patterns as far as pitch-accent is involved. On the one side, there are those nouns that display a positional contrast of pitch-accent. These nouns distinguish gender through the position of pitch-accent, in line with Hyman’s (1981) hypothesis. They belong to what has been labelled type A. On the other, there are two classes, containing only suffixed nouns, which do not distinguish gender through the position of pitch-accent. These are type B nouns.

In the following section, I analyze the opposition between absolutive and

Figure 8 – shaqó F sg. Abs. ‘work’



nominative.

3.4 Abs./Nom. oppositions in Dji

In addition to plural formation and to the behavior of pitch-accent with respect to the gender, a third aspect of noun inflection in DJI deserves attention: the opposition between absolutive and nominative.

In SOM, the nominative case is derived by lowering high tones (Banti 1984; Saeed 1993:141-147) and is used only for unfocussed subjects. Feminine nouns ending in a consonant add the suffix **-i**. This suffix bears a low tone. As shown in Table 4, the opposition between Abs. and Nom. consists, basically, of the opposition between the presence of pitch-accent vs. its absence. In Table 4, class 3 nouns are not shown because they behave as those in class 4 both in the singular and in the plural. As for the plural forms of type B nouns, I lack reliable data from DJI to propose an analysis. Since Andrzejewski (1964), who affirms that class 6 plurals belong to the sixth declension, whereas class 7 plurals belong to the third declension, these plurals have received little attention in the literature, with the exception of Le Gac (2001).

Table 4 – Nominative patterns

class	type	Abs.	Nom.	gender	number	
1	A	naág	naag-i	F	sg.	‘woman’
1	A	naagó	naago	M	pl.	‘women’
2	A	baabúur	baabuur	M	sg.	‘truck’
2	A	baaburró	baaburro	F	pl.	‘trucks’
4	A	míis	miis	M	sg.	‘table’
4	A	miisás	miisas	M	pl.	‘tables’
5	A	mádax	madax	M	sg.	‘head’
5	A	madáx	madax-i	F	pl.	‘heads’
6	B	baré	bare (báre)	M	sg.	‘teacher’
7	B	shaqó	shaqo (sháqo)	F	sg.	‘work’

According to Le Gac (2001:109-188), the situation is slightly more complex than that depicted by Saeed (1993) (In his 1999 grammar, Saeed changes his description on nominative and claims that nouns belonging to classes 6 and 7 do not lower high tones.) In particular, Le Gac claims that type A nouns behave as expected only in the singular: nominative forms lack high tone. In the plural, in turn, type A nouns lack high tone when they appear both as unfocussed subjects (that is as Nom.) and as unfocussed non-subject NPs. In the latter case, nouns usually take Abs.: we therefore expect plural forms to display high tone. In other words, plurals can display low tone even in a position in which Abs. is selected. Type B Nom. nouns, on the other hand, always display penultimate pitch-accent.

In this paper, I analyze only the singular forms of four distinct nouns. These nouns show that, in type A, Nom. indeed lowers the high tone. In type B, in turn, pitch-accent moves from the last to the penultimate vocalic position. In addition to these facts, the data collected in Djibouti show that the suffix **-i** is not spontaneously used by the informants. (I analyze the suffix **-i** in detail in Lampitelli 2013; recent fieldwork recordings seem to confirm the weakened status of this suffix in DJI. See Lampitelli & Gac 2016.) In several cases, then, the segmental shapes of Abs. and Nom. forms are identical.¹⁹

The following nouns are used to illustrate the opposition between absolutive and nominative.

(15) Nouns illustrating the opposition absolutive vs. nominative:

- a. **ínan** cl 2 M sg. Abs. ‘boy’
- b. **inán** cl 1 F sg. Abs. ‘girl’

¹⁹Some informants are aware of this situation: they think that the deletion of Nom. suffix is a sign of colloquial Somali. This phenomenon is interesting and deserves much more attention in future research on DJI.

- c. **shímbir**²⁰ cl 2 M sg. Abs. ‘bird’
- d. **naág** cl 1 F sg. Abs. ‘woman’
- e. **tuké** cl 6 M sg. Abs. ‘crow’

The recordings are selected from two speakers: both are 31 year-old males born in Arta, 40 km West of Djibouti-ville.

The type A nominative forms **inan** M sg. ‘boy’ and **inan(-i)** F sg. ‘girl’ are shown in figures 9 and 10, respectively. The contexts in which these nominative forms have been formed are the following:²¹

- (16) a. **inan w-úu maray háłkan**
 boy.Nom SM-3SM pass.past.3S here
 ‘A boy passed here.’
- b. **inan-i w-áy martay háłkan**
 girl-Nom SM-3SF pass.past.3SF here
 ‘A girl passed here.’

Note that **inan** has absolutely no pitch-accent, whereas in the feminine, **inan(-i)** displays a weak pitch on the second vowel /a/. This contrast is shown in Figures 9 and 10, respectively. (Additionally, compare Figures 9 and 10 with the corresponding Abs. forms shown in Figures 1 and 2, respectively.) The presence of a weak pitch in Figure 10 is interesting because it is accompanied by the absence of the suffix **-i**. Djibouti speakers may recognize (16-b) as grammatical, but they won’t necessarily produce it spontaneously.

Figure 11 confirms that masculine nominative forms have no high tone. This nominative form has been tested in the following syntactic context:

²⁰For some speakers of Somali, this noun is F: **shimbír-ta** bird-the.F.Abs. ‘the bird’.

²¹One informant preferred the adverb **xágan** instead of **háłkan**. This has no impact on the absence of high tone on subject NP.

- (17) **shimbir waa duúlayaa**
 bird.Nom SM fly.PresProg.3SM
 ‘A bird is flying.’

Finally, Figure 12 illustrates a complex NP: **nín iyo naag(-i)**. The sentence in which the Nom. has been tested is the following:

- (18) **maalín baa, nín iyo naag-i abees-ó**
 day.Abs FM man.Abs conj woman-Nom python-F.sg.Abs
arkeen
 see.Past.3P
 ‘One day, a man and a woman saw a python.’

As briefly mentioned in footnote 10 above, in Somali, only the last item within the NP receives the case marking, whereas all the other items take Abs. case. Thus, the clear pitch-accent on **nín** contrasts with low pitch on **naag(-i)**.

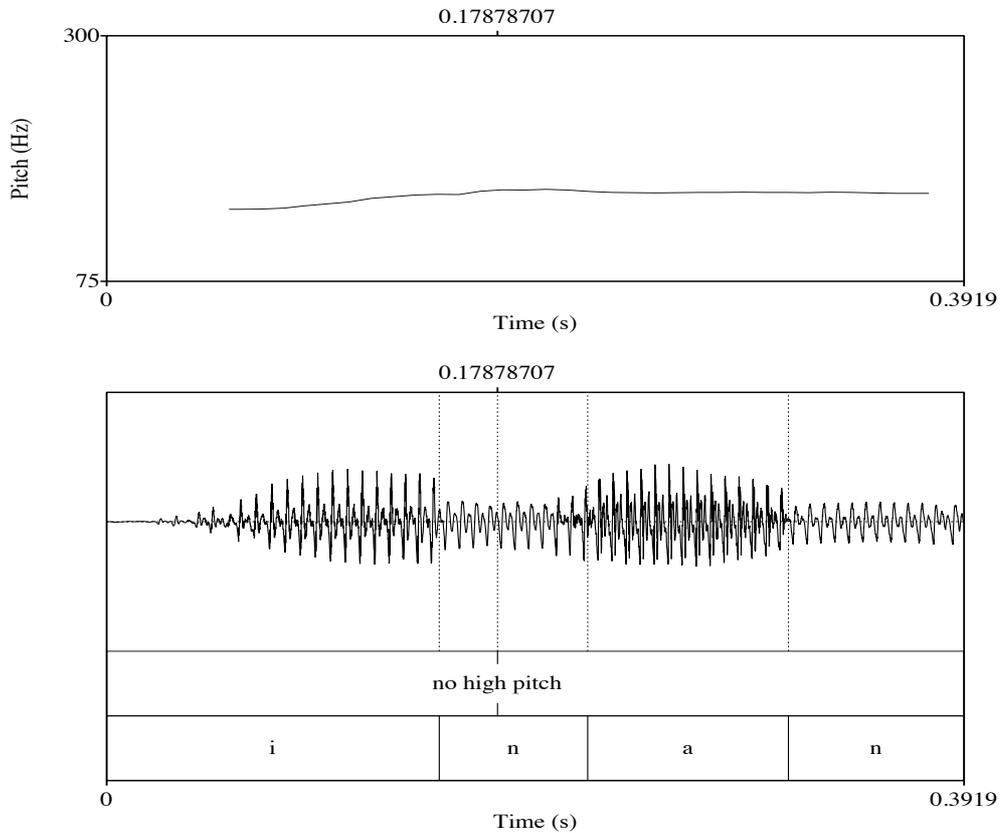
The two feminine examples are interesting. On the one side, **inan(-i)** (Figure 10) displays high pitch accompanied by the absence of Nom. suffix **-i**; on the other, **naagi** (Figure 12) has no pitch but Nom. suffix **-i** is regularly realized.

Type B nouns, in turn, behave as described by Le Gac (2001): Nom. forms display penultimate pitch-accent, which contrasts with final pitch-accent in Abs. forms. The context in which the opposition has been tested is the following:

- (19) a. **tuk-é b-aan arkay**
 crow-M.sg.Abs FM-1S see.Past.1S
 ‘I saw a crow.’
- b. **túk-e waa duúlayaa**
 crow-M.sg.Nom SM fly.PresProg.3SM
 ‘A crow is flying.’

Figures 13 and 14 show the comparison between **tuké** M sg. Abs. ‘crow’ and

Figure 9 – **inan** M sg. Nom. ‘boy’



túke M sg. Nom. ‘crow’, respectively. Note that pitch-accent shifts clearly from the final to the penultimate vowel.

The data confirm the existence of two types of nouns. Type A nouns, which display a clear opposition between high vs. low pitch through Abs. and Nom. forms and type B nouns, which are characterized by pitch-accent shift, whereby Nom. forms display penultimate high tone in contrast with Abs. forms, which have final pitch-accent.

The next section focuses on the status of noun classes in DJI.

Figure 10 – inan(-i) F sg. Nom. ‘girl’

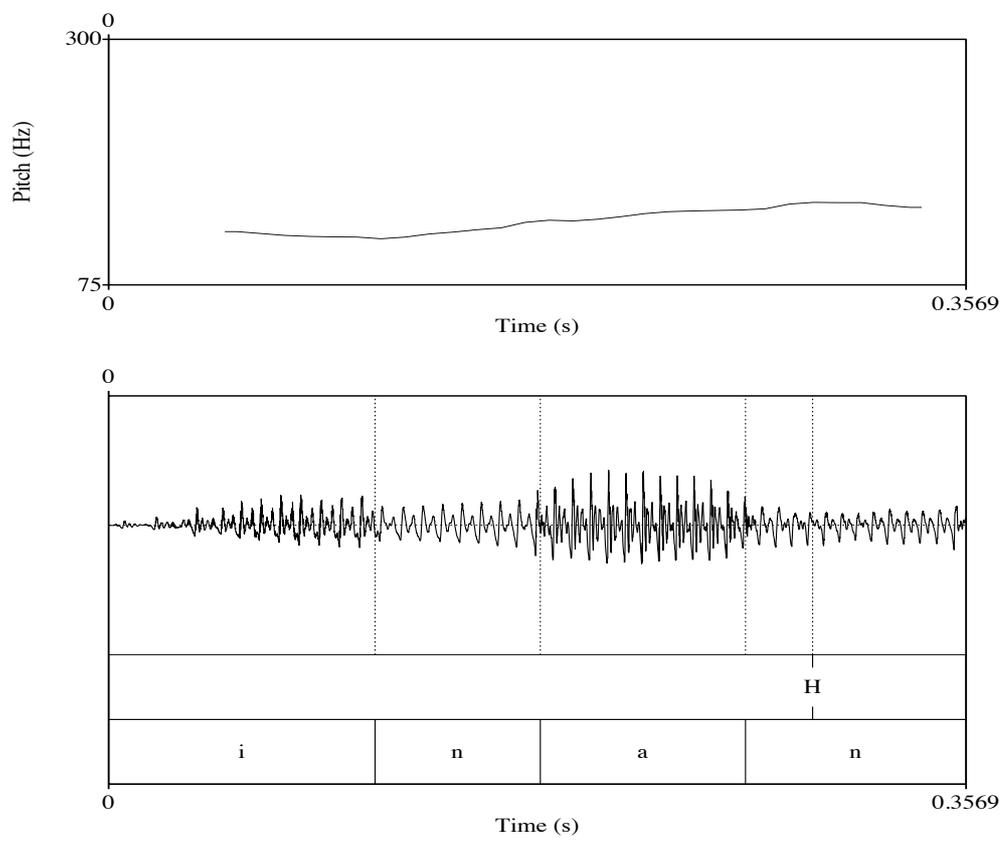


Figure 11 – **shimbir** M sg. Nom. ‘bird’

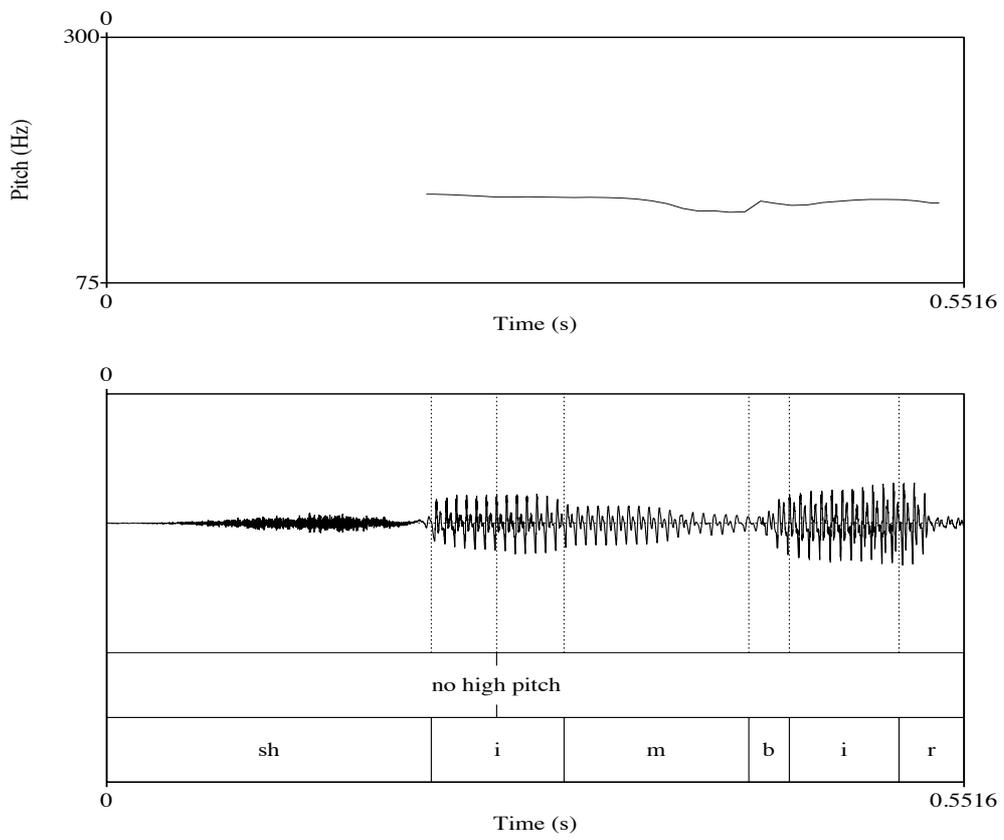


Figure 12 – *nín iyo naag(-i)* M and F, Nom. ‘(a) man and (a) woman’

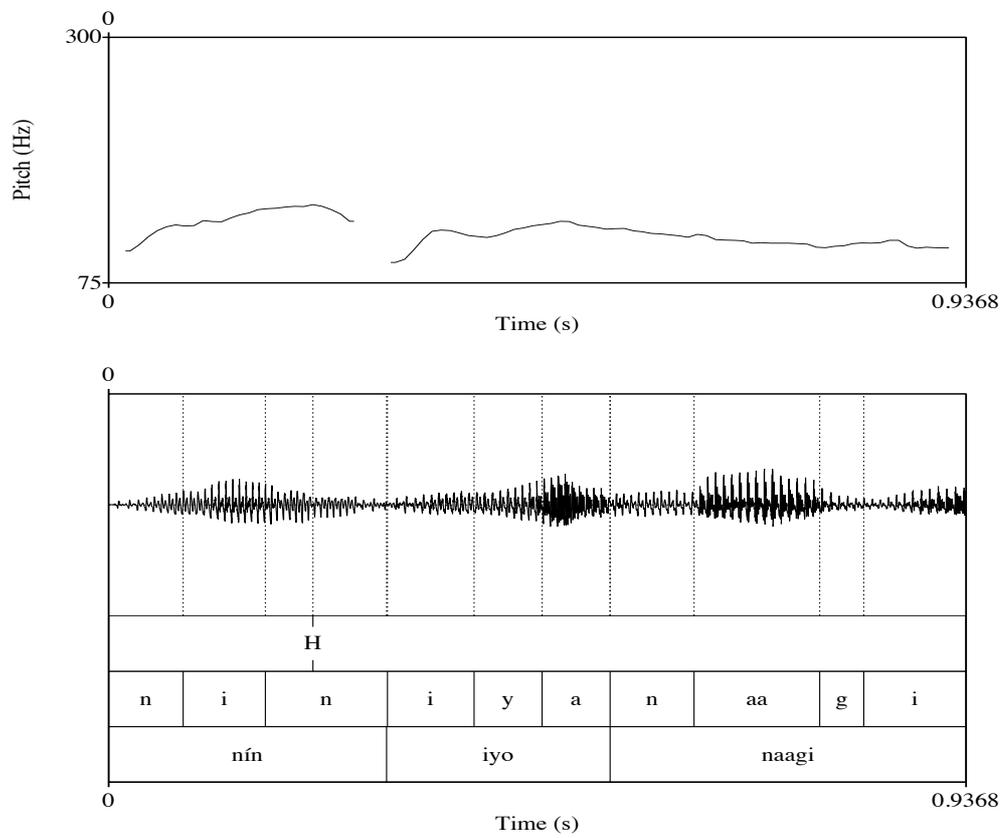
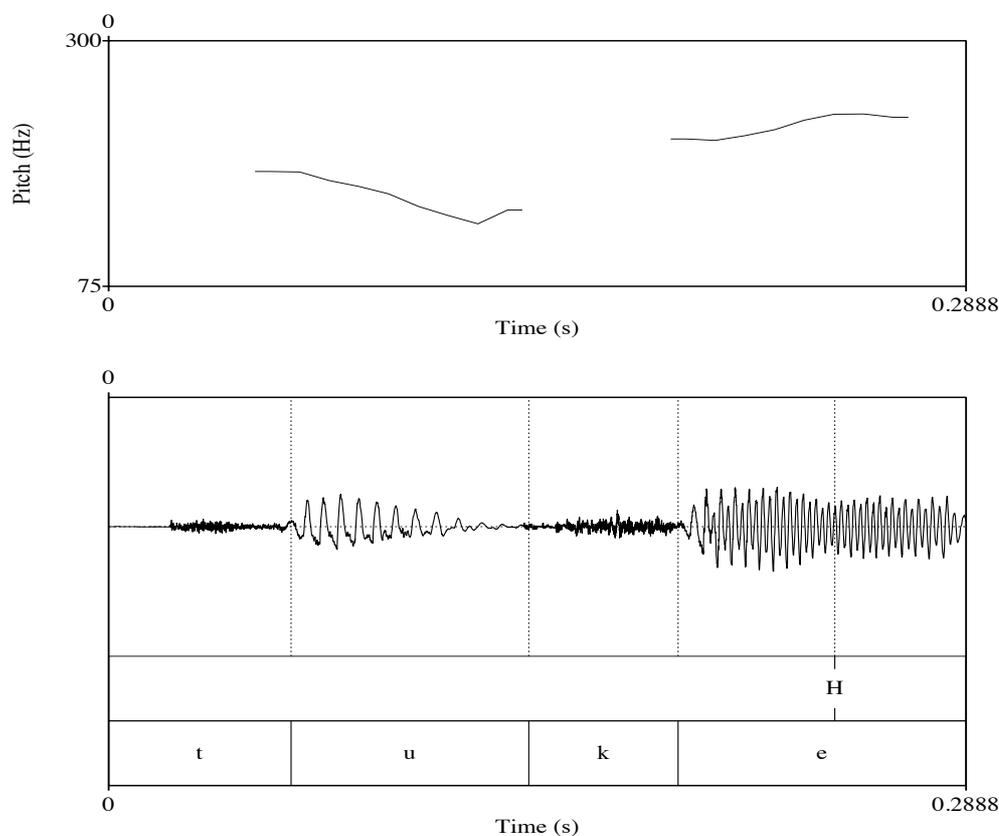


Figure 13 – **tuké** M sg. Abs.



4 The status of noun classes

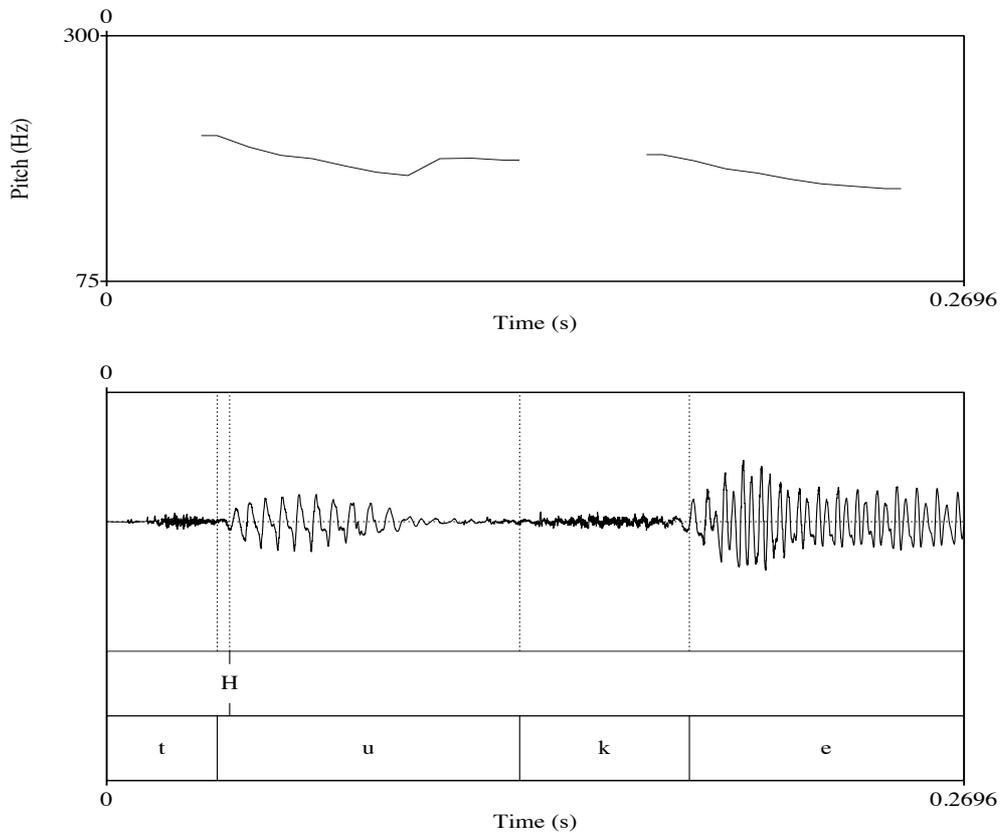
In this section, I discuss the organization of the noun patterns and make the hypothesis that there are only two types of nouns in DJI. The section is divided in two parts: in the first part, I discuss the results of the previous three sections; in the second I sketch out the general lines of a formal analysis accounting for the existence of two morphological types.

4.1 Type A vs. type B

DJI adopts mainly suffixation to create a plural. This fact challenges the hypothesis, made on SOM data, that seven distinct noun classes exist.

The DJI data, indeed, point to a slightly modified version of this hypothesis.

Figure 14 – **túke** M sg. Nom.



According to Table 2, there are only two relevant plural paradigms. On the one side, we find the suffix **-ó**, which attaches only to type A nouns (those which are not suffixed in the singular and end in a consonant); on the other, there is suffix **-yáal**, which attaches to nouns belonging to both types (A and B). In other words, the inflectional behavior depends on the affiliation to either type A or type B.

Now, recall that type A includes non-derived basic nouns. These nouns consist of bare roots ending in a consonant. According to Godon (1998) and later Lampitelli (2013), the constraints which have led Andrzejewski, Banti, Orwin, Puglielli & Siyaad, and Saeed to postulate up to five classes are predictable and do not justify this inflectional distinction. They claim, rather, that given a root, one can build the right surface form on the basis of regular

morphophonological principles. In this paper, I build on this hypothesis and assume the following underlying sequence:

- (20) Type A nouns
root + gender + number

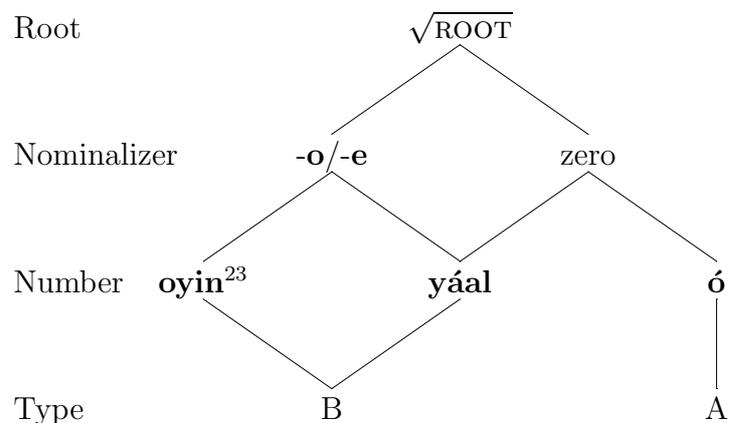
Type B nouns, in turn, have been analyzed by Lecarme (2002). In her paper, Lecarme claims that these nouns are suffixed in the singular and therefore proposes that the suffixes **-e** and **-o** should be analyzed as nominalizers, that is suffixes turning the item to which they attach to into a noun. Note that gender can be predicted from the nature of the suffixed vowel: **-e** is M, whereas **-o** is F.²² Therefore, these nominalizers occupy the same place as gender in type A nouns. This observation allows us to analyze type B nouns as follows:

- (21) Type B nouns
root + nominalizer + number

The dichotomy between type A and type B can be schematized as follows:

²²One may ask whether the suffix **-o** found in class 7 is the same suffix appearing in plural forms in type A. I don't have an answer to this question, and leave it open for future work. Note, however, that these suffixes don't have the same distribution with respect to both gender and number: class 7 **-o** is found only in feminine singular nouns, whereas type A **-o** is found only in plural forms that can be either masculine or feminine.

(22) Inflectional types in DJI



The situation depicted in the diagram above allows us to claim that, in DJI, noun classes are epiphenomenal. Given a root, one has to know only whether it selects for a suffix or not. Plural is then built accordingly. Pitch-accent is associated to each noun independently from the affiliation to either groups (cf. Lampitelli 2013, where I claim that pitch-accent is the exponent of syntactic case: I return to this point in the next section.)

The existence of only two morphological types is supported by the behavior of pitch-accent. As shown in Section 3.3, type A nouns display positional contrast of pitch-accent. This contrast is used to distinguish the gender of the noun. Type B nouns, in turn, have final pitch-accent: the high tone is associated to the nominalizer (-e and -o). This situation strengthens the hypothesis in (22).

The opposition between two types of nouns is also found in the expression of nominative. As we saw, in type A, nominative is characterized by the absence of pitch-accent, whereas in type B, nominative does display pitch-accent but in a different position with respect to absolutive.

We can conclude that the basic non-derived nouns belong to type A,

²³The suffix **-oyin** occurs in two items belonging to class 4 (type A). I don't have an explanation of this deviant pattern, which remains exceptional (see Table 2 above.)

whereas suffixed nouns belong to type B. This dichotomy can be regarded as the opposition between null nominalizer and overt nominalizer. I formalize this hypothesis in the next subsection.

4.2 The basic pieces of Dji nouns

According to the theory of Distributed Morphology (Halle & Marantz 1993; Embick 2010), nouns are created by a syntactic operation called *merge*. This operation creates a syntactic tree in which a category defining head called ‘little *n*’ takes a root as its complement. Since Ritter (1991) and later Lowenstamm (2008), gender is assigned to nouns in *n*. Lexical affiliation is expressed, in Distributed Morphology, as the *merge* of syntactic categories. The syntactic structure nP is selected by the head *num*: this head introduces those morphemes that express number on nouns. In other words, *num* hosts the plural suffix.

As for Somali, the question is whether its plural is inflectional or derivational. The distinction inflection/derivation does not have clear theoretical status in Distributed Morphology. However, according to Marantz (2007) and Embick (2010), derivational morphemes correspond to category-defining heads like *n*, whereas inflection corresponds to those heads that do not define any functional category. In the case at hand, this head is *num*.

In the remainder of this section, I propose a Distributed Morphology analysis of both type A and type B nouns. More precisely, I claim that type A plurals are inflectional (thus introduced by the head *num*), whereas type B nouns are derivational.

In type A, only basic and non-derived nouns appear. This means that the category defining head *n* is phonologically empty, because no specific suffix appears. In type B, in turn, the nominalizer has two allomorphs: **-e** and **-o**.

These vowels share an interesting phonological property: they both alternate with **-a-** when they are not final. This occurs when the determiner is suffixed:

(23) class 6

- a. **bar-é**
teach-M.sg.Abs
teacher
- b. **bar-á-ha**
teach-M.sg.Abs-Det.M.Abs
the teacher

(24) class 7

- a. **shaq-ó**
work-F.sg.Abs
work
- b. **shaq-á-da**
work-F.sg.Abs-Det.F.Abs
the work

In addition to these examples, there are two cases of morphological [o]’s which alternate with [a]. As shown above, cf. Section 2, plural suffix **-ó** alternates with **-á-** in exactly the same situation as that shown in (24): when the determiner is suffixed to a plural, final [o] becomes [a] (cf. Godon 1998 and Lampitelli 2013 for details and analysis). The second case is the autobenefactive suffix **-o**, which appears in imperative singular of conjugation 3 (3A: **qaadó** ‘to take for oneself’, 3B: **joogsó** ‘to stop’). Finite verbal forms are created by adding suffixes to the stem of the imperative singular. Crucially, **-o** is always replaced by **-a-**: 1sg. **joogsa-day** ‘I stopped’, 2sg. **joogsa-tay** ‘you stopped’, etc. (cf. Saeed 1993:51-58 for details involving the conjugation and Barillot & Ségéral 2005 for an analysis of this alternation.)

These alternations raise the question of whether these vowels share some

underlying phonological object. I leave this analytical path open for future research.

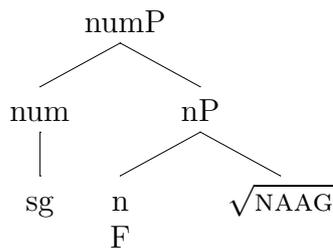
I propose the following two phonological exponents of *n*:

- (25) Exponents of *n*:
- a. $n \iff \text{zero } \sqrt{\text{ROOT}}$ (type A)
 - b. $n \iff \text{-e/-o } \sqrt{\text{ROOT}}$ (type B)

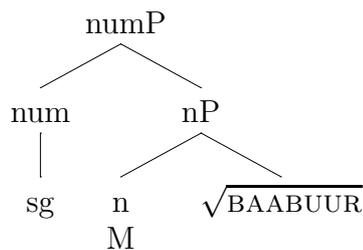
The exponent (25-a) is selected for by a root belonging to type A, whereas the exponent (25-b) is selected for by a root belonging to type B. In type B, the gender associated to the root triggers the agreement with the head *n* (see Acquaviva 2009): -e is selected by M gender, whereas -o is selected by F gender.

I illustrate the structure of both a feminine and a masculine noun belonging to type A in (26) and (27), respectively. The structure of a type B noun is shown in (28).

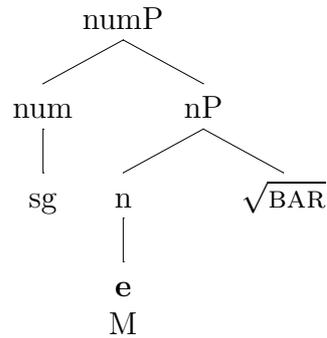
- (26) **naág** F sg. Abs. ‘woman’ (type A)



- (27) **baabúur** M sg. Abs. ‘truck’ (type A)

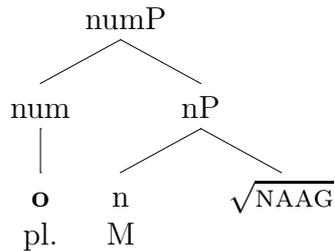


(28) **baré** M sg. Abs. ‘teacher’ (type B)

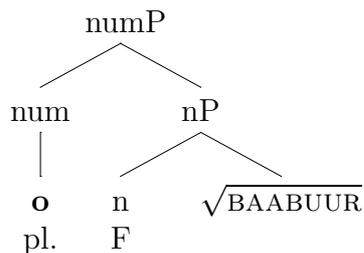


As for plural, we have two suffixes, **-ó** and **-yáal** (I leave the suffix **-oyin** aside and will not analyze it). The structures of both a masculine and a feminine plural ending in **-ó** are shown below:

(29) **naagó** M pl. Abs. ‘women’ (type A)



(30) **baabuurró** F pl. Abs. ‘trucks’ (type B)

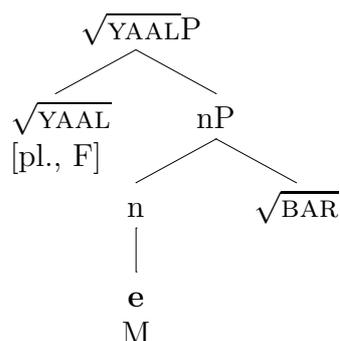


Recall, from Table 1, that all F plural forms belonging to class 2 display gemination of the last consonant of the stem (unless the consonant cannot geminate, in such a case **y** is inserted: **daríiq** ‘road’ vs. **dariiq-y-ó** ‘roads’.) The gemination of the last consonant of the stem has been accounted for by positing that F gender is marked by an external syllable. This provides the

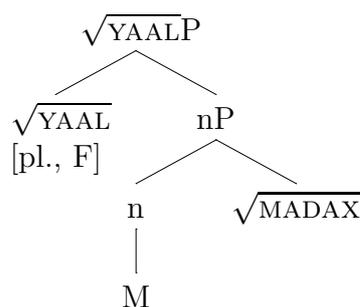
phonological space for the gemination to occur only in the plural (the singular **baabúur** is M). Cf. Godon (1998) and Lampitelli (2013) for detailed analyses in an autosegmental framework.

The suffix **-yáal**, in turn, deserves more attention. It attaches to any type of nouns: both A and B and, in addition, it imposes its own gender, feminine (contrarily to what **-ó** does). For this reason, following Lahrouchi & Lampitelli (2014), I propose that the suffix **-yáal** is a root, in the sense of Lowenstamm (2014), i.e. it is a bound root, whose distribution is determined by its selectional restriction. $\sqrt{\text{YAAL}}$ selects for nPs.

(31) **barayáal** F pl. Abs. ‘teachers’ (type B)



(32) **madaxyáal** F pl. Abs. ‘heads’ (type A)



The formal distinction between **-ó** and **-yáal** is accounted for by their different morphological structure: the former is a simple exponent, whereas the latter is a root and, as such, has selectional power.²⁴ In other words, **-o** is an

²⁴One may think of suffix **-oyin** as an affixal root, too. Note, however, that **-oyin** has

inflectional morpheme, whereas **-yáal** behaves like a derivational affix. The hypothesis that **-yáal** is an affixal root makes an interesting prediction regarding its syntactic behavior: it could attach, in principle, to any functional projection. This is actually the case: **-yáal** appears in plural of plural constructions, such as **naagayáal /naag+o+yaal/** ‘groups of women’, see Appendix A for a few examples of such plurals.²⁵

The last basic ingredient of DJI nouns is pitch-accent. In Lampitelli (2013), I claim that pitch-accent is the exponent of syntactic case. DJI data confirms this hypothesis as far as Abs. and Nom. are concerned: the position of pitch-accent is indicative of the syntactic case in both type A and type B. The complete treatment of syntactic case being beyond the scope of this paper, I will not go further into it.²⁶

To sum up, one needs to know whether a given root belongs to either type A or type B. The exponent of **n** is then selected for accordingly: type A selects for zero, whereas type B selects for suffixes **-e/-o** depending on gender. Finally, plural suffix **-o** attaches only to type A and the affixal root $\sqrt{\text{YAAL}}$ attaches to

distributional restrictions with respect to **-yáal**. The former attaches basically to class 7. (F nouns, cf. Table 2), whereas the latter attaches to any type of noun with a strong preference for those nouns which are M in the singular. The question of whether this distributional difference depends exclusively on the gender of the singular or not leads to an interesting debate. I leave it open for further developments.

²⁵Lecarme (2002) and Kramer (2015:147-150) propose a derivational analysis of suffix **-o** within a Distributed Morphology framework. As mentioned above, Maniscalco (2015) proposes an analysis treating Somali noun classes as typical noun classes, like those in Bantu languages. Within this view, plural can be easily analyzed as being always derivational, as suggested by one of the anonymous reviewers. See Schadeberg (2003) on this point.

²⁶The discussion involves primarily the underlying structure of a noun: does Somali display the functional projection K(ase) or not? Lecarme (2002:129) proposes that Somali lacks KP, whereas Lampitelli (2013) follows Calabrese (1998) in postulating such a projection in Somali. Secondly, the discussion deals with the phonological exponent of syntactic case. In the approach proposed in this paper, it follows that pitch-accent marks syntactic case. In other approaches, such as Lecarme’s (2002), pitch-accent is lexically associated to plural exponent **-ó**. Thirdly, we saw that pitch-accent follows two distinct patterns with respect to the type: in type A, pitch-accent has two distinct positions for masculine and feminine, respectively, but it disappears in the nominative case; in type B, in turn, gender is never distinguished by the position of pitch-accent and Nom. does not lower high tones. What triggers two different behaviors of pitch-accent? Further research will have to discuss these issues by building on additional data from DJI.

both types. Note that the hypothesis defended here explains why **-yáal** selects for both types, but it doesn't explain why the segmental suffix **-o** displays restrictive selectional distribution: it does not attach to type B. In other words, one might expect the following plural to be attested: */**bar+e+o**/ = ***barao** 'teachers'. These plurals don't exist and are totally ungrammatical. I leave this issue for further work.

Table 5 recapitulates the situation.

Table 5 – The basic pieces of DJI nouns

type	roots	n	num	examples
A	√ (list 1)	zero	-o √YAAL	naág 'woman', mádax 'head', etc.
B	√ (list 2)	-e/-o	√YAAL	baré 'teacher', shaqó 'work'

5 Conclusion

This paper showed the interesting patterns of pluralization in DJI. Stemming from the observation that pluralization involves mainly two suffixes, I put forward the hypothesis that the noun system of DJI consists of two types:

- (33) DJI noun types
- a. Type A (basic and non-derived nouns)
 - b. Type B (suffixed nouns)

As a consequence, the complex system of noun classes, proposed by various authors (Andrzejewski 1964, 1979; Banti 1988; Orwin 1995; Saeed 1993, 1999), looks simplified. Following Godon (1998) and Lampitelli (2013), I proposed that a DJI noun is made up of a root followed by a nominalizer (either null or vocalic: **-e/-o**). Plural is then built by suffixation. The behavior of pitch-accent offers an additional argument for the existence of two inflectional types.

Type A nouns display positional contrast between masculine and feminine, whereas type B nouns neutralize this contrast. Finally, the dichotomy between type A and type B is confirmed by the opposition absolutive vs. nominative. In type A, nominative lowers high tones: the contrast between absolutive and nominative is based on the contrast between high and low tones. In type B nouns, in turn, nominative is characterized, as already noticed by Le Gac (2001), by shifting the pitch-accent one vocalic unit leftwards.

The three parameters used to determine the two types are summarized below:

- (34) a. Two pluralization patterns: **-ó/-yáal** (type A) vs. **-yáal/-oyin** (type B)
- b. Two positional contrasts for gender: final/penultimate (type A) vs. final (type B)
- c. Two positional contrasts for Abs./Nom.: presence/absence of pitch-accent (type A) vs. final vs. penultimate pitch-accent (type B)

Further developments of this research will have to provide new data to support the hypothesis of two noun types and propose a full formal analysis of noun structures in DJI.

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Abbreviations

Abs	Absolutive
C	Onset, consonant
CAPITAL FONT	Focussed phrase
Det	Determiner
F	Feminine
FM	Focus marker
H	High pitch
irr	Irregular plural
M	Masculine
Nom	Nominative
PA	pitch-accent
pl	Plural
Ppl	Plural of plural
Prep	Preposition
Pres	Present tense
Pro	Pronoun
Prog	Progressive
rdp	Reduplicated plural
Red	Reduced paradigm
sg	Singular
SM	Sentence marker
V	Nucleus, vowel

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A Noun entries

#	singular	gen	class	plural (gen)	gloss
1	aabbé	M	6	aabbayáal (F)	father
2	ábtí	M	2	abtiyó (F), abtiyáal (F)	maternal uncle
3	adéer	M	2	adeerró (F)	paternal uncle
4	áf	M	4	afáf (M), afyáal (F)	tongue
5	albáab	M	2	albaabyó (F), albaabbó (F)	door
6	áqal	M	2	aqalló (F)	home
7	ardéy	M	5	ardey (F), ardeyáal (F)	(male) student
8	áwr	M	5	awr (F) awryáal (F), awrár (M)	camel
9	baabúur	M	2	baabuurró (F), baabuuryáal (F)	truck
10	báhal	M	2	bahalló (F), bahalyáal (F), bahalloóyin (Ppl)	wild animal
11	bállí	M	2	balliyó (F)	small lake
12	baré	M	6	barayáal (F)	teacher
13	bás	M	4	basás (M)	bus
14	béer	M	2	beeryó (F) beeryáal (F)	liver

15	beló	F	7	beloóyin (M)	tribe
16	bíl	M	4	bilál, biló (M), bilyáal (F), bilóyin (M)	month
17	búd	M	4	budád (M), budyáal (F)	stick
18	cadáy	M	5	cadaý (F), cadayó (F), cadayáal (F)	brush
19	cambé	M	6	cambayáal (F), cambóyin (M)	mango
20	cáshi	M	2	cashiyó (F)	illness, disease
21	cawó	F	7	cawoóyin (M)	evening
22	ciyáar	M	2	ciyaarró (M)	sport
23	dáab	M	4	daabáb (M)	handle
24	daáb	F	1	unknown	animal diarrhea
25	daár	F	1	daaró (M)	stone house
26	dáas	M	4	daasás (M), daasyáal (F)	store
27	dáb	M	4	dabáb (M)	fire
28	dabó	F	7	daboóyin (M)	tail
29	dál	M	4	dalál (M)	country
30	dariiq	M	2	dariiqyó, dariiqó (F), dariiqyáal (M), dariiqoóyin (Ppl)	road

31	dawó	F	7	dawoóyin (M)	medicine, drug
32	dayuurád	F	1	dayuuradó (M)	airplane
33	dhágax	M	2	dhagaxyó (F), dhagaxyáal (F), dhagaxán (F)	stone
34	dhég	F	1	dhegó (M), dhegág (M)	ear
35	dhínac	M	2	dhinacyó (F), dhinacyáal (F)	side, direction
36	dhúl	M	4	dhulál (M)	land, earth
37	díbi	M	5	dibí (F), dibiyó (F), dibiyáal (F)	bull
38	doólli	M	2	doolliyó (F), doolliyáal (F)	mouse
39	dúb	M	4	dubáb (M)	skin
40	dúgsi	M	2	dugsiyó (F), dugsiyáal (F)	school
41	dukáan	M	2	dukaannó , -nyó , -mó (F), dukaanyáal (F)	shop
42	duráy	M	2	durayó (F), durayáal (F)	cold, flu
43	durbáan	M	2	durbaannó , durbaanyó (F)	drum
44	éy	M	5	eý (F), eyó (F), ey(y)áal (F)	dog
45	fílin	M	2	filmó (F)	movie
46	fursád	F	1	fursadó (M)	chance

47	gaári	M	2	gaariyó (F), gaariyáal (F)	car
48	gabádh	F	1	gabdhó (M), gabdhyáal (F)	girl
49	gabáy	M	2	gabayó (F), gaba(y)yáal (F)	poem
50	gacán	F	1	gacmó (M)	hand
51	galáb	F	1	galbó (M), galabó (M) galabyáal (F)	afternoon
52	gár	M	4	garár (M), garó (M)	beard
53	géed	M	1/3	geedó (M)	tree, plant
54	géés	M	4	geesás (M), geesó (M), geesyáal (F), geesoóyin (Ppl)	horn
55	góol²⁷	M	4	goolál (M)	fat male camel
56	goól	F	1	gooló (M)	lioness
57	górgor	M	2	gorgorró , gorgoryó (F), gorgoryáal (F)	vulture
58	goroyó	F	7	goroyoóyin (M), goroyáal (F)	ostrich
59	gúri	M	1	guriyó (M), guriyáal (F)	house
60	háan²⁸	M	4	haamó (M)	throat
61	haán	F	1	haamó (M), haanyáal (F)	water vessel
62	hál	F	1	haló (M), halál (M), halalyáal (Ppl)	female camel

63	heés	F	1	heesó (M), heesás (F?), heesoóyin (Ppl)	song
64	hílib	M	3	hil(i)bó (M), hilibyó (F), hilibyáal (F)	meat
65	hooyó	F	7	hooyoóyin (M), hooyáal (F)	mother
66	hudhéel ²⁹	M	2	hudheelló (F), hudheelyáal (F)	hotel
67	íl	F	1	iló (M), indhó (M), ilál (M), indhoóyin (Ppl)	eye
68	ílig	M	3	ilkó (M), iligyáal (F), ilkoóyin (Ppl)	tooth
69	ínan	M	2	inammó (F), inanyáal (F), inamayáal (Ppl)	boy
70	inán ³⁰	F	1	unknown	girl
71	jaamacád	F	1	jaamacadó (M)	university
72	jamhuuriyád	F	1	jamhuuriyadó (M)	republic
73	jamciyád	F	1	jamciyadó (M)	league, union
74	jílib	M	3	jilbó (M), jilbyó (F?)	knee
75	jínni	M	2	jinniyó (F), jinní (F), jinniyáal (F)	Jinn
76	kaalmó	F	7	kaalmoóyin (M)	help
77	káb	F	1	kabó (M), kabáb (M)	shoe
78	kallúun ³¹	M	2	kallumó, kallunó (F), kallunyáal (F)	fish (coll.)

79	khudrad ³²	F	1	khudradó (M), khudradyáal (F)	fruit (coll.)
80	kóob	M	4	koobáb (M), koobyáal (F), kooboóyin (M)	cup
81	kuráy	M	2	kurayó (F), kuray(y)áal (F)	lad, boy
82	kúrsi	M	2	kursiyó (F), kursiyáal (F), kuraasí , kuraás (F), kuraasoóyin (M)	chair
83	libáax	M	2	libaaxyó (F), libaaxyáal (F), libaáx (F)	lyon
84	lúg	F	1	lugó (M), lugág (M)	foot
85	maalín	F/M	1/2	maalimmó (F), maalmyáal (F), maal(i)mó (M), maalinyó (F?)	day
86	macállin ³³	M	2	macallimmó (F), macallimyáal (F), macallinyó (F)	teacher
87	mádax	M	2/5	madaxyó (F), madaxyáal (F), madáx (F)	head
88	magaaló	F	7	magaaloóyin (M), magaaloyáal (F)	city
89	mágac	M	2	magacyó (F), magacyáal (F), magacoóyin (M)	noun, name
90	makhaayád	F	1	makhaayadó (M), makhaayadyáal (F)	restaurant
91	maqaalín	F	1	maqaalimó (M)	fishing hook
92	marqaáti	M	2	marqaatiyó (F), marqaatiyáal (F)	witness
93	masaájid	M	2	masaajidyó (F), masaajiddó (F)	mosque
94	míis	M	3	miisás , miisó (M), miisyáal (F), miisasyáal (Ppl)	table

95	mindí	F	1	mindiyó (M), mindiyáal (F)	knife
96	móos	M	4	moosás (M)	banana
97	naág	F	1	naagó (M), naagayáal (Ppl)	woman
98	néef	M	4	neefáf (M), neefyáal (F)	pet
99	neéf	F	1	neefó (F)	breath
100	nín	M	4	nimán (M), nimó (M), nimyáal (F)	man
101	óon	M	2	unknown	thirst
102	oón ³⁴	F	1	unknown	food
103	ordinateér	M	2	ordinateerró (F), ordinateeryó (F)	computer
104	órgi	M	2	orgiyó (F), orgiyáal (F), orgí (F)	male goat
105	qaán ³⁵	M	2	qaanyáal (F)	young camel(s)
106	qaán	F	1	qaamó , qaanó (M)	debt
107	qálin	M	2	qalimmó , qalinnó (F), qalimyáal , qalinyáal (F)	pen
108	qasacad ³⁶	F	1	qasacadó (M)	can, box
109	qáyb	F	1	qaybó (M), qaybyó (F?), qaybyáal (F), qayboóyin (Ppl)	part, share
110	qódob	M	3	qod(o)bó (M), qodobyó (F), qodobyáal (F)	article

111	qól	M	4	qolál (M), qolyáal (F)	room
112	qóys	M	4	qoysás (M), qoysyáal (F), qoysyó (F?)	family
113	qúrac	M	2	quracyó (F), quracyáal (F)	acacia
114	ráh	M	2	rahyó , rahyáal (F); raháh , rahó (M)	frog
115	rí	F	1	riyó (M)	female goat
116	róob	M	4	roobáb (M)	rain
117	roóti	M	2	rootiyáal (F)	bread
118	sáab	M	4	saabáb (M), saabó (M)	flask
119	sánad	M	2	sanaddó (F), sanadyáal (F)	year
120	saaxiib ³⁷	M	2	saaxiibyó , saaxiibbó (F), saaxiibyáal (F)	friend
121	sabáb	F	1	sababó (M), sababyó (F?)	cause, excuse
122	sác	M	2	sacyó (F), sacyáal (F)	cow
123	sállì	M	2	sallyó (F), sallyáal (F)	prayer mat
124	sámbab	M	2	sambabbó , sambabyó (F), sambabyáal (F)	lung
125	sán	M	4	sanán (M), sanyó (F), sanyáal (F)	nose
126	shabéel	M	2	shabeelló , shabeelyó (F), shabeelyáal (F), shabeellayáal (Ppl)	leopard

127	shaqó	F	7	shaqoóyin (M), shaqayáal (F)	work
128	sheekó	F	7	sheekoóyin (M), sheekayáal (F), sheeka-sheekó (reduplicated pl.)	tale, story
129	shímbir	M	2	shimbirró (M), shimbiryáal (F)	bird
130	soomaáli	M	5	soomaalí (F), soomaaliyáal (F)	Somali
131	súbax	M	2	subax(y)ó (F), subaxyáal (F)	morning
132	suldáan	M	2	suldaannó (F)	sultan
133	súuq	M	2	suqyó (F), suuqyáal (F), suuqáq (M)	market
134	tágsi	M	2	tagsiyó (F), tagsiyáal (F), takaasí (F)	taxi cab
135	terraín ³⁸	M	2	terranyó, -nnó (F), terranyáal (F)	sport field
136	toddobáad	M	2	toddobaadyó, -ddó (F), toddobaadyáal (F)	week
137	tuké	M	6	tukayáal (F)	crow, raven
138	ugáx ³⁹	F	1	ugaxyó (F), ugaxyáal (F)	egg
139	wáddan	M	2	waddannó, waddammó (F)	country, state
140	waddó	F	7	waddoóyin (M)	road
141	waláal	M	2	walaalyó, -lló (F), walaalyáal (F), walaaloóyin (Ppl)	brother
142	wán	M	4	wanán (M)	male sheep

143	wár	M	4	warár (M)	news
144	waraabé ⁴⁰	M	6	waraabayáal (F), waraaboóyin (M)	hyena
145	waranlé ⁴¹	M	6	waranlayáal (F), waranloóyin (M)	spearman
146	warqád	F	1	warqadó (M)	paper
147	wáx	M	2	waxyaálo , -yaábo (M); waxyó , waxyáal (F)	thing
148	waxár	F	1	waxaró (M)	kid
149	wíil	M	4	wiilál (M), wiilyó (F), wiilyáal (F)	boy
150	xádhig	M	3	xadhkó (M), xadhigyó (F), xadhkoóyin (Ppl)	rope

²⁷Four informants claim that the actual form is **géel**. According to Puglielli & Mansuur (2012), **géel** (M, 3) and **góol** are two distinct words: the former is a collective noun indicating a group of camels, whereas the latter is a fat male camel.

²⁸Only two informants know this noun, but neither of them knows SOM plural form **haanán** (Puglielli & Mansuur 2012:378).

²⁹Two additional forms exist: **hudheelyó** (a variant of **hudheelló**) and **hudheelál**. The latter is intriguing: why a non-monosyllabic M noun should be pluralized via reduplication (cf. class 4)?

³⁰Suppletive plural is used: **habló**. SOM regular plural ***inamó** is ungrammatical for my informants.

³¹According to Puglielli & Mansuur (2012:496), **kallúun** is an M collective noun, thus it has no plural form; despite this fact, all the informants pluralize it. In addition, one informant proposes a plural of plural construction: **kalluunayáal** /kallun+o+yaal/.

³²**khudrád** is an F collective noun and, indeed, some informants don't accept any plural forms. Other informants, in turn, do accept a plural form: either **khudradó** or **khudradyáal**. The corpus contains an additional collective noun: **kameecó** 'mosquitoes' (F, 7). In this case, none of the informants accepts a plural form.

³³Arabic plural is also possible: **macallimín**, **macallimán**.

³⁴Only one informant knows **óon** (M), whereas none of them knows **oón** (F). According to Puglielli & Mansuur (2012:651), both nouns are collective nouns, thus plural form is not expected.

³⁵**Qáan** (M) is a collective noun. No informant accepts a regular plural form, as expected. The plural **qaanyáal** is proposed only by one informant.

³⁶Three informants propose the plural forms **qasacyó** (F) and **qasacyáal** (F). These forms are built on singular **qásac** (M) which, according to Puglielli & Mansuur (2012:677) is a synonym.

³⁷One informant proposed the Ar. broken plural **asxaáb** (F).

³⁸Loan from French **terrain** [teʁɛ̃]. Note that the pitch-accent is on the last vowel even if the noun is M (cf. **terrain-ka**).

³⁹None of the informants knows the irregular plural form **ugaxáan** (F) and the majority of them claims that there is no plural for this noun.

⁴⁰One informant proposes the following plural form: **waraabeyó** (M?).

⁴¹One informant proposes the following plural form: **waranleyó** (M?). This is, together with #144, the only case of the suffix **-o** used to pluralize a noun belonging to group 6.