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Plural Gender: Behavioral evidence for plural as a value of Cushitic gender with reference to Konso

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CHAPTER 2

2. Picture-word tasks during bare noun and definite noun production in Konso

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Abstract

The paper presents two experiments that examined gender congruency effects in Konso. The gender congruency effect refers to the influence of the grammatical gender of the distracting noun (same or different as target) on the naming latencies to the target object (picture) on the screen. In the first experiment, participants named pictures by producing a bare noun while ignoring a simultaneously presented distractor noun. An overall congruency effect of 19 milliseconds (ms) was found (gender-congruent condition faster than gender-incongruent), which was significant only in the subject analysis of the target gender. In the second experiment, participants produced nouns with a gender-marked definite marker suffix. A non-significant 13 ms overall congruency effect was observed. A separate analysis, however, showed a significant 32 ms congruency effect in the plural gender definite noun production. The results of the two experiments weakly suggest that the so-called "plural" gender is a proper gender value but solving the issue of whether plural gender is a proper gender value or a value inherent to the number feature requires additional experiments.

2.1. Introduction

The grammatical features gender and number are related in a complex way in Cushitic languages (see Hayward, 1979; Corbett & Hayward 1987; Mous, 2008). The relation between gender and number becomes apparent in the so-called "plural" gender nouns. Interestingly and arguably, a third value of grammatical gender in addition to masculine and feminine has been identified for some Cushitic languages (Hayward, 1979; Mous, 2008). In contrast to other languages that have three-way gender distinction systems, this third value is not neuter in Cushitic. In terms of agreement, this third gender value requires the same agreement pattern as the third person plural. As a result, it is called "plural" gender in many studies of Cushitic languages. In order to avoid confusion, the term "plural" is used to refer to this gender value and "multiple-reference" to refer to the multiplicity of number with the abbreviations M, F and P to stand for masculine, feminine and plural gender values in that order, and MULT and SG to represent multiple-reference and single-reference nouns, respectively, throughout this chapter, after Hayward (1984) and Mous (2008). This complex interrelatedness between grammatical gender and number sometimes paves ways to different, often conflicting analyses of these features in different Cushitic languages.

Two conflicting hypotheses have been put forward to analyze the gender systems of Cushitic languages. The first one comes from Corbett and Hayward (1987), in which only two gender values are recognized and the third value is analyzed as part of the number feature. This analysis is applied to Bayso, a Lowland East Cushitic language. The argument is that this value has a small membership

and should be analyzed with features indicating irregularity in number agreement, marked as irregular nouns taking plural agreement (Corbett & Hayward, 1987). Corbett (2012, pp. 223-233) explains that taking the value plural from the number system as a value in the gender system as well runs counter to the general principle of exclusiveness that one value belongs to just one feature. This principle is at the basis of both typology and theoretical studies. A language system in which plural operates as a value for gender undermines this central principle and any alternative analysis of such a gender and number system should be scrutinized. This is exactly what Corbett (2012, pp. 224-233) does for Bayso in great clarity and detail. The proposed analysis for Bayso has the added advantage that it explains anomalies in the system at the cost of marking only a limited numbers of nouns with lexical features for exceptional behavior. If we can show that the plural value of the gender feature is like the masculine and feminine value of this feature in terms of psycholinguistic relevance, this poses an important challenge to the general principle that a value can only belong to one feature, provided that the plural values for gender and number are indeed instances of the same value.

The second one is the position taken in most descriptive studies on Cushitic languages (Hayward, 1979, for Bayso; Pillinger & Galboran, 1999, for Rendille; Savà, 2005, for Ts'amakko; Orkaydo, 2013, for Konso) and argued for in Mous (2008). The argument is that gender and number are two independent agreement systems and adjectives show agreement for both features independently (Mous, 2008). If the third value of gender is taken to be plural in number (i.e. multiple-reference), a situation can arise in which adjectives show conflicting values for number and gender agreement with one

and the same head noun. For instance, a word in Iraqw that is of multiple-reference and plural in gender has two different agreement markers on the adjective. One agreement system (gender) has low tone on the final syllable for feminine and plural gender head nouns and high tone for masculine head nouns irrespective of number; the second agreement system has a different form of the adjective for multiple-reference nouns (for examples, see Mous, 2008, p. 156).

The analysis that Corbett (2012) proposes for Bayso introduces extra challenges when applied to Konso. First of all, in the case of Konso the number of non-derived plural gender nouns is much larger than in Bayso. Based on a count of the appendix of nouns in Orkaydo's (2013) grammar of Konso, 96 non-derived nouns are plural gender, against 135 faminine and 245 masculine gender nouns. It becomes less satisfactory to treat all plural gender nouns as exceptional. Secondly, in Konso, gender and number display two separate agreement systems. An adjective agrees in number with the head noun by initial reduplication and in gender by a final suffix, for example *filaa-sini? poor-aa* /comb-DEF.P SG.black-P/ 'the black comb' against *orra-si? ka~kapp-a* /people-DEF.M/F MULT-fat-.M/F/ 'the fat people' (Orkaydo, 2013, p. 79). If this plural gender head noun were analysed as not having a gender value but showing multiple-reference number agreement, the morphological analysis would be /comb-DEF.MULT SG.black-MULT/ with competing values of number on the two agreement slots of the adjective. Moreover, the agreement on the definite marker and the final suffix of the adjective would be according to gender for one set of nouns but according to number for another set of nouns – note that multiple-reference words like *orra* 'people' can be masculine in gender. The Cushitic languages that are mentioned in Corbett (2012,

p. 233) do not have these additional challenges because they do not show independent number agreement (Bayso, Kambaata), or do not have a plural gender value (Sidamo, Kambaata). The analysis for Bayso taking certain nouns as exceptional and similar to *pluralia tantum* nouns had the added advantage of explaining anomalies in the system. The analysis of plural as a value for gender has the disadvantage of downplaying a number of anomalies of the Konso gender and number system. Nouns that are derived for number have predictable gender properties: singulatives, derived single-reference nouns, are either masculine or feminine (depending on the formative, not on the gender of the base as is the case in Bayso) and never plural in gender; pluratives, derived multiple-reference nouns, are all plural in gender; there are seven different plural formations (5 number suffixes, reduplication and gemination) in Konso and all impose plural gender (Orkaydo, 2013, pp. 80-84). Thus, there is ample indication in Konso for an association of plural gender words and plurality in number.

This chapter aims at providing experimental, psycholinguistic evidence to shed light on the processing of grammatical gender in Cushitic languages and possibly decide whether the third value (plural) is a proper gender value or rather belongs to the number system in Cushitic languages that have this value. We employed the picture-word interference (PWI) paradigm, a commonly used paradigm in the study of lexical access. In this paradigm, participants are asked to name a picture while ignoring a distractor word presented with it. It has been shown that the naming time of the picture is affected by the relationship between the to-be-named and the to-be-ignored words. When the words are semantically related, for example, interference appears (slower naming times), however,

facilitation (faster naming times) occurs when the two words are phonologically related. Whereas the interference effect is due to competition at the level of lexical node selection, the facilitation effect is due to the priming at the level of the phonological form activation (Levelt, Roelofs, & Meyer, 1999). In the same way, the so-called gender congruency effect, i.e. naming times of a picture are faster when the to-be-named and the to-be-ignored words have the same gender compared to when they have a different gender, has been proposed for gender processing mechanisms.

The discussions of the gender congruency effect in psycholinguistic research have begun after 1993 following Schriefers' work. Schriefers (1993) found faster reaction times (RTs) when the target picture and the distractor word had the same gender compared to when they had a different gender in Dutch noun phrase (NP) production. He interpreted the effect as demonstrating the competition for selection of a word's syntactic features (in this case gender).

According to Bordag and Pechmann (2008), many features inhibit the gender congruency effect and its interpretation might be more complicated than suggested by Schriefers (1993). Bordag and Pechmann (2008) point out that the gender congruency effect has been found to be language-specific, which leads to the question of cross-linguistic differences in gender representation and NP production mechanisms. Another point of debate is whether the effect is really a gender congruency effect or rather a determiner congruency effect (Schiller & Caramazza, 2002, 2003), which leads to the question of whether it reflects competition at the grammatical (abstract gender nodes) or at the phonological level (phonological forms). Finally, Bordag and Pechmann (2008) mention the presence

of inconsistent evidence in relation to the scope of the gender congruency effect. Thus, Schiller and Caramazza (2003) found the effect only when an NP in the form of a free morpheme (article or other determiner) + noun was produced, whereas Schriefers (1993) also obtained the effect in the production of NPs consisting of an adjective ending in a gender-marked inflection (a bound morpheme) + a noun. Moreover, La Heij, Mak, Sander, and Willeboordse (1998) observed the effect only when participants named the pictures with gender-marked NPs, but not when bare nouns were produced in Dutch, implying that the gender feature may not be always selected. Cubelli, Lotto, Paolieri, Girelli, and Job (2005), on the other hand, obtained an interference effect due to gender congruency when bare nouns were produced in Italian.

This chapter, therefore, attempts to contribute to filling the gap of cross-linguistic confirmation from non-Indo-European languages in all these areas, specifically on the scope of gender congruency effect, that is, whether or not the effect is found in naming bare nouns (Experiment 1), and in naming a noun + a gender-marked inflection (a bound morpheme; Experiment 2) in addition to addressing the issue of deciding whether or not the third value is a proper gender value in Cushitic languages.

Cushitic languages that arguably have a three-way gender distinction system with the third being plural besides feminine and masculine are Bayso, Konso, Dirayta, Ts'amakko, Rendille, and Boni of the Southern Lowland as well as Iraqw, Alagwa, and Burunge of Southern Cushitic languages (Mous, 2008). The language we investigate is Konso, a Lowland East Cushitic language. Konso is spoken in the southwest of Ethiopia by 250,000 people (Central Statistics Agency of Ethiopia, CSA, 2009), see the map for its

location. The language has no standardized writing system, proper dictionary or published grammar book yet. However, Ongaye Oda Orkaydo has recently finished his PhD thesis on the grammar of Konso (Orkaydo, 2013). Most of the materials for the experiments reported in this chapter are taken from him and his work. Konso was chosen for several reasons: first, it has a relatively large number of non-derived plural gender nouns; second, an in-depth analysis of the grammar of the language is available (Orkaydo, 2013); third, Ongaye Oda Orkaydo, a native-speaker linguist was available to help with the selection of the stimuli; fourth, carrying out experiments is feasible in Konso because the population is large enough and relatively easily accessible.

2.2. Gender system of Konso

Konso is said to have a three-way gender distinction system, and the third gender, besides feminine and masculine, is plural gender (Orkaydo, 2013). According to Orkaydo (2013), for the majority of the nouns neither the form of a noun nor its meaning predicts its gender value. Nouns in Konso can be classified into three gender values on the basis of their agreement on the verb: those nouns that show the same agreement as the third person masculine singular subject (marked on the verb by the suffix *–ay*) are masculine; those nouns that show the same agreement as the third person feminine singular subject (marked on the verb by the suffix *–t*) are feminine; and those nouns that show the same agreement as the third person plural subject (marked on the verb by the suffix *–n*) are plural. Note that gender on the verb is realized as long as nouns function as non-focused subjects.

For example, nouns that are semantically masculine, such as *sakoota* 'coward' may have feminine gender agreement on the verb. Similarly, nouns that are semantically feminine, for example *okkatta* 'cow', may have masculine gender agreement; also, nouns that are semantically singular, *filaa* 'comb', may have a plural gender agreement. Likewise, nouns that are semantically undetermined for sex (as feminine or masculine) may have masculine, feminine or plural gender agreement on the verb; see examples from (7) to (10).

Konso subject gender agreement on the verb (Orkaydo, personal communication)

(7)	sakoota-siʔ	i=ɗey-t-i	
	coward.DEF.F/M	3=come-3F-PF	
	'The coward came.'		
(8)	okkatta-siʔ	i=pat-ay	
	cow-DEF.F/M	3=disappear-PF.3M	
	'The cow disappeared.'		
(9)	filaa-siniʔ	i=pat-i-n	
	comb-DEF.P	3=disappear-PF-3P	
	'The comb disappeared.'		
(10)	iskatta-siʔ	parre	i=ɗey-a
	women-DEF.F/M	tomorrow	3=come-IPF.FUT.M
	'The women will come tomorrow.'		

The examples below show that the assignment of definite marking on nouns is determined by the gender of the noun. Thus, nouns that show the same gender agreement as the third person masculine or feminine subject take the single-reference definite suffix *–siʔ* while those that show the same agreement as the third person plural subject on the verb take the definite suffix *–siniʔ*.

Assignment of definite marking on nouns in Konso (Orkaydo, 2013, pp. 77-78)

(11) ɓimayta-siʔ i=kutiʔ-ay
old.man-DEF.F/M 3=sit.down-PF.3M
'The old man sat down.'

(12) alleeta-siʔ i=piʔ-t-i
hut-DEF.F/M 3=fall-3F-PF
'The hut fell.'

(13) innaa-siniʔ i=muk-i-n
child-DEF.P 3=sleep-PF-3P
'The child slept.'

(14) laha-ɗɗaa-siniʔ i=kat-am-a-n
ram-MULT-DEF.P 3=sell-PASS-IPF.FUT-3P
'The rams will be sold.'

Taken together, there are two divergent ways of analyzing the so-called plural gender in Cushitic languages that are characterized by this value. On the one hand, only two gender values, namely masculine and feminine, are recognized and the third value is analyzed as part of number feature (Corbett & Hayward, 1987). On the other hand, three gender values are recognized and the third is treated as a proper gender value (Mous, 2008; Savà, 2005; Orkaydo, 2013). We want to investigate whether words like *innaa* 'child (boy)', which are plural in gender, are represented like words such as *karmaɗaa* 'lions' which are plural in number (supporting Corbett's analysis) or are treated like words such as *furaa* 'key', which are also plural in gender (supporting Mous' analysis) in Konso.

2.3. Gender congruency effect experiments in Konso

Two gender congruency effect experiments that measured and compared naming times were conducted in Konso for the first time in the language and in the area. The first experiment was on the production of bare nouns and the second was on the production of definite nouns. Both experiments were carried out at a Konso high school, where the majority of the students speak Konso natively.

Overview of the experiments

Participants

Forty-six high school students, aged between 17 and 25 years, took part in the two experiments. Twenty-two and 24 students participated in the first and in the second experiments, respectively. All participants were native speakers of Konso and they all had normal vision and hearing. They were all paid for participating in the study.

Materials

Targets were selected from various semantic categories and were presented as black line drawings on a white background. Names of different gender nouns were equally represented in both target and distractor conditions. Each target picture was presented with gender-congruent and gender-incongruent words as well as with gender-neutral pink noise. The reason to use a neutral distractor condition (pink noise) was to see if participants processed the distractor words. Targets and distractor words were not related in terms of meaning (they did not belong to the same or related semantic categories) and sound (their initial sounds were not the same and they did not share more than three phonemes). The target pictures were presented in the center of a 15.6-inch laptop screen accompanied by one of the distractor words, which was auditorily presented via headphones.

Procedure

Participants were tested individually in a quiet room. They sat in front of a laptop screen at a viewing distance of around 60 cm. Reaction times (RTs) were measured from the onset of the target stimulus to the beginning of the naming response using a voice key. Participants were instructed that they would see a picture and hear a

word or pink noise and were asked to name the target picture while ignoring the word/pink noise they heard.

Each trial began with a fixation point (+) presented in the centre of the screen for 500 ms followed by the target picture along with the auditorily presented distractor word until response or for maximally 2,000 ms. Then the asterisk sign (*) in the centre of the screen was shown before the presentation of the next trial. The experimenter registered errors and malfunctioning of the voice key.

The whole experiment was conducted in three phases; familiarization, practice and test. During the familiarization phase, participants were presented with all the target pictures along with their intended names twice so as to encourage the use of the designated picture names of each target. In the practice phase, each picture was put on the laptop screen for 350 ms accompanied by pink noise. Participants were asked to name the picture and corrected when they produced a noun different from the intended one. In the last phase, the test proper, participants were asked to name the picture as quickly and as accurately as possible while ignoring simultaneously presented auditorily distractor words/pink noise. The Stimulus Onset Asynchrony (SOA) was 0 as the target picture and the distractor element were presented at the same time. The stimuli were presented in different blocks with a break between them. Under each block, trials were pseudo-randomized using a Latin square so as to avoid the subsequent appearance of each distractor condition in a row.

Analysis

Responses were excluded from further analyses in light of the following criteria: (a) unintended name for the picture; (b) non-verbal

sounds that triggered the voice key; (c) unregistered responses including responses given after 2,000 ms; and (d) reaction times shorter than 250 ms and longer than 1,900 ms. Analyses of Variance (ANOVAs) were conducted on the filtered correct responses based on the aforementioned criteria to compare reaction times in different distractor conditions. The significance level used in both experiments was $p = 0.05$. All ANOVAs that are reported in this chapter were performed on the means per participant (F1) and the means per item (F2).

Experiment 1: Production of bare nouns in Konso

In this experiment, participants were asked to name the picture by producing the noun only (the bare noun). The aim was to be able to decide whether the gender value "plural" is a proper gender value or rather a value inherent to the number feature. The logic behind this experiment was that a picture should be named relatively faster when a word with the same gender is used as a distractor than the use of a word with a different gender. If plural is a proper gender value in Konso, we should find a gender congruency effect in the production of plural nouns, that is, naming a picture with plural value should be relatively faster when a gender-congruent distractor word is presented as compared to the presentation of a gender-incongruent distractor word. If it does not show these properties, this may be due to the value plural not belonging to the gender feature and hence probably belonging to the number feature instead. Such a finding would also have an implication on the analysis of current models of language production (see below).

Materials

A total of 60 target pictures corresponding to non-derived Konso nouns were selected. Twenty of the nouns were masculine, 20 feminine and 20 plural gender nouns. For each target picture, in addition to neutral pink noise, a gender-congruent and two gender-incongruent (labeled as incongruent I and incongruent II) distractor words were selected. A total of 240 (20 target pictures × 3 target genders × 4 distractor conditions) trials were used in this experiment.

Table 1 shows the design for the first experiment. Each target picture was presented four times, each time associated with different distractors. For the masculine target *tuyyuura* 'air plane', for example, we had a gender-congruent distractor word *ammayitta* 'breakfast' in one trial, a gender-incongruent feminine word *paakkota* 'span (measurement)' in another trial, another gender-incongruent (incongruent II) plural gender *xoffaa* 'groin' and a neutral 'pink noise' as a control in different trials. The same was true for the other targets as well. The list of items used in Experiment 1 can be found in Appendix A.

Table 1 Example of the experimental items used in Experiment 1

Target picture name	Gender	Distractor word conditions*			
		Congruent	Incongruent I	Incongruent II	Neutral
kaawwata 'mirror'	feminine	*eetota* 'dinner/supper'	*muutiya* 'worm'	*ɲupuraa* 'component of loom'	pink noise
tuyyuuraa 'air plane'	masculine	*amma?itta* 'breakfast'	*paakkuta* 'span (measurement)'	*χoffaa* 'groin'	pink noise
kupaʔtaa 'tortoise'	plural	*marfaa* 'hip'	*hiparaata* 'bat'	*hallaka* 'fat'	pink noise

* For M target, F is incongruent I and P is incongruent II; for F target, M is incongruent I and P is incongruent II; and for P target, F is incongruent I and M is incongruent II

Results and discussion

From a total of 5,280 observations, 982 (19%) were discarded from the analysis, as they were incorrect responses and 207 (3.92%) were labeled as outliers, RTs shorter than 250 ms and longer than 1,900 ms. Thus, a total of 4,091 (77.48%) data points were included in the statistical analysis.

Table 2 Reaction Times (RTs) in ms and error in percentage (%e)

Distractor conditions	Congruent	Neutral	Incongruent*	Congruency effect
RT (%e)	1010 (5%)	908 (3%)	1029 (11%)	19 (6%)

* Represents a combined effect of incongruent I and incongruent II conditions

Table 2 shows the mean RT in the three-distractor conditions (congruent, neutral and incongruent). The first overall ANOVA was performed with Distractor Condition (congruent, neutral and incongruent) and Target Gender (masculine, feminine and plural) as independent factors. This analysis showed a significant effect of the factor Distractor Condition in both the participant and the item analyses ($F_1(2,42) = 25.098$, $p < .0001$; $F_2(2,110) = 45.193$, $p < .0001$). It took the participants slightly more time to produce a noun in the gender-incongruent condition (picture-word pairs having a different gender value) than to produce a noun in the congruent (picture-word pairs having the same gender value) or in the pink noise (neutral) conditions. The fastest RTs in the pink noise condition reveal that participants indeed processed the distractors, as processing words interferes more with naming a picture than processing pink noise. The factor Target Gender reached significance in the participant analysis ($F_1(2,42) = 13.340$, $p < .0001$) but not in the item analysis ($F_2(2,55) = 1.552$, $p < .22$). The interaction between Target Gender and Distractor Condition, however, failed to reach significance in both participant and item analyses (both $Fs < 1$).

In the bare noun production, the mean RTs in the gender-congruent condition were 19 ms faster than naming latencies in the incongruent condition. To examine the effect of gender congruency (congruent versus incongruent), a separate ANOVA was performed on the mean reaction times per participant (F1) and per item (F2) with Distractor Condition (congruent and incongruent) and Target Gender (masculine, feminine and plural) as independent factors. This analysis showed a significant effect only on the participant analysis of the factor Target Gender ($F_1(2,42) = 12.072$, $p < .0001$; $F_2(2,55) = 1.28$, $p < .29$) and was close to reaching significance on the participant analysis of the factor Distractor Condition ($F_1(1,21) = 3.848$, $p < .06$; $F_2(1,55) = 1.526$, $p < .22$).

One could speculate, however, that the overall slow RTs, the nature of the language (gender is not marked on the nouns) and methodological issues might be possible causes for the inhibition of the effect in the variables that did not reach significance level. Compare the 982 ms mean RT of our study to that of less than 700 ms in previous studies (e.g. La Heij et al., 1998). Moreover, the comparatively weak performance of participants reflected in the relatively high rate of incorrect responses, i.e. 982 (19%), compared to less than 10% in previous studies. This means that participants of this language require more training than set by the standard, as they are inexperienced in participating in this sort of experiments and working with some of the equipment. Additional experiments with better training of participants ensuring faster and better performance, may give us a better picture of the issue.

The fact that gender is not marked on the nouns themselves in Konso might also inhibit the effect from being revealed. Involving gender-marking elements such as verbs as part of the experiment

might help here. Although all possible precautions were taken in the absence of norms in the language to control for factors such as frequency, familiarity, typicality and age of acquisition, it could be the case that our result is inconclusive because of some methodological flaws such as the use of badly selected words in the experiment (see below).

Table 3 Mean RTs by target gender and distractor condition

Target gender	Distractor condition			
	Congruent	Incongruent	Neutral	Congruency effect
Masculine	978	998	872	20
Feminine	1047	1048	923	1
Plural	1007	1042	932	35

Table 3 shows that 20 ms congruency effect in masculine noun production and 35 ms in the plural gender noun production but almost nothing in feminine noun production (1 ms). In order to see why we failed to obtain a congruency effect in feminine noun production in the presence of a comparable effect in masculine and plural gender nouns, we conducted item-by-item analysis of both the target and distractor words. Our investigation revealed that participants performed very slowly in naming certain nouns. Table 4 shows that the majority of the nouns that have relatively slow RTs are feminine nouns (6 out of 10) followed by plural gender nouns (3 out of 10) and only one masculine noun had slow RTs. This might be due to semantic interference effects between different targets and the clarity of the pictures used (see Table 4). Only further research will exclude the possibility of the role of methodological flaws for the absence of the congruency effect on feminine noun production.

Table 4 Targets that show relatively slow RTs with possible reasons

Target	Gender*	Potential reasons for slow RT
muklaa 'bangle'	plural	Less familiar word
tuuyyata 'pig'	feminine	Less familiar word and semantic interference with *kaharta* 'ewe' (used as a feminine target)
hirribaa 'eyelash'	plural	Less clear picture
napahata 'ear'	feminine	The preferred word is *kurra* 'ear' and it has masculine gender value
xashitta 'shoulder'	feminine	Less clear picture and semantic interference with *kessa* 'arm' (used as a masculine target)
mulaketa 'frog'	feminine	Less clear picture and semantic interference with *kupataa* 'tortoise' (used as a plural target)
paala 'feather'	masculine	
hiipta 'lip'	feminine	Semantic interference with *afaa* 'mouth' (used as a plural target)
loqta 'leg'	feminine	Semantic interference with *kessa* 'arm' and *xashitta* 'shoulder'
hashallaa 'leaf '	plural	

*Three plural gender words, 6 feminine words and 1 masculine word

Thus, explaining the present result in the light of current models of language production is not straightforward. Recall, however, that La Heij et al. (1998) failed to find a gender congruency effect in bare noun production in Dutch. Moreover, most current models of language production suggest that syntactic properties such as gender are not selected in bare noun naming (Caramazza 1997; Levelt et al., 1999).

According to Caramazza's (1997) Independent Network (IN) model, a word's grammatical gender is activated after the selection of the related lexical node and hence its selection is an automatic (non-competitive) process. Although the WEAVER++ model of Levelt et al. (1999) assumes that the activation of a noun's gender takes place before the selection of the lexeme node, it also assumes that the activation of gender has no effect on the activation level of the nodes related to nouns with the same gender. This model, therefore, predicts no gender congruency effect in bare noun naming as the

selection of gender is expected only in the production of NPs that involve the selection of gender marked elements such as determiners.

Cubelli et al. (2005), however, found interference effect of grammatical gender in the production of bare nouns with Italian speakers. They interpret the result as showing the obligatory selection of grammatical gender, and thus gender is always selected whenever its noun has to be named, which is in opposition to the prediction of the WEAVER++ model. Moreover, they argue that the selection of the noun's gender is a competitive process in contrast to the assumption of IN model. In order to explain the variation of their data with the assumption of both WEAVER++ and IN models, they came up with the Double Selection model, which assumes the independent and competitive selection of both lexical-semantic and lexical-syntactic information prior to the selection of the phonological form of a word.

In sum, the overall naming latencies in the gender incongruent condition were 19 ms slower than the congruent condition. This result, however, failed to reach significance except in the participant analysis of the factor Target Gender. Moreover, a 35 ms congruency effect observed in naming plural gender nouns could be taken as a sign for recognizing plural as a proper gender value in Konso.

Experiment 2: Production of definite nouns in Konso

The gender of nouns also determines the assignment of definite marking on nouns in Konso (Orkayda, 2013). Plural gender nouns take the definite suffix *–sini?* (e.g. *innaa-sini?* 'the child'). Nouns that show the same gender agreement as the third person masculine or feminine subject, however, take the singular definite suffix *–si?*

(e.g. *ɢîmayta-siʔ* 'the old man'). In Experiment 2, we investigated the gender congruency effect in naming nouns with a suffixed definite marker (noun + *–siʔ* for masculine or feminine definite nouns versus noun + *–siniʔ* for plural gender definite noun). If plural is a proper gender value in Konso, we should find a gender congruency effect in the production of plural gender definite nouns.

Materials

Forty target line drawings were selected from Experiment 1, i.e. twenty (noun + *–siniʔ*, plural gender definite noun) and 20 (noun + *–siʔ*, masculine or feminine non-plural gender definite nouns). A total of 120 (20 pictures × 2 genders × 3 conditions = 120) trials in three blocks were used in this experiment. The list of items used in Experiment 2 can be found in Appendix B.

Table 5 Examples of the experimental items used in Experiments 2

Target gender	Target picture	Distractor conditions		
		Congruent	Incongruent	Neutral
Plural gender definite noun	*filaasiniʔ* 'the comb'	*oytaasiniʔ* 'the upper part of the compound'	*tuubutasiʔ* 'the false banana bread'	pink noise
Non-plural (M/F) gender definite definite noun	*kaawwatasiʔ* 'the glass'	*eetutasiʔ* 'the dinner'	*pakaannaasiniʔ* 'the root crop'	pink noise

Results and discussion

From a total of 2,880 observations, 491 (17%) were eliminated from the analysis, as they were incorrect responses and 137 (4.76%) were labeled as outliers, RTs outside of 250 to 1,900 ms. Thus, a total of 2,252 (78.19%) data points were included for statistical analysis.

Table 6 Reaction Times (RTs) in ms and error in percentage (%e)

Distractor condition	Congruent	Neutral	Incongruent	Congruency effect
RT (%e)	1210 (7%)	980 (4%)	1223 (6%)	13 (-1%)

Table 6 shows the mean RTs in the three-distractor conditions (congruent, neutral and incongruent). An ANOVA was performed with Distractor Condition and Target Gender as independent factors. This analysis showed a significant effect of the factor Distractor Condition in both the participant and the item analyses ($F_1(2,46) = 129.733$, $p < .0001$; $F_2(2,76) = 62.975$, $p < .0001$). It took the participants slightly more time to produce a noun in the gender-incongruent condition than to produce a noun in the gender-congruent and the pink noise condition. The factor Target Gender reached significance only in the item analysis ($F_2(1,38) = 64.489$, $p < .002$). The interaction between Target Gender and Distractor Condition, however, failed to reach significance in both participant and item analyses ($F_1(2,46) = 1.241$, $p < .29$; $F_2(2,76) = .160$, $p < .85$). Although we obtained 13 ms congruency effect, ANOVAs comparing only the gender-congruent and incongruent conditions did not reach significance for any variable.

To examine the effect of gender congruency between plural-congruent versus plural-incongruent and non-plural congruent versus non-plural incongruent in the distractor conditions, separate ANOVAs were performed on these data. These analyses only showed a significant effect in the participant analysis between plural-congruent versus plural-incongruent ($F_1(1,23) = 4.395$, $p < .05$) but not between non-plural congruent versus non-plural incongruent. The congruency effects were 32 ms and -6 ms, respectively, as can be seen in Table 7. Similar to the first experiment that showed no effect of gender congruency in feminine noun productions, the non-plural

gender definite nouns (in which half of them are feminine definite nouns taken from Experiment 1) had a non-significant reversed congruency effect.

Table 7 Mean RTs by target gender and distractor condition

Target gender	Distractor conditions			
	Congruent	Incongruent	Neutral	Congruency effect
Plural	1197	1228	977	32
Non-plural	1223	1217	982	-6

Studies investigating the issue of whether the competition for selection hypothesis applies to the retrieval of gender-marked inflections or restricted to only free-standing morphemes like determiners are few and present contradictory results (see Schriefers, 1993; Schiller & Caramazza, 2003, Bordag & pechmann, 2008; Schiller, 2013).

Schriefers (1993) obtained a congruency effect when participants produced NPs in the form of adjective + noun in Dutch (gender is marked in the adjectives suffixed as bound morphemes, e.g. *groen*$_{N}$ *boek*$_{N}$ 'green book' versus *groene*$_{COM}$ *tafel*$_{COM}$ 'green table'), suggesting that either the gender features compete for selection, or else there is competition for selection of the bound morphemes associated with the gender inflection of the adjective.

Schiller and Caramazza (2003), however, failed to replicate this result in both German and Dutch. To account for the failure of replicating Schriefers' (1993) result in the production of adjective + noun that involve the selection of a gender-marked bound morpheme, the assumption that the gender congruency effect reflects competition at the level of gender-marked, free-standing morpheme selection is hypothesized.

The significant 32 ms congruency effect in plural gender definite noun productions shows the effect could be obtained in gender-

marked bound morphemes in Konso. In light of the present result, one could also argue that the so-called plural gender nouns that take *–sini?* as their definite suffix are belonging to the proper gender feature in Konso.

2.4. General discussion

This chapter attempted to address the issue of deciding whether the so-called plural gender is a proper gender value or a value inherent to the number system in Cushitic languages using a picture-word interference (PWI) paradigm in two experiments. Besides, the psycholinguistic investigations of gender are restricted to a limited number of Germanic and Romance languages. We believe that field-based psycholinguistic investigations in less studied languages are important to provide additional empirical and cross-linguistic evidence as well as to broaden our knowledge of language processing in general and the cognitive representation of gender features in particular. In this regard, we took a new step to fill the gap of cross-linguistic confirmation from non-Indo-European languages and to introduce psycholinguistic approaches into the study of Cushitic languages by tackling Konso.

The two experiments reported in this chapter attempted to shed more light on the scope of the so-called gender congruency effect in psycholinguistic research, particularly whether or not the effect is obtained in naming bare nouns (Experiment 1), and in naming a noun + a gender-marked inflection (a bound morpheme; Experiment 2).

In the bare noun production (Experiment 1), we found 35 ms and 20 ms congruency effects for the production of the so-called plural gender nouns and masculine nouns, respectively, though we found no effect of congruency for the feminine nouns. As far as the issue of

plural gender in Cushitic is concerned, the 35 ms congruency effect observed in naming plural gender nouns could be taken as a preliminary sign for recognizing plural as a proper gender value in Konso although the 19 ms overall congruency effect is significant only in the participant analysis of the factor Target Gender. Mention was made of the effect in the other factors (that were not significant) might be masked by the overall slow RTs, lack of overt gender markers on the nouns in the language and methodological issues in relation to the selection of stimuli.

In Experiment 2, we investigated the gender congruency effect in naming nouns with a suffixed definite marker with the prediction that a gender congruency effect in the production of plural gender definite nouns should be observed if plural is a proper gender value in Konso. We found a significant 32 ms congruency effect in the plural gender definite noun productions. This result provides an indication for the so-called "plural" gender nouns, which take *–sini?* as their definite suffix marker, to belong to the proper gender value in Konso. It also shows that gender congruency effect could be obtained in the production of gender-marked bound morphemes, which confirms the prediction of *gender feature selection hypothesis* (Schriefers, 1993).

The non-significant overall 13 ms congruency effect and -6 ms congruency effect in the non-plural gender definite noun production of the present result, however, pose the question whether gender congruency effects are found in a gender-marked bound morpheme production at all. Note that the *gender-marked freestanding morpheme congruency hypothesis* (Schiller & Caramazza, 2003), predicts no effect of gender congruency in a gender-marked bound morpheme production. The negative congruency effect observed in the non-plural gender definite nouns might also be due to the overall

slow RTs, lack of overt gender marking on the nouns in the language and methodological issues in relation to the selection of stimuli. This is because half of the stimuli in the non-plural gender definite noun group are the feminine nouns that were also used in Experiment 1.

Taken together, the overall results in both experiments fail to reach robust significance levels and hence it is difficult to make any strong generalizations. Parts of the results of the two experiments (i.e. the presence of gender congruency effects in the plural gender nouns in both experiments), however, tend to suggest that the so-called "plural" gender is a proper gender value. Nevertheless, it is emphasized that there is an urgent need for replicating both experiments by giving better trainings to participants, by involving gender marking elements such as verbs as part of the experiment and by replacing part of the stimuli that are identified as problematic with better ones.

Table 8 Appendix A: Stimulus materials in Experiment 1

Target picture name	gender	Distractor word conditions*		
		Congruent	Incongruent I	Incongruent II
kaawwata ‘mirror’	feminine	eetuta ‘dinner/supper’	muutiya ‘worm’	ɲupuraa ‘component of loom’
lawaʃeeta ‘mouse’	feminine	fillayyaata ‘flea’	saalpataa ‘belt’	pahnaa ‘example’
harreeta ‘donkey’	feminine	ɸureeta ‘dirt’	toma ‘bowl’	pakataa ‘wide shield’
piirtuta ‘sun’	feminine	ɸooɠɠita ‘mud’	hoppatta ‘guts’	miɗaa ‘cabbage leaves’
hiɓta ‘lip’	feminine	ɸileeta ‘stick used by old women’	kaɓa ‘canal for irrigation’	payraa ‘type of farm tool’
pottaata ‘pumpkin’	feminine	haaruta ‘revenge’	hoʃʃa ‘cliff’	saaraa ‘poem’
ɠapaleeta ‘monkey’	feminine	ɗalta ‘seed’	χaʔtiya ‘fly’	pohaa ‘contribution, tribune’
ɸifeeta ‘a ring’	feminine	ohta ‘cloth (worn in the night)’	kanta ‘sub-village’	piʃaa ‘water’
napahta ‘ear’	feminine	haaɗita ‘load, burden’	kasirayta ‘tick (parasite)’	paankaa ‘machete’
irroota ‘mountain’	feminine	hoollata ‘sheep skin’	hiiɓa ‘meat soup’	peeɠaa ‘quarrel’
kaharta ‘ewe’	feminine	kaaɓtuta ‘farm tool’	hawla ‘grave, tomb’	mookkaa ‘cassava’
tika ‘house’	feminine	koorita ‘type of cloth’	sataʔta ‘heart’	leɠaa ‘a loan (money)’
muukuta ‘frog’	feminine	kanaʔta ‘palm’	kappaa ‘wheat’	teepaa ‘rope’
lafta ‘bone’	feminine	koromta ‘heifer’	karayta ‘tributary’	urmalaa ‘market’
loɠta ‘leg’	feminine	kulleeta ‘hood; cap’	ɗaammaa ‘flour’	pakaannaa ‘root crop’
farta ‘horse’	feminine	kusumta ‘navel’	ʃenɠera ‘hook’	χallaa ‘kidney’
tuuyyata ‘pig’	feminine	leemmuta ‘bubble’	kaasa ‘horn’	paarkaalaa ‘enemy’
oχinta ‘fence’	feminine	kuuɲata ‘gnat’	kuuɲata ‘gnat’**	ɗooʃʃaa ‘sarcasm’
χampirteeta ‘bird’	feminine	kannoota ‘calabash to drink from’	ilkitta ‘tooth’	koofinaa ‘lung’
taaltaallata ‘giraffe’	feminine	kawwatta ‘terrace’	orritta ‘devil’	masaanaa ‘autumn’

*For F target, M is incongruent I and P is incongruent II ** Has F gender value and also used as a congruent distractor for oχinta ‘fence’ F.

Appendix A: Stimulus materials in Experiment 1 (continued)

Target picture name	gender	Distractor word conditions*		
		Congruent	Incongruent I	Incongruent II
arpa ‘elephant’	masculine	hoofa ‘hole’	χoraa ‘fine, punishment’**	kawlaa ‘metal tool for ginning’
kessa ‘chest’	masculine	alkitta ‘sisal’	mooluta ‘bald’	tiraa ‘liver’
paala ‘feather’	masculine	ekerta ‘olive’	noodduta ‘bribe’	kolkaa ‘food without cabbage’
harka ‘arm’	masculine	dila ‘field’	moonta ‘sky’	toorraa ‘opposition’
murkuɟaa ‘fish’	masculine	ɟalaɠɠitta ‘flat stone’	pokkeeta ‘short (with pockets)’	tiyyaa ‘dispute’
tuyyuuraa ‘air plane’	masculine	ammaʔitta ‘breakfast’	paakkuta ‘span (measurement)’	χoffaa ‘groin’
mottooɠaa ‘truck’	masculine	ukkaʃʃa ‘husk’’	hakayta ‘second round harvest’	toɟaa ‘water droplet’
sookitta ‘salt’	masculine	hallaka ‘fat’	paallata ‘piece of clay to fetch fire with’	torraa ‘speech, talk’
okkatta ‘cow’	masculine	urratta ‘cloud’	pooyta ‘mourning, cry’	ʃaaɓɓaa ‘stretcher’
ɠoyra ‘tree’	masculine	irɲa ‘gum’	poɠoota ‘lower jaw’	ilmaamaa ‘tears’
tuuma ‘onion’	masculine	ɟapara ‘rig’	furoota ‘type of bead’	sindaa ‘urine’
lukkalitta ‘chicken’	masculine	ditiitaa ‘sweat’	ɠaawuta ‘coughing’	χapnaa ‘forest’
ɠayranta ‘leopard’	masculine	daʔta ‘butter’	mateʔta ‘upper millstone’	χaaʃaa ‘reed’
ɠupitta ‘finger’	masculine	ɟaɓɓaa ‘weed’	ʃaloota ‘cotton thread’	kaaɟaa ‘money’
kuta ‘dog’	masculine	dakaa ‘stone’	taamta ‘branch’	elalaa ‘cowrie shell’
oraayta ‘hyena’	masculine	dapna ‘temple’	kalaʔta ‘spider’	kasaraa ‘dreadlocks’
χaʃʃitta ‘shoulder’	masculine	damayta ‘wind’	talteeta ‘she-goat’	ɟaɓɓeernaa ‘belt for bullets’
parɟuma ‘stool’	masculine	dikla ‘elbow’	keeʔuta ‘belching’	eennaa ‘vacant homestead’
pora ‘road’	masculine	ɠayya ‘smoke’	kaankita ‘mule’	koottaa ‘buttocks’
karmaa ‘lion’	masculine	duttana ‘belly’	landeeta ‘spleen’	ɟiiɟaa ‘curse’

* For M target, F is incongruent I and P is incongruent II** has a P gender value.

Appendix A: Stimulus materials in Experiment 1 (continued)

Target picture name	gender	Distractor word conditions*		
		Congruent	Incongruent I	Incongruent II
innaa ‘boy’	plural	hiippaa ‘a riddle’	taammata ‘desert bee’	hikkitta ‘star’
ukukkaa ‘egg’	plural	ararsaa ‘local beer made for sale’	tampoota ‘tobacco’	arrapa ‘tongue’
furaa ‘key’	plural	aataa ‘culture’	tolloʔta ‘hump’	kirra ‘river’
filaa ‘comb’	plural	oytaa ‘upper part of the compound’	tuuɓuta ‘false banana bread’	kolalta ‘acacia’
haaʃʃullaa ‘leaf’	plural	makkaa ‘sickness’	tulluppaata ‘wood boring beetle’	kokaa ‘skin, hide’
ɲirfaa ‘hair’	plural	aannaa ‘milk’	keltoota ‘cattle louse’	koɗaa ‘work’
uwwaa ‘dress’	plural	ellaa ‘spirit’	furoota ‘type of bead’**	hakalaa ‘cabbage’
fulaa ‘door’	plural	ikkaamaa ‘selected seeds’	χaayyata ‘nightmare’	keltayta ‘baboon’
rikaa ‘a tooth brush’	plural	erkannaa ‘message’	yoʔta ‘greed’	kawsa ‘chin, beard’
timɓaa ‘drum’	plural	ipsaa ‘light’	χarinta ‘horizontally placed fence bar’	ɗankaa ‘throat’
siinaa ‘nose’	plural	olsaa ‘dream’	yaakata ‘bead’	karitta ‘belly’
χolmaa ‘neck’	plural	unɠulaa ‘grain store from bamboo’	kaaɟɟata ‘t’eff’	mura ‘forest’
χopaa ‘shoe’	plural	ɟorrooɠaa ‘eye discharge’	moossuta ‘(piece of) bread’	leya ‘month’
ɲaaɲɲaa ‘tomato’	plural	kaariyyaa ‘devil (ghost)’	faroota ‘luck’	kittayyaa ‘bed bug’
kiʔsaa ‘cricket’	plural	utaa ‘faeces’	aχawuta ‘roasted grain’	tokkayta ‘porcupine’
afaa ‘mouth’	plural	fuuraa ‘fear’	puulluta ‘fermented dough’	kilpa ‘knee’
hirriiɓaa ‘eyelash’	plural	ɠolfaa ‘bark of trees’	χompalta ‘cactus’	fanɠala ‘splinter’
akataa ‘sugar cane’	plural	ɗarɗaa ‘lie, untruth’	ɗuusuta ‘fart’	roopa ‘rain’
muklaa ‘bangle’	plural	hanɟufaa ‘saliva’	uffaata ‘balloon’	ɗaltayta ‘relative’
kupaʔtaa ‘tortoise’	plural	marɟaa ‘hip’	hiparaata ‘bat’	hallaka ‘fat’***

*For P target, F is incongruent I and M is incongruent II ** it has also been used as a distractor for the target *tuuma* ‘onion’ M ***it has also been used as a distractor for the target *sookita* ‘salt’ M.

Table 9 Appendix B: Stimulus materials in Experiment 2

Target picture name	Gender	Distractor word conditions*	
		Congruent	Incongruent
innaasiniʔ ‘the boy’	plural	hiippaasiniʔ ‘the riddle’	taammatasiʔ ‘the desert bee’
ukukkaasiniʔ ‘the egg’	plural	ararsaasiniʔ ‘the local beer made for sale’	tampootasiʔ ‘the tobacco’
furaasiniʔ ‘the key’	plural	aataasiniʔ ‘the culture’	tolloʔtasiʔ ‘the hump’
filaasiniʔ ‘the comb’	plural	oytaasiniʔ ‘the upper part of the compound’	tuuputasiʔ ‘the false banana bread’
haaʃʃullaasiniʔ ‘the leaf’	plural	makkaasiniʔ ‘sickness’	tulluppaatasiʔ ‘the wood boring beetle’
ɲirfaasiniʔ ‘the hair’	plural	aannaasiniʔ ‘the milk’	keltootasiʔ ‘the cattle louse’
uwwaasiniʔ ‘the dress’	plural	ellaasiniʔ ‘the spirit (e.g. of well)’	furootasiʔ ‘the type of bead’
fulaasiniʔ ‘the door’	plural	ikkaamaasiniʔ ‘the selected seed’	χaayyatasiʔ ‘the nightmare’
rikaasiniʔ ‘the tooth brush’	plural	erkannaasiniʔ ‘the message’	yoʔtasiʔ ‘the greed’
timɓaasiniʔ ‘the drum’	plural	ipsaasiniʔ ‘the light’	χarintasiʔ ‘the horizontally placed fence bar’
siinaasiniʔ ‘the nose’	plural	olsaasiniʔ ‘the dream’	karittasiʔ ‘the belly’
χolmaasiniʔ ‘the neck’	plural	unɓulaasiniʔ ‘the grain store from bamboo’	murasiʔ ‘the forest’
χopaasiniʔ ‘the shoe’	plural	ƒorrooɓaasiniʔ ‘the eye discharge’	leyasiʔ ‘the month’
ɲaaɲɲaasiniʔ ‘the tomato’	plural	kaariyyaasiniʔ ‘the devil (ghost)’	kittayyaasiʔ ‘the bed bug’
kiʔsaasiniʔ ‘the cricket’	plural	utaasiniʔ ‘the feces’	arrapasiʔ ‘the tongue’
afaasiniʔ ‘the mouth’	plural	fuuraasiniʔ ‘the fear’	kilpasiʔ ‘the knee’
hirriiɓaasiniʔ ‘the eyelash’	plural	ɓolfaasiniʔ ‘the bark of trees’	keltaytasiʔ ‘the baboon’
akataasiniʔ ‘the sugar cane’	plural	ɗarɓaasiniʔ ‘the lie’	koɓaasiʔ ‘the work’
muklaasiniʔ ‘the bangle’	plural	hanƒufaasiniʔ ‘the saliva’	kawsasiʔ ‘the chin, the beard’
kupataasiniʔ ‘the tortoise’	plural	marƒaasiniʔ ‘the hip’	ɗankaasiʔ ‘the throat’

* Half of the incongruent distractors are masculine and the other half are feminine nouns.

Appendix B: Stimulus materials in Experiment 2 (continued)

Target picture name		Gender	Distractor word conditions			
			Congruent		Incongruent	
harreetasiʔ	'the donkey'	feminine	ɟureetasiʔ	'the dirt'	peeɠaasiniʔ	'the quarrel'
hiɓtasiʔ	'the lip'	feminine	ɟileetasiʔ	'the stick used by old women'	pakataasiniʔ	'the wide shield'
irrootasiʔ	'the mountain'	feminine	hoollatasiʔ	'the sheep skin'	miɗaasiniʔ	'the cabbage leaves'
ɟifeetasiʔ	'the ring'	feminine	ohtasiʔ	'the cloth (worn in the night)'	piʃaasiniʔ	'the water'
kaawwatasiʔ	'the glass'	feminine	eetutasiʔ	'the dinner'	pakaannaasiniʔ	'the root crop'
lawasheetasiʔ	'the mouse'	feminine	fillayyaatasiʔ	'the flea'	saaraasiniʔ	'the poem'
napahtasiʔ	'the ear'	feminine	haaɗitasiʔ	'the load, burden'	paankaasiniʔ	'the machete'
piirtutasiʔ	'the sun'	feminine	ɟooggitasiʔ	'the mud'	χapnaasiniʔ	'the forest'
pottaatasiʔ	'the pumpkin'	feminine	haarutosiʔ	'the revenge'	kaaɟaasiniʔ	'the money'
ɠapaleetasiʔ	'the monkey'	feminine	ɗaltasiʔ	'the seed'	pohaasiniʔ	'the contribution, the tribune'
arpasiʔ	'the elephant'	masculine	hoofasiʔ	'the hole'	tiraasiniʔ	'the liver'
harkasiʔ	'the arm'	masculine	ɗilasiʔ	'the field'	pahnaasiniʔ	'the example'
kessasiʔ	'the chest'	masculine	alkittasiʔ	'the sisal'	torraasiniʔ	'the speech, the talk'
mottooɠaasiʔ	'the truck'	masculine	ukkaʃʃasiʔ	'the husk'	toɟaasiniʔ	'the water droplet'
murkuɟaasiʔ	'the fish'	masculine	ɟalaɠɠittasiʔ	' the flat stone'	kawlaasiniʔ	'the metal tool for ginning'
okkattasiʔ	'the cow'	masculine	urrattasiʔ	'the cloud'	ʃaaɓɓaasiniʔ	'the stretcher'
paalasiʔ	'the feather'	masculine	ekertasiʔ	'the olive'	tiyyaasiniʔ	'the dispute'
ɠoyrasiʔ	'the tree'	masculine	irɲasiʔ	'the gum'	χoffaasiniʔ	'the groin'
tuumasiʔ	'the onion'	masculine	ɟaparasiʔ	'the rig'	ɲupuraasiniʔ	'the component of a set of weaving'
tuyyuuraasiʔ	'the air plane'	masculine	ammaʔittasiʔ	'the breakfast'	χaaʃaasiniʔ	'the reed'