

Numbers, Quantifiers, and the Development of Dual in Mawes Aas'e (Omotic-Mao)

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This chapter explores numerical and quantification systems in the Afroasiatic-Omotic-Mao language Mawes Aas'e (also known as Northern Mao). The chapter provides the first comprehensive look at how grammatical number is expressed throughout the language's various grammatical subsystems. Features discussed include the decimal number system in both cardinal and ordinal forms (and its development from an archaic quintesimal system), the limited class of quantifiers, syntactic constructions for using numerals and quantifiers in grammatical context, and the grammatical expression of number across Mawes Aas'e nouns (and other nominals), pronominals (both bound and free), and verbal morphology. The examination also highlights the highly unusual (in terms of Omotic languages) development of the dual category within Mawes Aas'e and explores how this category developed.

Keywords: Ethiopian Languages, Omotic languages, Number, Development of Dual, Quantifiers, Syntax, Historical Linguistics

1. Introduction

Mawes Aas'e is an endangered Omotic language of the Mao subgroup which is spoken primarily in the area around Bambassi town (in Beni Shangul Gumuz Regional State) in western Ethiopia as well as roughly 300km to the east in the Didessa valley (in Oromia Regional State). There are four Mao languages (Mawes Aas'e [myf], Seezo [sze], Hoozo [hoz], and Ganza [gza]) which comprise the Mao subgroup of Omotic.

The genetic affiliation of the Mao group as well as the larger Omotic family within Afroasiatic is historically a matter of some debate (cf. Amha 2012:425-434, for an overview). The Mao languages have posed a challenge for historical reconstruction and genetic classification: While Bender eventually arrived at an Afroasiatic-Omotic-Mao classification (2000 and 2003), this came after scholars had considered that Mawes Aas'e (MA) could be Nilo-Saharan (Grottanelli 1940; Greenberg 1963:130). Bender's own earlier work suggested the Mao languages may be of a mixed lineage with Koman languages (Bender 1996:158; 2000:184). And even after settling on his Afroasiatic classification, Bender maintained that the Mao pronominal systems remained a problem for reconstruction and showed "much innovation" (2000:199). Zaborski, largely on the grounds of the Mao pronominal forms, maintained an objection to Bender's Afroasiatic classification, preferring instead a Nilo-Saharan lineage (Zaborski 2004). Recent comparative and historical work on the Mao languages (including work on the development of the Mao pronominals) however, supports strongly an Omotic lineage (cf. Ahland 2025; Ahland forthcoming, and Ahland in prep.).

The Mawes Aas'e language is today highly endangered. Estimates of Mawes Aas'e in the ethnic group and in numbers of L1 speakers are difficult to determine because Mawes Aas'e has not been counted distinctly in the Ethiopian census. The most recent estimate of number of speakers is between 2-3,000 in total (Ahland 2012:13). In some villages in Wamba k'ebele northwest of Bambassi town, children are no longer learning to speak Mawes Aas'e (Ahland 2012:32), opting instead for West-Central Oromo (a Cushitic language that serves as a regional language of wider communication). In the area east of Bambassi town, known as Mus'a Mado (the heart of the Mawes Aas'e area), the language is still being transmitted

intergenerationally and has also benefitted from development efforts. In recent years, support from the Beni Shangul Education Office in Assosa and SIL Ethiopia has resulted in the development of some school materials for use of the language in early primary grades.

This chapter¹ documents and explores relevant categories of number and quantification instantiated structurally across Mawes Aas'e systems. The discussion begins with the morphological categories relevant to number and quantification in the language (section 2), exploring numerals, quantifiers and then focusing much attention on the grammatical expression of number (nouns and other nominals, pronouns, and subject-marking verbal morphology). Section 3 then explores the development of dual marking in Mawes Aas'e--a very rare phenomenon in Omotic languages--but which has spread across the grammatical subsystems of Mawes Aas'e with interesting differences in morphological coding. Section 4 offers concluding thoughts.

2. Morphological Indications of Number and Quantification in Mawes Aas'e

A central question to the documentation of any domain within a particular language must include the structural means by which the category is reified. Before we turn to the grammatical expression of number, which is the focus of this particular chapter, let's briefly consider the Mawes Aas'e number system and how numbers and quantifiers behave in the language.

2.1. Numerals

The Mawes Aas'e number system is primarily a 10-base (decimal) system today, but there is good evidence internally that the system derives from an older 5-based (quintisimal) system. The number system appears to be in some decline in terms of use today: while many speakers use numbers 1-20, fewer use numbers between 20-100 and very few if any use numbers over 100. After 20, use of the Oromo language is common, so only these numbers will be discussed here. For more information on the full system, see Ahland 2012:293-306).

Mawes Aas'e's numerals 1-10 (cardinal) are provided in Table 1.

Table 1. Mawes Aas'e Numerals 1-10

1	hiʃki	2	numbo	3	te:zè	4	mets'e	5	k'wíssí
6	kja:nsè	7	kúlumbò	8	kúte:zé	9	kúsméts'è	10	kú:sú

Numbers 7-9, in particular, provide evidence of an archaic quintisimal system. Numbers 7 and 8 begin with the sequence [kú] and 9 begins with the sequence [kús]. This is a clipped form of 'hand' /kúsé/, meaning 5 (cf. Baye Yimam's discussion 2006:185). And following the [kú]/[kús] formative, we find morphological forms very similar to numbers 2 (numbo vs. lumbò), 3 (te:zè vs te:zé) and 4 (mets'e vs. méts'è). Number 6 appears to have been replaced morphologically and doesn't follow the system. The Mao languages Seeze, Hozo and Ganza also exhibit evidence of an archaic quintisimal system (Ahland 2012:295).

Mawes Aas'e's numerals 11-19 are formed via the construction /kú:s túg-ét/ ten leg/foot-LOC, meaning '10 at the feet', followed by the numerals 1-9. In fast speech, the

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word ‘foot’ has been reduced from /túgɛ/ to simply [g], but the full form surfaces readily in hyperarticulations.

Table 2. Cardinal Numerals 11-19

11	kú:s-g-ét-ɪʃkì ten-leg/foot-LOC-one	12	kú:s-g-ét-numbo ten-leg/foot-LOC-two	13	kú:s-g-ét-te:zè ten-leg/foot-LOC-three
14	kú:s-g-ét-mets’e ten-leg/foot-LOC-four	15	kú:s-g-ét-k’wíssí ten-leg/foot-LOC-five	16	kú:s-g-ét-kja:nsè ten-leg/foot-LOC-six
17	kú:s-g-ét-kúlumbò ten-leg/foot-LOC-seven	18	kú:s-g-ét-kúre:zé ten-leg/foot-LOC-eight	19	kú:s-g-ét-kúsméts’è ten-leg/foot-LOC-nine

There are two ways of expressing the number 20. First, speakers may use the construction two-ten (as in 1, below) or the NP person-body (2).

- (1) numbo-ku:s-e
two-ten-TV
‘twenty’
- (2) es-k’el-e
person-body-TV
‘twenty’

Ordinal numerals are consistently formed by adding the genitive case suffix (/-(i)ŋ/) to a cardinal number (Table 3 and example 3). The (/e/) terminal vowel (TV) follows the genitive suffix, attaching to the end of the numeral as it does to nominals (for a full discussion of terminal vowels in Mawes Aas’e, see Ahland 2012:194 and 313-324).

Table 3. Ordinal Numerals 1-10

1	hiʃk-ìŋ-è	2	numb-ìŋ-è	3	te:z-ìŋ-è	4	mets’-ìŋ-è	5	k’wíss-ìŋ-è
6	kja:ns-ìŋ-è	7	kúlumb-ìŋ-è	8	kúte:z-íŋ-è	9	kúsméts’-ìŋ-è	10	kú:s-ìŋ-è

- (3) kú:s-g-ét-numb-ìŋ-e
ten-leg/foot-LOC-two-GEN-TV
‘twelfth’

2.2. Quantifiers

Only a small number of quantifiers have been identified in Mawes Aas’e to date. The grammatical category of quantifier in Mawes Aas’e is identifiable by the lack of the nominal terminal vowel /-e/, and the fact that they are not numerals (not specifying exact quantities). Table 4 illustrates the documented forms.

Table 4. Quantifiers

Quantifier	Gloss
níts’	‘few’
hiʃkihiʃk(i)	‘some’ (literally: one-one)
gjá:	‘many’
túnkúl	‘every’
mú:kés	‘all’

2.3. Usage of Numerals and Quantifiers in Context

Numerals and Quantifiers in Mawes Aas'e behave similarly in morphosyntax. Both numerals and quantifiers modify nouns through the use of the N+N associative construction. The associative construction is a noun modification construction whereby an initial element (e.g. noun, numeral, quantifier, definite article, demonstrative, etc.) is phonologically joined to a head noun, resulting in tone changes on that final head noun.² Numerals and quantifiers are also similar in that both can function pronominally. The discussion below illustrates the uses of numerals and quantifiers within grammatical contexts.

2.3.1. Numerals as Modifiers

As noted above, numerals (cardinal numerals) modify nouns through the use of a N+N associative construction. A few speakers with whom I've worked have also used an attributive construction to allow numerals to modify nouns. In the attributive construction, the numeral (in first position) is phonologically free (i.e. not bound to the noun as in the associative construction), retains its final vowel in all instances, and the resulting tonal patterns on the final head noun of the NP are not the same as in the associative construction. There is no apparent difference in meaning between the use numerals in the associative or attributive construction. The use of each construction is illustrated below.

In the more common associative construction, the numeral is phonologically bound to the following noun and the associative tone pattern is found on the noun (cf. the discussion in Ahland 2012:146-180). The final vowel on numerals does not behave like the terminal vowel (TV) on nouns. In nouns, the final vowel is lost on the first noun in the associative construction (Ahland 2012:313-324); in numerals, however, the final vowel is maintained (4-5), except in instances where the final noun begins with a vowel (6).³

- (4) hishki-je:ts'-es-ɨf pòn-á
 one-run:INF-person-NOM arrive-DECL
 'One runner arrived.'
- (5) numbo-jé:ts'-es-kuw-ɨf pòn-and-á
 two-run:INF-person-DU-NOM arrive-NSG-DECL
 'Two runners arrived.'
- (6) kú:s-és-↓wol-e
 ten-person-PL-TV
 'ten people'

In the attributive construction, however, the numeral which precedes the head noun is phonologically free and maintains its final vowel regardless of whether the following head noun begins with a vowel or not. Also, in the attributive construction, the head noun exhibits the standard construct (modified) noun melody (Ahland 2012:145).⁴ Compare (7) below with (6) above.

² For a full discussion of the associative construction and the role of tone in marking the construction, see Ahland 2012:204-209.

³ Unlike nouns where the terminal vowel is /-e/ in Mawes Aas'e, the final vowels on numerals may be any of the following: [i], [e], [o] or [u]. The behavior of the final vowel on numerals is also distinct from terminal vowels on nominals, and, as a result, they are not parsed separately from the numeral root.

⁴ For example, the head noun in the attributive construction does not exhibit a H tone in certain instances where one surfaces in the associative construction (Ahland 2012:155-180).

- (7) kú:sú es-wol-e
ten person-PL-TV
'ten people'
- (8) numbo kjat'-kuw-e
two house-DU-TV
'two houses'

Since ordinal numerals are formed with the genitive case suffix (9-10), they modify nouns as any other genitive phrase would: through the genitive construction in exactly the same manner as genitive NPs can modify a head noun (11).

- (9) hiʃk-ìŋ je:ts'-es-ìʃ pòn-á
one-GEN run:INF-person-NOM arrive-DECL
'The first runner arrived.'
- (10) numb-ìŋ je:ts'-es-ìʃ pòn-á
two-GEN run:INF-person-NOM arrive-DECL
'The second runner arrived.'
- (11) es-ìŋ p'ìʃ-ìʃ pòn-á
person-GEN child-NOM arrive-DECL
'The person's child arrived.'

As mentioned above, numerals can also function pronominally and in doing so, they receive marking for case like other pronouns. It's important to note, however, that no pronominal numerals take the dual or plural suffixes--all other pronoun forms in the language do allow DU and PL marking.

- (12) numb-uf ha-kí-wand-á *numb-kuw-ìʃ
two-NOM AFF-come-NSG-DECL two-DU-NOM
'Two came.'
- (13) í-té te:z-nà ha-wos-kj-á *te:z-wol-nà
3SG-NOM three-ACC AFF-take-TOWARD-DECL three-PL-ACC
'S/He brought three.'

As expected, ordinal numerals can also function as pronouns and all core case marking follows the genitive (ordinal) marker (14).

- (14) múnt's-ìʃ numb-ìŋ-nà ha-int'-á
woman-NOM two-GEN-NOM AFF-see-DECL
'A woman saw the second one.'

2.3.2. Quantifiers as Modifiers

Quantifiers, like numerals, can modify nouns through the use of the associative construction. , they occur as the first form in an associative construction (15-16).

- (15) túŋkúl-és-ìf kà:l-là ha-mí-[↓]á
 every-person-NOM porridge-ACC AFF-eat-DECL
 ‘Everybody ate porridge.’
- (16) kam-ìf mú:kés-[↓]ma:r-nà ha-mí-mí-[↓]á
 fire-NOM all-grass/bush-ACC AFF-eat-eat-DECL
 ‘A fire destroyed (ate up) all the wilderness.’

When quantifiers function pronominally, they take the expected case forms in relevant syntactic environments. In (17), two quantifiers are used: /gǎ:/ ‘many’ is used as a predicate nominal for the negative medial copular verb and /níts’és/ ‘few’ serves as the subject of the final clause, and exhibits the nominative case marker /-ìf/.

- (17) màw-és-ìf gǎ: bíf-wá
 Mao-person-NOM many COP:INF-NEG
- níts’és-ìf ha-bí[↓]f-á
 few-NOM AFF-EXIST-DECL
 ‘They Mao people are not many, they are few.’

No evidence of quantifiers using the attributive construction has been identified thus far.

2.4. The Grammatical Expression of Number in Mawes Aas'e

In Mawes Aas'e, three grammatical categories of number can be observed across most morphosyntactic contexts: singular, dual and plural. These three number categories (SG, DU, and PL) are not, however, always expressed by the same three morphological means. The discussion below is organized around three grammatical categories where number is marked distinctly: nouns and other nominals, pronominals (both free pronouns and bound subject markers on verbs), and 3rd person verbal morphology.

2.4.1. Nouns and other Nominals

Number marking on nouns includes: singular /-Ø/, dual /-kuw/ and plural /-(w)ol/.

- (18) es-ìf ha-pòn-á
 person-NOM AFF-arrive-DECL
 'A person arrived.'
- (19) es-kuw-ìf ha-pòn-and-á
 person-DU-NOM AFF-arrive-NSG-DECL
 'Two people arrived.'
- (20) es-ol-ìf ha-pòn-and-á
 person-PL-NOM AFF-arrive-NSG-DECL
 'People arrived.'

Nouns in natural discourse most typically agree with the number (SG, DU or PL) of the numerals or quantifiers which modify them.⁵

⁵ There are also examples in texts where quantifiers which clearly reference more than one entity modify a noun which does not carry a dual or plural suffix (see 15-17, above).

- (21) numb-és-kuw-ijf ha-kí-and-á
two-person-DU-NOM AFF-come-NSG-DECL
'Two people came.'
- (22) gjá:-és-ol-ijf ha-kí-and-á
many-person-PL AFF-come-NSG-DECL
'Many people came.'

The zero-marked singular category can also be used in a general sense, i.e. in instances where plurality is obvious or not particularly important to the context. Corbett, in his typological examination of number marking systems, notes, "...there are many languages in which general meaning is widely expressed, but by means of a form used also for one of the more restricted number meanings" (2000:13).

Examples (23-25) illustrate the singular/general number in context. In all cases, in Mawes Aas'e the subject NP and verb must be in agreement as to overt number marking.

- (23) mùts'á mádò-t màw-kjat'-ijf ha-bíj-á
Muts'a Mado-LOC Mao-house-NOM AFF-EXIST-DECL
'There are Mao houses in Muts'a Mado.'
- (24) màw-és-ijf nà-àt ha-kòw-á
Mao-person-NOM here-LOC AFF-live/sit-DECL
'Mao people live here.'
- (25) nogdów-nà tí-int'-ti-á
lion-ACC 1SG-see-PF-DECL
'I have seen lions.'

Figure 1, below, summarizes the relevant distinctions in the noun and nominal systems in Mawes Aas'e. The representation in Figure 1 follows Corbett (2000). In the cases where the singular is used in a general sense, Corbett uses the term singular/general and illustrates the system with a circle around both general and singular. Dual and Plural numbers are both sub-types of the non-restricted category in Mawes Aas'e (Fig. 1).

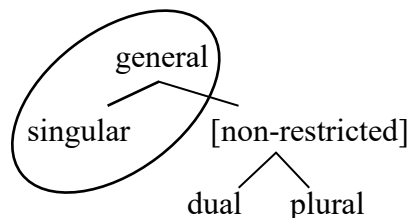


Figure 1. Mawes Aas'e Nominal Number System

In short, then, Mawes Aas'e nominals can be marked singular (zero), dual (/kuw/) or plural (/-(w)ol/); the singular marking can also be used as a 'general number' (using Corbett's 2000 terminology) when number is either clearly established by context or not particularly relevant. General number is attested in other Ethiopian languages as well: a similar system (without dual) obtains for Amharic, where nominals without plural marking can be used to reference plural entities (Corbett 2000:15).

While the only Mao language to exhibit a dual vs. plural opposition is Mawes Aas'e, it should be noted that Seezo (a sister Mao language) has been described as exhibiting a

paucal vs. plural opposition. Girma Mengistu shows that the form /tú:ji/ ‘head’ can follow nouns and indicate a lesser plural; Girma Mengistu estimates the quantity reference of the paucal to range between 2 and 10 (2015:118-119). While one could argue that the Seezo paucal could be related to the dual form in Mawes Aas’e, it must be pointed out that the corresponding cognate form in Mawes Aas’e is /to:k-è/ head-TV ‘head’ and is entirely unrelated to the Mawes Aas’e dual suffix (/kuw-e/ -DU-TV). Of course, the presence of a lesser vs. greater plural opposition in the Mao languages, if it existed in Proto-Mao, could have provided at least some motivation for the development of dual in Mawes Aas’e. Section 3, below, explores the comparative and internal evidence related to the development of the dual vs. plural opposition in Mawes Aas’e.

Finally, it's important to note that the vast majority of nouns in Mawes Aas'e can take number marking and may thus be considered ‘count’ nouns. There are also a few mass nouns like /ki:me/ ‘money,’ /jáwè/ ‘sand,’ /ha:ts’è/ ‘water,’ and /ma:re/ ‘grass/bush/wilderness.’ These don’t take number marking in their prototypical usage. In some particular contexts, however, mass nouns can function like count nouns and make use of number marking. This is true for ‘water’, for instance (in a manner similar to English).

- (26) ha:ts’-ol-ij ha-bíj-and-á
 water-PL-NOM AFF-EXIST-NSG-DECL
 ‘There are two waters’ (attested in reference to water partitioned in buckets)

2.4.2. Pronominals

Pronominals in Mawes Aas'e can be divided first into two sets: free, full pronoun forms and bound subject markers which attach to verbs. The bound subject markers can be further subdivided into three sets: prefixes which attach to realis verb forms, suffixes which attach to non-future (negative) irrealis verb forms, and suffixes which attach to future irrealis verb forms (Table 5).

Table 5. Free Pronouns and Subject Markers on Final Verbs in Mawes Aas’e*

Gloss	Free Pronouns	Bound Subject Markers		
		Realis Verb Prefixes	Non-Future Irrealis Verb Suffixes	Future Irrealis Verb Suffixes
1SG	tí-jé	tí-	-tí	-t’
1DU	han-é	han -	-n’	-n’
1PL	hambèl-è	ham -	-m’	-m’
2SG	hì-jè	hì-	-hì	-èṁ
2DU	háv-é	háv-	-w’	-’ (H Tone)
2PL	hàwèl-è	hàw-	-w’	-’ (L Tone)
3SG	íj-è	Ø-	-Ø	-m’
3DU	íj-kuw-e	Ø- (+ /-and/)	-Ø (+ /-and/)	-m’ (+ /-and/)
3PL	íj-kol-è	Ø- (+ /-and/)	-Ø (+ /-and/)	-m’ (+ /-and/)

*Table 5 is revised from Ahland 2014:63.

In free pronouns, all person (1, 2, 3) and number (SG, DU, PL) indications are morphologically distinct. There is, however, no distinction between the 3rd person DU and PL forms in the bound subject markers: the same forms are used for each, and this includes the use of the /-and/ non-singular verbal suffix.

Number in the speech act participant (SAP) forms (i.e. 1st and 2nd person) is uniquely marked, primarily by H tone for DU and L tone for PL as well as the use of a PL form /-el/. While the tonal marking distinction of H associated with DU and L associated with PL is not found elsewhere in the language, the plural form /-el/ may be cognate with the /-kol/ PL found on 3rd person PL pronouns and kinship terms and the lenited variant /-(w)ol/ PL found on other nominals. This /-el/ morphological plural on the 1st and 2nd person PL forms may also be cognate with the form on the 3PL Seezo pronoun /hél/ (Girma Mengistu 2015:216)—see also Table 6 in section 3.1, below. Certainly, the /-el/ form has been mentioned as a plural fragment in Omotic for both Dizoid and Mao languages (Bender 2000:213).

Interestingly, the use of a special PL form like [el] which does not appear on NPs or anywhere else in the language is not particularly unusual for pronouns. Moravcsik notes, "Typically pronouns mark plurality differently from nouns in at least three ways. First, if the marking is affixal, the affixes tend to be different from those used for nouns" (2017:454). Moravcsik's second rule also applies: the singular stem for 1st and 2nd person is different from the stem used on the corresponding plural (2017:455). In Mawes Aas'e, the DU and PL SAP forms are similar but the singular stems are remarkably distinct. Ultimately, from a synchronic perspective, one must analyze these pronominal forms for the SAPs as suppletive on the grounds that they cannot be shown to be mostly derivable from any productive processes found in the language. Moravcsik points out that distinctions between marking of plurality on pronouns vs. nouns is entirely understandable given that "pronouns refer to groups rather than multiple tokens of a type" (2017:455). That is, the referential function of number in pronouns is distinct from number on nouns.

The 3rd person free pronoun forms, on the other hand, do follow more closely the structure of dual and plural marking found on nouns: the use of /-kuw/ DU and /-(w)ol/ PL on nouns is widespread. It appears that the 3PL pronoun preserves the older /k/ which has since weakened to a [w] or in some cases disappeared altogether on nouns. It's important to note that some kinship nouns do maintain the /k/ form: /bà:b-é/ father-TV > /bà:b-kol-è/ father-PL-TV 'fathers/ancestors'. The root for the 3rd person pronoun forms is clearly the distal demonstrative /if-é/ (see the full discussion in Ahland 2012:287-292 and Ahland 2025). The third person series appears to have developed most recently, and as a result, the internal morphology is entirely distinguishable.

The 3rd person bound subject markers are also interesting. The realis prefix and non-future irrealis suffixes are zero for 3rd person and the non-singular suffix /-and/ is used when subjects are either dual or plural. The /-and/ form is illustrated and discussed in section 2.3.3, below. Future irrealis verb suffixes mark 3rd person with a low-toned /-m/ suffix (see Ahland 2014 for a discussion of the source of the /-m/) and show the same use of the non-singular /-and/. Again, as with the other 3rd person conjugations and free pronouns, the stem is clearly consistent across the different number categories.

No general/singular category exists in the pronominal number systems--and that's another important difference from how number categories work in nouns (apart from the morphological and suppletive differences discussed above). Perhaps this is due to the fact that the Mawes Aas'e pronominal system is unconcerned with indicting number relative to tokens of a type and is primarily concerned with group categories. Figure 2, below, illustrates the number categories on pronominal forms.

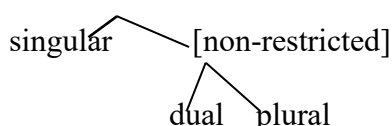


Figure 2. Mawes Aas'e Pronominal Number System

2.4.3. Verbal Morphology

In the section immediately above, I mention the use of an /-and/ non-singular suffix on 3rd person conjugations of verbs where the subject is marked as either DU or PL. That is, the DU vs. PL distinction is thus neutralized on 3rd person verbal forms, despite the fact that nouns and free pronouns always make the DU vs. PL distinction. Figure 3, below illustrates, then the number category indicated in non-pronominal verbal morphology.

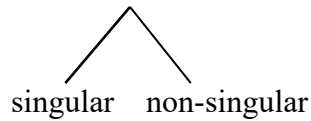


Figure 3. Mawes Aas'e Verbal Number System

While in most languages such a system as represented in Fig 3 would be seen as SG vs. PL, I prefer the term non-singular for the non-restricted category on the grounds that the agreement is with both structurally-marked DU and PL nouns and pronouns. That is, the label 'plural' would be misleading because in some cases, the form is used for agreement with a non-plural (dual) form.

Grammatical agreement in number (but not semantic, see below) is obligatory between nouns and their predicate verbs (27-29); lack of agreement in number renders the utterance ungrammatical (see corresponding ungrammatical utterances to the right of examples 28 and 29).

- | | | | |
|------|-------------------------|------------------------|-----------------------------------|
| (27) | es-íʃ | ha-bíʃ- [↓] á | |
| | person-NOM | AFF-EXIST-DECL | |
| | 'There is a person.' | | |
| | | | |
| (28) | es-kuw-íʃ | ha-bíʃ-and-á | *es-kuw-íʃ ha-bíʃ- [↓] á |
| | person-DU-NOM | AFF-EXIST-NSG-DECL | |
| | 'There are two people.' | | |
| | | | |
| (29) | es-ol-íʃ | ha-bíʃ-and-á | *es-ol-íʃ ha-bíʃ- [↓] á |
| | person-PL-NOM | AFF-EXIST-NSG-DECL | |
| | 'There are people.' | | |

It is clear from examples (30-32), below, as well as those immediately above that the verb agrees grammatically with the marking on the noun and not with the semantics indicated by the quantifier which modifies the noun. So, in (30), while the subject clearly involves multiple entities ('every'), the verb is marked as singular in agreement with the noun 'child'. In cases where the noun does inflect for PL overtly (after undergoing modification from a PL quantifier), the verb must agree with the non-singular category (compare 32 to 31).

- | | | | |
|------|-----------------------------|--------------|-----------------------|
| (30) | túnkúl-p'íʃ-íʃ | kà:l-là | ha-mí- [↓] á |
| | every-child-NOM | porridge-ACC | AFF-eat-DECL |
| | 'Every child ate porridge.' | | |
| | | | |
| (31) | gjá:-és-íʃ | pòn-á | |
| | all-person-NOM | arrive-DECL | |
| | 'All people arrived.' | | |

- (32) gjá:-és-ol-íʃ pòn-and-á
all-person-NOM arrive-NSG-DECL
'All people arrived.'

2.5. A Note on the Lack of Morphological Domains Interacting with Number

While in many languages morphological domains of gender, definiteness, case, in particular may interact and even be expressed cumulatively (see Moravcsik 2017:454), such is not the case in Mawes Aas'e. First, there are no morphologically expressed gender categories anywhere in Mawes Aas'e (Ahland 2012:41).

Definiteness, on the other hand, is expressed with the use of the definite article /íʃ/ which precedes the noun (Ahland 2012:282-287). While it does exist as a morphologically reified category, definiteness does not interact with number marking. It is morphologically independent of number marking. Consider the examples below where the definite article can co-occur with SG, DU and PL nouns (33-35) but is also not required on number-marked nouns (36).

- (33) íʃ es-íʃ kí-á
DEF person-NOM come-DECL
'The person came.'
- (34) íʃ es-kuw-íʃ kí-and-á
DEF person-DU-NOM come-NSG-DECL
'The person came.'
- (35) íʃ es-ol-íʃ kí-and-á
DEF person-PL-NOM come-NSG-DECL
'The people came.'
- (36) es-ol-íʃ kí-and-á
person-PL-NOM come-NSG-DECL
'People came.'

Nominative and accusative cases are also expressed morphologically in Mawes Aas'e, and like definiteness, their expression is independent of number. As expected, number marking is 'inside' (i.e. closer to the noun root) than case marking--a fact keeping with Greenberg's universal #39 (1963a).

- (37) es-kuw-íʃ ha-kí-ti-and-á
person-DU-NOM AFF-come-PF-NSG-DECL
'Two people have come.'
- (38) es-ol-íʃ íʃ kan-ol-na ha-pí-and-á
person-PL-NOM DEF dog-PL-ACC AFF-kill-DECL
'People killed the dogs.'

In short, of the typological domains most often found to interact with number (that is, gender, definiteness and case), no interaction is attested in the Mawes Aas'e data.

3. On the Development Dual in Mawes Aas'e Grammatical Number

The most interesting feature in Mawes Aas'e's number and quantification phenomena is the presence of the dual category and the various means by which it can be expressed. Dual, itself, is a very rare category within Omotic languages. The earliest work in Mawes Aas'e did not report any dual category (Siebert et al. 1993; Wedekind and Wedekind 1993; Baye Yimam 2006), but that's not a surprise since much of that work involved translated wordlists, small sets of elicited sentences, and paradigms (and perhaps many of these data were elicited via Amharic which has no dual form). Girma Mengistu first reported the presence of dual in Mawes Aas'e, in reference to the variety spoken in the Didessa valley (2007). The dual was then identified in the Mawes Aas'e spoken in the Bambassi area (Ahland 2012). No other Mao language exhibits any dual category. In fact, the only other dual category that has been identified in the Omotic family is in the distantly-related southern Dizin language (Beachy 2006:53). And in Dizin, the dual appears to be limited to pronouns and verbal subject markers--it is not found on nouns, for instance; nouns only exhibit the SG vs. PL opposition (Beachy 2006). According to Bender, Dizin is genetically positioned within the DA subgroup of the TNDA branch of Omotic, while the Mao languages are positioned within their own primary branch of Omotic (Bender 2003:1-2). Given the distance between Dizin and Mawes Aas'e (both genetically and geographically), the lack of cognate correspondences in relevant morphology, and the lack of any other relics of an old dual category in other Omotic languages, it is overwhelmingly likely that dual developed independently in these languages.

This begs the question: how did dual first develop in Mawes Aas'e? From the data presented in sections 2.3.1 and 2.3.2, it's clear that number marking on nouns and pronominals is quite distinct structurally. While one system almost certainly contributed functional pressure leading to the grammaticalization of the other, they did not develop together from a single morphological paradigm. The internal evidence suggests that dual first developed in the speech-act-participant pronominal forms--that is in the 1st and 2nd person forms. The evidence even suggests that the development of dual happened first in the reduced, bound pronominals before it entered into the free pronoun paradigm. The discussion below highlights the most salient aspects of the development of dual.⁶

3.1. An Overview of the Mao Free Pronouns and Bound Pronominal Subject Markers

First, there is a great deal of diversity across the pronominal systems in the Mao languages: relevant categories (including number, gender, and clusivity distinctions in some cases) as well as the lack of bound subject marking entirely in Hoozo are important differences. Table 6, below, provides the free pronouns (PRO) and corresponding bound subject markers (SBJ) for each of the Mao languages.⁷

⁶ For a more thorough treatment of the development of the entire pronominal system in Mawes Aas'e, see Ahland 2025. The development of dual is tied up a complex set of innovations in the wider subject-marking and pronominal systems, many of which are far from the focus of this chapter.

⁷ With respect to Mawes Aas'e data, only the subject markers found on realis verbs (i.e. non-future, affirmative) are provided here as they are the most relevant to the development of dual; Table 5, above, exhibits the full set of subject markers. For a more complete discussion of all subject markers and how dual impacted those systems, see Ahland 2025.

Table 6. Free and Bound Pronominals Across the Mao Subgroup

	Mawes Aas'e	Ganza	Seezo	Hoozo
1SG PRO	tí-jé	tì:	hà:-	ná
1SG SBJ	(ha-)tí-	(hă)=di	hà=	
2SG PRO	hì-jè	jé:	hín-	hí
2SG SBJ	hì-	(hă)=na	hín=	
3SG PRO	íŋ-è / ít-é	kjánâ M / kî: F	hán-	ʔá M / ʔé F
3SG SBJ	(ha-)Ø-	(hă)=ga M / (hă)=gi F	Ø=	
1DU PRO	han-é			
1DU SBJ	han-			
2DU PRO	háv-é			
2DU SBJ	háv-			
3DU PRO	íŋ-kuw-e			
3DU SBJ	(ha-)Ø-			
1PL PRO	hambèl-è	mù:	dà:- EXCL / dól- INCL	nú
1PL SBJ	ham-	(hă)=mu	dà= EXCL / dól= INCL	
2PL PRO	hàwèl-è	nàm	nám-	dó
2PL SBJ	háv-	(hă)=ma	nàm=	
3PL PRO	íŋ-kol-è	kû:	hél- / jél-	ʔínó
3PL SBJ	(ha-)Ø-	(hă)=gu	hél=	

* The data in Table 6 are from various sources: Mawes Aas'e (Girma Mengistu 2007 and Ahland 2012:377); Ganza (Smolders 2015; Ahland fieldnotes from 2014), Seezo (Girma Mengistu 2015); Hoozo (Getachew Kassa 2015).

Despite the variation in forms in Table 6, there are a couple generalizations that can be observed. First, the 1SG pronominals in Mawes Aas'e and Ganza are transparently cognate. Seezo and Hoozo exhibit divergent corresponding forms. The 2SG free pronouns are very likely cognate across the four Mao languages. Apart from these 1SG and 2SG forms, however, the Mawes Aas'e pronouns and subject markers are remarkably divergent when compared with the other Mao languages.

Important clues to the historical development of the Mawes Aas'e forms are fossilized inside the free pronouns themselves. Since our focus is to understand how the dual category entered the language, we must first consider the 1st and 2nd person non-singular forms. These free pronouns stand out across the Mao languages and across Omotic as well. The forms are constructed from morphology that is clearly observable outside the paradigm in Mawes Aas'e and in other Omotic languages. The [ha] sequence that occurs at the beginning of each of these four pronouns (and subject markers) is related to the /ha-/ affirmative marker while the sequence [el] found on the plural forms of the free pronouns is related to an old plural suffix /-el/ (cf. section 2.4.2, above, and Ahland 2012:387-400; Ahland 2025). The final vowel [e] found at the end of each form is the /-e/ terminal vowel found at the right edge of all Mawes Aas'e nominals—terminal vowels are a major feature of Omotic word-structure (see Ahland 2012:313-324). The transparent morphology inside these pronouns is good evidence that the Mawes Aas'e 1st and 2nd person non-singular pronouns were constructed from a base and augmented with morphology.

The discussion below begins with the reconstructed Proto-Mao pronominal state. The discussion then turns to the internal developments in Mawes Aas'e with a focus on the development of the dual opposition and, to a lesser-extent, the augmentation of pronominal forms with additional morphological material, resulting in the forms we see today.

3.2 The Early State of the Mao Pronominals

Across the Omotic family, pronominal systems are typically made up of both free pronouns and another set of bound enclitic subject-referencing forms that can attach to various hosts (nouns, free pronouns, demonstratives, and verbs). In some languages, in various branches of Omotic (including Mao, Dizoid, Aroid, and Southeast Ometo—see Ahland 2025), these reduced subject-marking pronominals can be shown to be moveable throughout portions of the clause (Azeb Amha 2012:466 and Ahland 2025).

3.2.1 The Positioning of Subject-marking Enclitics

Azeb Amha notes that these so-called “moveable” subject markers are found in multiple non-contiguous subgroups of Omotic (2012:466), and given the evidence preserved in the Ganza language of the Mao group (see below), this typologically unusual feature appears to have been inherited to Proto-Mao as well (39-42). Subject markers are bolded here for ease of identification.

- (39) **màkí-l=gà** **ká[↓]pá-tá-bô**
 daughter-ACC=3SG.M take-CAUSE-DECL
 ‘He gave (his) daughter away (in marriage).’ (Smolders 2016)

- (40) **hà=gá** **ásí=[↓]dí** **ákúm-bô**
 AFF=3SG.M person=DEF good-DECL
 ‘The person is good.’ (Smolders 2016)

- (41) **tì:** **hà=dí** **ìntó?** **jó?ò-bò**
 1SG AFF=1SG here sleep-DECL
 ‘I (FOC) slept here.’ (Smolders 2016)

- (42) **kí=gì** **ìntó?** **hà=kwâ:-bò**
 3SG.F=3SG.F here AFF=come-DECL
 ‘She came here.’

In (39), Ganza’s 3SG.M subject enclitic is hosted by the case-marked noun ‘daughter,’ while in (40), the subject marking enclitic is hosted by the affirmative marker and is positioned before the subject (i.e. not inside the verb phrase). Example (41-42) show the subject enclitics hosted by the affirmative marker and by a free pronoun, respectively. Example (40-41) also shows that the enclitics and their host need not be immediately preverbal. This pattern holds across all non-future constructions in Ganza.

Examples (43-44) show that in future constructions, however, Ganza’s subject enclitics are found attached to the verb itself, positioned between tense and mood/modality markers, today.

- (43) **kí** **kwá:gàn** **hà=kwâ:-s=**gì**-bō**
 3SGF tomorrow AFF=come-FUT=3SG.F-DECL
 ‘She will come tomorrow.’ (Smolders 2016)

- (44) **kwá:gàn** **hà=kwâ:-s=**sì**-bō**
 tomorrow AFF=come-FUT=1SG-DECL
 ‘I will come tomorrow.’ (Smolder 2016)

The other Mao languages that employ subject marking pronominals (Seezo and Mawes Aas'e) also provide strong evidence that subject enclitics were moveable, attaching to preverbal hosts in realis (affirmative non-future) constructions and attaching to the lexical verb in irrealis (future and negative non-future) constructions (see Ahland 2025 for details on each language).

The data below provide only a very brief overview of the pattern in Mawes Aas'e: showing today's prefixes on realis verbs and suffixes on irrealis verbs—again, this difference in positioning (as is the case for Ganza) is likely a reflex of the older 'moveable' subject markers still observable in other branches of Omotic.

In Mawes Aas'e, subject markers are positioned as prefixes realis (affirmative non-future) verbs. The subject marking (/tí-/ 1SG and /Ø-/ 3rd person) are seen in (45-47). For these person-subjects, the affirmative prefix /ha-/ is optional. Number for 3rd person subjects on verbs is zero-marked for singular and marked with the /-and/ non-singular suffix when the subject is dual or plural (cf. section 2.4.3, above). This is the only domain in Mawes Aas'e where the dual vs. plural opposition is conflated.⁸

- | | | |
|------|---|---------------------------------------|
| (45) | (ha-)tí-pè:f-á
AFF-1SG-slap-DECL
'I slapped (it).' | 1SG |
| (46) | (ha-)Ø-gùnz-á
AFF-3-be.sad-DECL
'He/she is sad.' | 3SG |
| (47) | (ha-)Ø-gùnz-and-á
AFF-3-be.sad-NSG-DECL
'They (DU/PL) are sad.' | 3DU/PL (with Non-Singular NSG suffix) |

On realis verbs with 1DU, 1PL, 2DU and 2PL subjects, the subject prefix begins with a [ha] sequence and no additional /ha-/ affirmative prefix can be affixed to the verb (48-51).⁹

- | | | |
|------|---|-----|
| (48) | (*ha-) han -gànz-á
1PL-be.sad-DECL
'We (DU) are sad.' | 1DU |
| (49) | (*ha-) ham -pè:f-á
1PL-slap-DECL
'We (PL) slapped (it).' | 1PL |
| (50) | (*ha-) háv -ganz-á
2DU-be.sad-DECL
'You (DU) are sad.' | 2DU |

⁸ When free pronouns are included in such 3rd person constructions, however, the free pronouns disambiguate the non-singular suffix with either the dual or plural form being used. The non-singular suffix agrees with both the dual and plural free pronouns just as it agrees with the zero subject-marker.

⁹ This sequence [ha] is always present on these 1st and 2nd non-singular person realis prefixes and is also found at the beginning of each of the corresponding free pronouns. In none of these instances and on none of these forms may the [ha] sequence be parsed separately. It is fully a part of the subject markers and the pronouns for the 1DU/PL and 2DU/PL forms.

- (51) (*ha-) **hàw**-pè:ʃ-á 2PL
 1PL-slap-DECL
 ‘We (PL) slapped (it).’

On irrealis verbs, the subject markers are suffixed to the verb, positioned between the verb stem and a bound auxiliary form (in the case of future forms, the future tense suffix immediately precedes the subject markers). An important difference from the realis verbs, however, is that the [ha] form seen on the 1DU/PL and 2DU/PL subject markers is not attested. It is very important to note that this is due to the verb itself serving as the host for the old enclitic (as it still does in Ganza’s synchronically moveable system today). In Mawes Aas’e, the affirmative prefix /ha-/ can be seen attaching to the verb across all person subjects on future affirmative irrealis verbs (52-54). Again, the affirmative prefix is optional in the future irrealis construction just as it is for 1SG and 3rd person subjects in the realis verbal construction (45-47).

- (52) (ha-)pè:ʃ-gà-**t**-bíʃ-á 1SG
 AFF-slap-FUT-1SG-NPST:AUX-DECL
 ‘I will slap (it).’
- (53) (ha-)pè:ʃ-gà-**n**-bíʃ-á 1DU
 AFF-slap-FUT-1DU-NPST:AUX-DECL
 ‘We (DU) will slap (it).’
- (54) (ha-)pè:ʃ-gà-**m**-bíʃ-á 1PL
 AFF-slap-FUT-1PL-NPST:AUX-DECL
 ‘We (PL) will slap (it).’

3.2.2 Proto-Mao Pronominal Reconstructions

The forms in Ganza and Seezo suggest that the free pronouns and their corresponding subject enclitics were likely very similar and from the same source (Table 6)—the forms in each language show great internal consistency. It is Mawes Aas’e that is the outlier in this respect. Mawes Aas’e pronominal forms show clear differences between the free pronoun and bound subject-marking forms: the free pronouns exhibit additional transparent internal morphology. The explanation for this difference begins with the reconstruction of the pronouns.

First, Lionel Bender’s early pronominal reconstructions for the 1SG, 2SG and 2PL in the Mao group still hold up surprisingly well despite the fact that we now have much more information about each of the Mao languages (Bender 2000:196). With respect to 1SG, the /*ti/ in Bender’s Mao reconstruction is attested in both Mawes Aas’e and Ganza and is close to the /*ta/ in Bender’s Proto-Omotoc reconstruction (2000:223). Bender reconstructs /*hi / j/ for the 2SG form in Mao (2000:196).¹⁰

The 1PL reconstruction for Mao is central to the genesis of dual in Mawes Aas’e. Given recent evidence pulled from across the Mao languages (with an eye to rest of Omotic as well), I have reconstructed two forms: the 1PL inclusive /*nú/ and the 1PL exclusive /*mù/. Across the Mao languages, the 3rd person pronominal forms have grammaticalized from language-specific demonstratives. Given that there is no clear pattern across the group,

¹⁰ The 2SG subject enclitic is divergent in Ganza, showing /=na/. Seezo also exhibits an [n] in 2SG: /hín/ for the Seezo pronominals. It may be the case that the [t] form for 1SG and these [n] forms are a reflex of an older system which is related to the TN group (named on the basis of the 1st and 2nd pronominal consonants, cf. Bender 2000:223).

it appears that a variety of demonstratives have taken on this function over the years (see the discussion in section 3.2.5, below).¹¹ Table 7 provides the full set of reconstructions for the Proto-Mao pronominals.

Table 7. Reconstructions for Mao Pronominals (Free / Bound)* (from Ahland 2025)

	SG	PL
1	*ti / *=ti	*nú / *=nu inclusive *mù / *=mu exclusive
2	*hi / j *=hi / j	*nam / *=nam

*As noted in the text above, the pronoun reconstructions for 1SG, 2SG, and 2PL are Bender's reconstructions (2000:196). I have reconstructed 1PL myself.

The 1st and 2nd person plural forms in Table 7 offer the greatest challenge for reconstruction. First, there is evidence for two Proto-Mao forms in the 1PL—an inclusive /**nú*/ and exclusive /**mù*/ form. Bender's reconstruction for Proto-OmotiC /**nu*/ finds support from three of the Mao languages (Bender 2000:223): Hoozo's 1PL form /*nú*/ and also the [n] in the Mawes Aas'e 1DU /*hané*/. The third language offering support for this is Seezo: in this instance, the /**nú*/ reflex underwent a common **n* > *d* sound change where the Proto-Mao alveolar nasal in the 1PL inclusive was likely inherited to Seezo as well—this is discussed more fully in reference to sound changes provided in Table 8, below. The high tone in Hoozo, Mawes Aas'e, and Seezo corresponding forms suggest that this reconstructed 1PL inclusive form included a high tone: /**nú*/ (the H tone is my addition to what is otherwise Bender's reconstructed form). The second 1PL form (/**mù*/) is my own reconstruction. The bilabial nasal and low tone are reflected in Ganza's /*mù*/ 1PL form, as well as the base [m] consonant in the Mawes Aas'e 1PL: /*ha-mb-èl-è*/.¹² The respective high and low tones of these forms are seen reflected across the Mao group consistently (Table 8).

Table 8. The Inheritance of 1PL incl/excl Across Mao (adapted from Ahland 2025)

Proto Mao	*nú 1PL inclusive	*mù 1PL exclusive
Mawes Aas'e	hané 1DU	hambèlè
Hoozo	nú 1PL	----
Ganza	----	mù 1PL
Seezo	dól 1PL inclusive	dà: 1PL exclusive

The inclusive/exclusive opposition found in Seezo's 1PL is a retention from Proto-Mao. While the Mawes Aas'e dual/plural opposition is very unusual in Omotic, inclusive vs. exclusive oppositions are observed in various languages and subgroups of the TN branch of Omotic: Benchnon, Koorete Zayse, Zergulla (see Azeb Amha 2017:828). The inclusive/exclusive opposition reconstructed for Proto-Mao 1PL was lost in both Ganza and Hoozo—Hoozo maintains the inclusive etymon as its 1PL today, while Ganza maintains the exclusive etymon as its 1PL. Seezo, on the other hand, shows a couple important changes, including the **n* > *d* sound change mentioned above. Table 9 (taken from Ahland 2025)

¹¹ See Ahland 2019:196 for data on demonstratives functioning as 3rd person pronouns across the Mao group. The Ganza demonstratives /*igi*/ distal feminine and /*ùgù*/ distal plural are clear sources for the pronominals/enclitics while the Seezo proximal demonstrative /*hèt'*/ may be related to the 3PL /*hél*/ form, with the [l] from the old Mao plural [-el].

¹² Regarding the intrusive [b] in this pronoun: strengthening of intervocalic bilabial nasals through the addition of a homorganic stop (a subtype of excrescence [m] > [mb]) before a vowel is commonly found in western Ethiopian languages, e.g. 'camel:' /*gimel*/ in Amharic; /*dʒəmel*/ in Arabic; /*kambəla*/ in Gumuz (Colleen Ahland, personal communication); /*hambel*/ in Bertha (BGLDP 2007:112); and /*hambèlè*/ in Mawes Aas'e (Ahland 2012:252).

provides evidence of the *n > d sound change in basic vocabulary across the Mao languages. Seezo participates in the change fully while Hoozo exhibits partial participation in the innovation. Ganza and Mawes Aas'e do not participate in the sound change at all and maintain the older *n form (Table 9).

Table 9. Cognates Showing *n > d Across Mao (from Ahland 2025)

Mawes Aas'e	Ganza	Hoozo	Seezo	Gloss
n	n	n/d	d	
nak'íjè	nó ⁺ k'áf	nùfè	dók'íjì	'husband'
ne:je	nàf (semantic shift: 'child of brother')	dijábèjè	dè:jì	'brother-in-law'
nú:ŋk'	(no cognate found)	dòʔi	dò:k'	'stand (v)'
nít'it'è	(no cognate found)	(no cognate found)	dít'i	'paternal uncle'

* These data are from multiple sources: for Mawes Aas'e (Ahland 2012); for Ganza (Smolders 2015); for Hoozo (Getachew Kassa 2015); and for Seezo (Girma Mengistu 2015).

As noted above, Seezo maintains the high tone associated with the 1PL inclusive /dól/ as well as the low tone associated with the 1PL exclusive /dà:/ (Table 8). It may be the case that the 1PL exclusive form changed in the first consonant to match the 1PL inclusive (after the *n > d sound change). It is also likely that the [ol] in Seezo's reconstructed inclusive form is cognate with the /-(w)ol/ plural we find in Mawes Aas'e nouns as well as, perhaps, the /-el/ plural we find in Mawes Aas'e 1PL and 2PL pronouns.¹³ Since our focus here is on the development of the dual, the reader is directed to Ahland 2025 for a thorough discussion of the other pronouns and their development.

At some point early in the development (before the new dual opposition formed), the Mawes Aas'e subject marking enclitics for 1PL (both inclusive and exclusive) and 2PL underwent phonological simplification. The 1PL forms lost their final vowels but maintained their respective tones. The 2PL form (/nam/) may have initially reduced to an intermediate /mà/ (as is maintained in Ganza's 2PL enclitic today, see Table 6). At some point, however, it is clear that the 2PL eventually lost its final vowel as well, and the bilabial nasal weakened to the approximant [w]. The tone was retained in each of these (Table 10).¹⁴

Table 10. Reduction in 1st and 2nd Person Non-singulars (from Ahland 2025)

	Host with Enclitic	Phonological Reduction
1PL inclusive	ha=nú	ha=ń
1PL exclusive	ha=mù	ha=m̃
2PL	ha=mà	ha=w̃

3.2.3 From 1PL inclusive > Dual

The internal and comparative evidence suggests strongly that the dual vs. plural opposition developed in 1PL subject markers in Mawes Aas'e; evidence includes the consonant and tone patterns for the 1PL reconstructions and their reflexes across Mao show

¹³ As noted above in section 2.4.2, it could also be that the /-el/ plural found the 1PL and 2PL Mawes Aas'e pronouns is cognate with same [el] sequence found in Seezo's 3PL /hél ~ jél/ forms (cf. the plural fragment /-el/ for Omotic in Bender 2000:213).

¹⁴ See Ahland 2025 for a full discussion of these changes, their motivations, and possible alternative analyses.

that the form associated with inclusive in Proto-Mao and in Seezo corresponds to the form reanalyzed as a dual in Mawes Aas'e.¹⁵

The link from inclusive to dual has received support from Michael Cysouw's typological work on developments in pronominal paradigms. Cysouw shows that an inclusive/exclusive paradigm (without dual) is a source for the type of pronominal paradigm we find in Mawes Aas'e—the so-called 'dual-unified-we' paradigm—with singular vs. dual vs. plural across all three persons and no inclusive/exclusive distinction (Cysouw 2003:278). Cysouw cites data from Miwok languages, showing that the 1PL inclusive is cognate with an innovated 1DU while the older 1PL exclusive is cognate with the newer 1PL (Cysouw 2003:277-278). This is the same pattern shown above for the Mao languages.

Table 11 (reproduced here from Ahland 2025) shows the innovation of dual in 1PL (from the inclusive) subject enclitics (following their most frequent host, the /ha-/ affirmative marker). Just as is the case in Ganza non-future verbal constructions today (see examples 39-42), the affirmative marker in Mawes Aas'e was not originally a verbal prefix. It was a free form (derived from an old demonstrative pronoun) and served as the most frequent host for the subject enclitics in realis constructions. In Table 11, the forms represented have not yet collapsed into the verb. At this stage of development the host + enclitic forms were still free to move preverbally in realis (affirmative non-future) constructions.

Table 11. Dual Innovation in 1PL with Spread to 2PL (from Ahland 2025)

Stage 1: Innovation in 1st Person			Stage 2: Spread to 2nd Person		
		New DU vs. PL Opposition			New DU vs. PL Opposition
ha=ń 1PL inclusive	>	ha=ń 1DU	ha=ẁ 2PL	>	ha=ẁ 2DU
ha=m̃ 1PL exclusive	>	ha=m̃ 1PL		>	ha=ẁ 2PL

After the reanalysis of the 1PL inclusive > 1DU (stage 1), the dual vs. plural opposition spreads to 2nd person (stage 2). In this stage, the 2PL appears to have subdivided: copying the consonants and vowels (there was no other available morphological material for constructing a 2DU form) and then via analogy with the 1DU vs. 1PL tonal pattern, associating H tone with DU and L tone with PL. Cysouw points out that the innovation of a dual opposition generally results in spread of the new opposition across the person paradigm:

When there are grammaticalized dual forms in a pronominal paradigm, then it is extremely rare for there to be no dual involving all persons. Dual forms show up across the paradigm, or not at all. There are only very few examples that have a dual only in a part of the pronominal paradigm. Among these few examples, a dual in in the first person is indeed slightly more frequent than other duals, but the total amount of cases is too low to allow for any significant generalizations. (Cysouw 2003:210)

The /ha/ host + subject enclitics in Table 11 match the morphological shapes found on Mawes Aas'e realis verbs today, the phonological reductions of the reconstructed pronominals and their tones match the forms found on irrealis non-future verbs (see Table 5, above). Of course, in the irrealis construction, the verb itself is the host for the subject-

¹⁵ The reader is reminded that that the dual is an innovation in Mawes Aas'e and cannot be reconstructed for any Omotic subgroup. Clusivity distinctions, however, are found in various branches of Omotic, including Mao (e.g. Seezo).

enclitics, so there was no need for the /ha/ to host the subject markers in irrealis constructions.

Finally, as is seen in examples (48-51), the /ha/ host for the subject-marking enclitics in realis verbal constructions eventually fused with the 1DU/PL and 2DU/PL enclitics. Presumably this was motivated by phonological necessity where the 1st and 2nd person non-singular enclitics had already weakened to single consonants. The result of this was that these forms (which had been reduced to single consonants with tone) could not easily have been hosted by other elements in the clause.¹⁶ The phonotactic requirements of complex codas in Mawes Aas'e would have prevented these enclitics (/=ń/ 1DU, /=m̃/ 1PL, /=w̃/ 2DU, and /=w̃/ 2PL) from attaching to any forms that end in consonants; that is they could not attach as a second C of a CC coda. Complex codas in are limited to nasal + final consonant (see Ahland 2012:79-85), and because nominal forms actually lose their terminal vowels in connected speech, most potential hosts would actually be consonant-final and unable to host the enclitics. Of course, the fusion of these subject-marking enclitics with the /ha/ host only occurs in those subject markers used in realis constructions. In irrealis constructions, the verb itself is the host for the subject markers and no fusion with /ha/ occurred (again, see Table 5).

3.2.4 The Formation of New Free Pronouns Showing the Dual vs. Plural Opposition

The Mawes Aas'e subject markers (now fused with their erstwhile /ha/ host) were fully required grammatically (either preverbally in realis constructions or as enclitics on the verb in all irrealis constructions). This requirement rendered these markers the most salient indicators of person-number category in the language, and this also cemented the dual category both grammatically (for grammatical subjects in 1st and 2nd person--the speech act participants) and also cognitively as a new number category available to speakers. Whatever the free pronouns would have been at that time, they would have been rendered out-of-date by these new person-number forms and by their dual vs. plural opposition. Speakers would have needed updated free pronouns to express these categories for contrastive focus (where the full pronoun is required for subjects to indicate emphasis) and for grammatical objects (since only free pronouns can express person-number categories for grammatical objects in Mawes Aas'e).

The internal morphological evidence shows that speakers of Mawes Aas'e manufactured new pronouns on the basis of the fused host + enclitic 1DU/PL and 2DU/PL forms. In this case, the additional material involved the toneless terminal vowel /-e/ that marks all nominals (including the other Mawes Aas'e pronouns) as well as the addition of the /-el/ PL suffix to the 1PL and 2PL forms (Table 12).

Table 12. Augmentation of Subject-Markers to New Free Pronouns (from Ahland 2025)

	Fused Subject Markers	Augmenting Morphology			New Free Pronouns
1DU	hań	+ -e -TV		>	hané
1PL	ham̃	+ -el-e -PL-TV	> hamèlè	>	hambèlè
2DU	háv	+ -e -TV		>	hávé
2PL	hàw	+ -el-e -PL-TV		>	hàwèlè

¹⁶ This is not the case in Ganza, today, where the subject enclitics have not lost their final vowels and maintain the ability to be hosted by a variety of forms (though, they are most typically hosted by Ganza's /ha/ affirmative form as well).

The H and L tones on the subject markers spread rightward onto the toneless suffixes. The spreading of tone to the right onto toneless suffixes is attested throughout the Mawes Aas'e phonological system (see Ahland 2012:132-138).¹⁷

It may be that part of the motivation for the development of these new free pronouns was the collapse of the fused host + subject markers into verbal prefixes in Mawes Aas'e (as they are today). Cysouw notes that this is common cross-linguistically: "...free and bound forms can also arise because the original clitics became 'real' inflectional markers and, as a consequence, free pronouns had to be remade by reinforcing [augmenting] the clitics" (Cysouw 2004:10).¹⁸

Finally, it should be noted many have assumed unidirectionality in the development of subject marking pronominals (where grammaticalization begins with free pronouns and then produces a reduced, grammatical/inflectional form). Certainly, the free pronoun > reduced subject marker direction is very well-established in the literature (see Hopper and Traugott 2003:7). As argued in Ahland 2025, however, the internal evidence surrounding the historical development of dual in the Mawes Aas'e pronominal paradigm necessarily requires the other direction: reduced subject-marking forms sparking the development of new free pronouns via morphological augmentation. This is the only way that the /ha/ affirmative form could have entered into the pronominal paradigm (and only in the realis and not irrealis paradigms), and this scenario also explains the presence of clear plural and terminal vowel morphology inside the free pronouns (as the result of augmentation). Some relatively recent work on pronominal development has strongly supported the notion of bidirectionality in free and reduced pronoun development (see Mushin and Simpson 2008).

3.2.5 The Spread of Dual vs. Plural to 3rd Person Pronominals and Beyond

As Cysouw notes, once the dual vs. plural opposition develops, it tends to spread throughout the pronominal paradigm (Cysouw 2003:210). And in the case of Mawes Aas'e, the dual vs. plural opposition spread not only to 3rd person pronominals but also to the full nominal system. The structural markers for dual and plural, however were different from those found on the 1st and 2nd person pronouns. This is not a surprise, as Corbett notes, pronouns "may behave differently from nouns in respect of number; it is also fairly clear that first and second pronouns on the one hand can differ from the third person on the other" (Corbett 2000:62). Since dual was marked primarily with tone (and with the absence of the plural /-el/) on 1st and 2nd pronouns, a new morphological marker for dual would have been needed to allow speakers to keep noun tone classes intact and to preserve noun roots.

The dual number marker found on 3rd person pronouns and other nominals is /-kuw/. I do not know the source of this form. In looking across the Mao languages, I have not been able to find any likely cognate form in the nouns or the numerals. By the tonal pattern alone, a nominal source for the dual marker would be likely (rather than a numeral) and such a noun would have carried a HH melody (that's the only tonal melody that would give the MM form we see today after a H tone base). As noted in section 2.4.1, the Seezo language does exhibit a paucal form /tú:jì/ which comes from the noun 'head' (Girma Mengistu 2015:118-119). However, the corresponding cognate form in Mawes Aas'e is /to:k-è/ 'head' and is unrelated to the /-kuw/ DU suffix. If there were an older paucal vs. plural opposition in Proto-Mao, it could be that the presence of such an opposition provided additional motivation for the spread of the dual vs. plural opposition from the pronouns to the nouns.

¹⁷ The only other change in these pronouns involves the excrescence where [m] is fortified into [mb] intervocally. See the discussion and areal evidence for this phenomenon provided in footnote 11, above; see also Ahland 2025 for more details.

¹⁸ As Cysouw goes on to point out, the Latin forms *nos* and *vos* (both pronouns) were augmented in Spanish: *nosotros* and *vosotros*, respectively (2004:10).

Table 13, below, shows the 3rd person pronouns across the SG, DU, and PL categories.¹⁹ Kinship and noun examples are provided only for comparison, showing the system is very nearly identical across these domains. The only difference is that the plural /-kol/ is maintained on 3rd person pronouns and kinship terms while other nominals use the lenited plural marker /-(w)ol/. It may be that the /-kol/ plural is cognate with the /-el/ found on the 1st and 2nd person plural pronouns but no substantiating evidence has been found.

Table 13. Number on 3rd Person Pronouns, Kinship Terms, and Common Nouns

	SG	DU	PL
3rd Person Pronouns	íʃ-è 3-TV íʃè	íʃ-kuw-e 3-DU-TV íʃkuwe	íʃ-kol-è 3-PL-TV íʃkolè
Kinship Terms	bà:b-é father-TV bà:b-é	bà:b-kuw-e father-DU-TV bà:b-kuw-e	bà:b-kol-è father-PL-TV bà:b-kol-è
Common Nouns	ì:b-é visitor-TV ì:bé	ì:b-kuw-e visitor-DU-TV ì:bkuwe	ì:b-(w)ol-è visitor-PL-TV ì:bwolè

In short, the internal and comparative evidence suggests that the dual vs. plural opposition in Mawes Aas'e developed first in the bound subject markers, deriving from an inherited 1PL inclusive form that was reanalyzed as a dual and that then spread to 2nd person through a split of the existing 2PL form into a H tone dual and a L tone plural (by analogy with the pattern in 1PL). The dual vs. plural opposition then spread to the free pronoun paradigm through the construction of new pronouns, sparked by the subject marking bases which were then augmented by other morphology (the terminal vowel in all cases and the /-el/ plural for the plural forms. Finally, the dual vs. plural opposition spread to the 3rd person pronouns (formed by demonstratives), kinship terms, and common nouns. This latter development shows consistent number marking forms.

4. Conclusions

Mawes Aas'e is unusual among Omotic languages for its use of the dual vs. plural opposition. While dual appears to have entered the language through reanalysis of the 1PL inclusive category in subject markers, it has today spread throughout the language. In fact, the only place where dual vs. plural is conflated is on verbs that are zero-marked for 3rd person subjects. In these cases, the verbs either carry a zero singular or a morphological /-and/ non-singular form that can agree with either a DU or PL subject.

The Mawes Aas'e data provide a unique window on how a new number distinction can develop and spread (see Corbett 2000:266) from subject marking in speech act

¹⁹ As seen in Table 6, above, and discussed briefly in section 3.2.2, the 3rd person pronouns across the Mao languages are divergent, and the forms in each language correspond to synchronically functional demonstratives. No single demonstrative source can be reconstructed for the Mao group. Rather, it appears that a variety of demonstratives have served as the base for the 3rd person pronouns. The base for the 3rd person pronouns in Mawes Aas'e is distal demonstrative 'that' (/íʃ-é/ DIST-TV). The only difference between the demonstrative and the 3SG pronoun is the tone of the terminal vowel: L on the 3rd person pronoun and H on the demonstrative. Both the demonstrative and pronouns are in common use still today.

participants to across the nominal and participant reference systems. While the source of the dual in the 1DU and 2DU pronominal forms (including subject markers) is reconstructable, the number suffixes found on 3rd person pronouns and other nominals is not clear. No clear cognate forms are found in the other Mao languages and it remains unclear whether Proto-Mao may have exhibited a paucal vs. plural opposition as is observed in Seezo today. To date, no potential source nouns (or numerals) for the Mawes Aas'e dual and plural nominal suffixes have been identified in Mawes Aas'e or in any of the Mao languages.

Abbreviations and symbols

1	First person	INCL	Inclusive
2	Second person	INF	Infinitive
3	Third person	L	Low tone
ACC	Accusative	LOC	Locative
AFF	Affirmative	M	Masculine
AUX	Auxiliary verb	NEG	Negative
COP	Copula	NOM	Nominative
DECL	Declarative	NPST	Non-past
DEF	Definite article	NSG	Non-singular (dual and plural)
DIST	Distal	PF	Perfect
DU	Dual	PL	Plural
EXCL	Exclusive	PRO	Free Pronoun
EXIST	Existential verb	SBJ	Subject marker
F	Feminine	SG	Singular
FUT	Future tense	TOWARD	Cislocative directional
GEN	Genitive	TV	Terminal vowel
H	High tone		

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