

3. Numeral System in Dawuro

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Abstract

This study investigates the numeral system of one of the complex and least studied languages of Omotic, Dawuro. For the study, the basic objective shaped is providing brief description of Dawuro numeral system. The data for the study principally based on the first-hand that the researcher collected from the area of the native speaker of the language. Data collection methods employed were elicitation, group discussion and text collection. Various word paradigms, phrasal and clausal structures related to numerals were collected by elicitation and more complex word paradigms were collected by group discussion. Traditional stories (such as fables) and texts from other genres (dialogues and descriptions of processes) were collected by text collection. Of the different approaches to the study of languages, this study is analyzed based on Dixon's (2010), Blake (2004), König (2008) and Comrie (1976). In the analysis, various forms and functions of numerical expressions of Dawuro are dealt with. As the result indicates, in their citation form, Dawuro numerals have the terminal vowel -a. They show some similar characteristics with nouns since they inflect like nouns and adjectives. It is discussed that at one time in the past Dawuro used a quintesimal 5-base system. However, currently, Dawuro is analyzed as a decimal numeral system. Dawuro numerals are classified as cardinals and ordinals. The cardinals are described in terms of their form and function. Basically, in Dawuro cardinals function as the basic counting units and modifiers. When cardinals function as modifiers, usually their terminal vowel is dropped or altered to another vowel. Different systems are employed to form various types of cardinals. The ordinals on the other hand, are differentiated by morphological features. As a result, ordinals are formed by attaching the morpheme, -ntsuwa on the cardinals.

Abbreviations and Symbols

ADJ	adjective
ADD	additive
ABL	ablative case
AFF	affirmative
ACC	accusative
ADV	adverb
AN	adjectivization morpheme
C	consonant
CAUS	causative
CNV	Converb
COM	comitative case
COMP	Complementizer
CON	conjunction
COP	copular verb
CND	conditional marker
DM	demonstrative
DAT	dative case
DCL	declarative
DIST	distal demonstrative
DIR	directive
EPN	epenthetic vowel/glide
F	feminine

INTRODUCTION

The Dawuro people and the language

Until 1984, ‘Kullo’(now derogatory), which is believed to have originated from the name of a certain place called ‘kuili’, was the name of the Dawuro and their language (Hirut 2007:72). However, later by their own preference, ‘Dawuro’ became the name of the language and the people. The name Dawuro indicates impregnable, powerful and heroic people(Data 1997:12).

“The name Dawuro is employed for the people and their land (zone) that is found in the Southern Nations, Nationalities and People’s region” (Admasu2014:20).According to the current Ethiopian political administrative structure, Dawuro is one of the Zones which is found in the Southern Nations, Nationalities, and Peoples Regional State where the Dawuro people live.

Bender (2000) classified Omotic languages based on morphological analysis. According to Bender (2000), the Omotic branch contains the languages that have pronouns of **ta** (for first person),and **ne**(for second person). In Fleming’s (1975:47) classification, Dawurois considered as one of the four languages of North Omoto cluster. In Bender’s (2000) classification, on the other hand, Dawuro is classified as one of ‘WELAITTA CLUSTER’of North West Omoto. This supports the idea of Fleming (1976:48) which emphasizes that since they are mutually intelligible, North Omoto languages shall be considered as ‘Wolaytta’ type.However, scholars such as Hirut (2007:74) andAzeb (1994:1121) arguethat the languages Dawuro, Wolaytta, Gamo and Gofa are not the dialects of Wolaytta but distinct languages.

The sociolinguisticsituation

Dawuro is said to have three dialects: Gene, Waka and Jimma (Allan 1976:324). Hirut (2007:72) on the other hand, suggests tworegional dialects of Dawuro: Mes’a and Gok’a. Thiscalls for further sociolinguisticinvestigation on the dialects.In this article, very few lexical differences are recorded and the researcher expects that the difference existed in the language is due to influences from neighbouring languages such as wolaytta andGofa.

The language hadno written script until 1991. But after 1991, Dawuro has developed into written form inconnection with the country’s major political and language development change (Hirut2007:72). Nowadays, Dawuro is used as a medium of instruction in primaryschools usingLatin orthography.

Previous works on the language

A few studies with different degree of emphasis have been found onDawuro, which include books, articles, MA theses and senior essays.

Allan (1976) sketches the phonology, morphology and syntax of Dawuro. To the best of my knowledge, Allan's work is the first descriptive work on the language. In the phonology part, he identifies five vowel and twenty six consonant phonemes. In addition, Allan roughly assesses vowel length, diphthong, gemination, and syllable structure. In the morphology part, Allan gives a very general overview on noun modifiers, possessives, numerals, plurals, noun derivation, verb inflection and pronouns mentioning some basic properties. In the syntax part, Allan describes phrase and clause structures.

Alemayehu (1981) in his unpublished MA thesis entitled 'Omotic and Cushitic Verb Markers: A Possible Isogloss' and Zaborski (1984) in his article entitled 'Remarks on the Verb in Omoto' include some linguistic data on morphology of the language. Hiwot (1988) in her senior essay entitled 'Kullo Verb Morphology' writes on the verb morphology of the language. She gives an overview of verb inflection for person, tense, mood and derivation. On the other hand, Siseraw (1989) in his senior essay entitled "The Noun Morphology of Kullo" gives an overview on noun inflection and derivation in the language.

Azeb (1994:1121-1129) in her article entitled 'Omoto Verb Derivation: the Case of Basketo, Maale, K:orete and Kullo' shows the similarities and differences of the languages based on the derivations and inflections. She investigates the internal relationship of these languages to point out their genetic correlation by means of their bound morphemes. Another study on the language is Bender's (2000) work. In his book entitled "Comparative Morphology of the Omotic Languages", he deals with some aspects of the North West Omotic languages. Bender collects some verbal system of Wolaytta, Dawuro and Gamo and analyzes verbal system of these related languages.

Hirut (2007) has an article on the language entitled "Some Aspects of the Phonology and Morphology of Dawuro". Hirut describes the phonology and morphology of the language in detail. Alebachew (2010) in his MA thesis entitled "Verb Complements in Dawuro" also assesses the verb complements of the language. In this study, He classifies Dawuro verbs according to the complement they take. Tariku (2010) in his MA thesis entitled "Aspects of Dauro Phonology" discusses the sound system of the language and common morphophonemic processes. Even if Hirut (2007) gives very narrow overview, an in depth analysis of numeral is not undertaken for Dawuro.

Statement of the problem

Dawuro is one of the lesser studied languages in the Omotic family. There are only a few linguistic works done on the language. The available materials on the morphology and syntax of the language are scanty. There is no work done hitherto on the morphology of the language in greater width and depth. Particularly, the numeral system of the language has not been studied well even if Hirut (2007) gives only an overview. Only Hirut (2007) provides very short explanation about cardinal numerals. Hence, the researcher is initiated to undertake this study to fill the gap.

The following are the basic research questions of this study.

1. How the numeral system of the language would be expressed?
2. How the inflectional morphology of the numerals is stated?

Objective of the study

The general objective of this study is to provide an in-depth description of Dawuro morphology.

The study particularly focuses on the following points.

1. Describing the numeral system of the language
2. Explaining the inflectional morphology of the numerals

Scope of the study

This study focuses on the description of Dawuro numerals. Hence, it discusses the function and form of the numeral system of the language. The study does not include theoretical issues, as it is exclusively descriptive. The data is collected from Waka and the surrounding area to avoid dialectal confusion.

Significance of the study

The concern of this study, as has been mentioned, is providing a descriptive analysis of Dawuro numerals. The significance of the present study relies on the following aspects.

1. Dawuro is an under-studied language, which has not yet been documented well. This study will contribute to the preservation of the linguistic characters of Dawuro, characters which will provide a reference and a point of departure for the developments of the language. It is also hoped that the study will help to fill the gaps in our knowledge of Dawuro numeral.

2. Linguists who desire to deal with Omotic languages generally and Dawuro specifically have frequently claimed that they have encountered problems due to the lack of linguistic data. This study contributes, therefore, to our knowledge of a relatively unstudied member of the Omoto cluster, providing the latest facts on Dawuro numerals.
3. The findings of the morphological description can also be used as a springboard for further studies in the field of Dawuro linguistics.

Methodological and theoretical consideration

This study is primarily based on first-hand data. To avoid dialectal confusion the first-hand data was collected from Dawuro zone, Waka and the surrounding. Yosef abera, debebe adnew, Betelhome Bezabih, mengistuwole and selamawit mendisu are the informants and their age is 41, 21, 25, 24, and 28 respectively. Except Yosef abera all are university students and they are the native speaker of Dawuro. Elicitation, group discussion and text collection are the methods that have been applied to collect data. Various word paradigms, phrasal and clausal structures are collected by elicitation. Some word paradigms, phrasal and clausal structures are also collected by group discussion. Text collection is also applied for collecting some data. The collected data are carefully transcribed and translated before being used in the analysis presented. All the data procured is annotated and recorded. All the evidence proving my findings and analysis are based on the recorded data and rechecked with the native speakers.

In the discussion, the data are transcribed phonemically; in very few instances, to show a phonetic environment transcription is made phonetically. Transcriptions enclosed by slashes are intended as phonemic. When necessary to show the phonological processes, phonetic writing is used and enclosed with bracket. Words, phrases, sentences and texts which are not enclosed either by slash or brackets are considered as phonemic.

Of the various approaches to the study of languages, this article is analyzed based on different approaches to language descriptions. One of the approaches to language description used is Dixon's (2010) 'Basic Linguistic Theory'. According to Dixon (2010) basic linguistic theory has its origin in the work of Sanskrit and Greek grammarians and it is used for the description of languages. As a result, basic linguistic theory helps to describe inflectional and derivational morphemes of individual languages and how they interact and fit into the grammatical form of

the language. In case typology, concepts and descriptions of Blake (2004) and König (2008), Comrie (1976), Dahl (1985) and others have been used.

Numeral system of Dawuro

In this section, various forms and functions of numerical expressions of Dawuro are dealt with. In their citation form, numerals have the terminal vowel **-a**. Numerals have some similar characteristics with nouns of Dawuro since they inflect like nouns. Numerals can be classified as cardinals and ordinals. Let us discuss the cardinals of Dawuro first.

Cardinals

Hirut (2007) discussed the numeral system of Dawuro. Hirut only described the cardinals but not ordinals. She only described the basic numeral with scanty data. She did not discuss the inflection of numerals.

Currently, Dawuro can be analysed as a decimal numeral system. As explained in (1) below, the numerals eleven to nineteen (11-19) are derived by combining the numerals one to nine (1—9) and the word for ‘ten’, **támmá**. However, it is also possible to suggest that at one time in the past the language used a quintesimal 5-base system. As observed in (1) below there is an element, **-ppuna**, which can be a trace of a base 5 system. In the cardinal number from six to nine the element **-ppuna** is attached at their ending. The elements in which the **-ppuna** part is attached seem also similar to the numbers one to five in a certain extent. For instance, the beginning syllables of the numbers **láá-ppuna**, ‘seven’ and **hós-ppuna**, ‘eight’ seem similar with the beginning syllables of the numbers **laa-ʔá** ‘two’ and **héé-zzá** ‘three’. Similarly, the element **ʔúddúinʔúddú-ppuna**, ‘nine’ seem to have some similarity with the numeral **ʔojda** ‘four’. But the cardinal numeral six shows no relationship with other numbers.

When numerals modify other numerals, usually their terminal vowel is dropped or altered to another vowel. Accordingly, the terminal vowel of cardinal numeral one, **a** is altered to the vowel **i** and the terminal vowel of cardinal numerals two to five (including ten), **a** alters to the vowel **u**. The terminal vowel of cardinal numerals six to nine, however, is dropped. The basic counting units and modifier cardinals of the language are the following.

- 1) Counting cardinals Modifier cardinals

ʔíttá	ʔíttí	‘one’
laaʔá	laaʔú	‘two’
Héézzá	Heezzú	‘three’
ʔojda	ʔojdu	‘four’
ʔíceʃa	ʔíceʃu	‘five’
ʔúsúppuna	ʔúsúppun	‘six’
Lááppuna	Laáppun	‘seven’
Hósppuna	Hósppun	‘eight’
ʔúddúppuna	ʔúddúppun	‘nine’
Támmá	Támmú	‘ten’

Numerals between eleven and nineteen are formed from the combination of lower numerals (one to nine) and the word for ten, **támmá**. In these combinations no modifications of the base numerals occur. However, there is a conjunction which combines the base numerals and the word for ten. The coordinating conjunction is, **–nne** ‘and’ which is suffixed to **támmá**, ‘ten’.

2)	támmá-nneʔíttá	‘eleven’	=10+1	11
	támmá-nnelaaʔá	‘twelve’	=10+2	1
	támmá-nnehéézzá	‘thirteen’	=10+3	13
	támmá-nneʔojda	‘fourteen’	=10+4	14
	támmá-nneʔíceʃa	‘fifteen’	=10+5	15

támmá-nneʔúsúppuna	‘sixteen’	=10+6	16
támmá-nnelááppuna	‘seventeen’	=10+7	17
támmá-nnehósppuna	‘eighteen’	=10+8	18
támmá-nneʔúddúppuna	‘nineteen’	=10+9	19

Multiplets of ten are formed by modified form of the cardinals from two to nine followed by the word for ‘ten’, **támmá**. Accordingly, the numerals ‘20’, ‘30’, ‘40’, ‘50’, ‘60’, ‘70’, ‘80’, and ‘90’ can be expressed as **laaʔátámmá** ‘two ten(lit.)’, **‘héezzátámmá**, ‘three ten(lit.)’, **ʔojdatámmá** ‘four ten (lit.)’, **ʔícefatámmá** ‘five ten (lit.)’, **ʔúsúppunatámmá** ‘six ten (lit.)’, **lááppunatámmá** ‘seven ten(lit.)’, **hósppunatámmá**, ‘eight ten (lit.)’, and **ʔúddúppunatámmá** ‘nine ten’ (lit.) respectively. However, they are reduced to the following (3) below.

3)	laa-támá	Laatámá	‘twenty’	= 2*10	=20
	háá-támá	Háátámá	‘thirty’	=3*10	=30
	ʔoj-támá	ʔojtámá	‘fourty’	=4*10	=40
	ʔífa-támá	ʔífatámá	‘fifty’	=5*10	=50
	ʔúsúppu-támá	ʔusupputámá	‘sixty’	=6*10	=60
	lááppu-támá	láápputámá	‘seventy	=7*10	=70
	hósppu-támá	hóspputámá	‘eighty’	=8*10	=80
	ʔúddúppu-támá	ʔúddúpputámá	‘nineteen’	=9*10	=90
	s’eetá		‘hundred’	100	

In (3) above to form multiplets of ten, the numerals from two to nine drop their last syllable and combined with the word **támmá**, ‘ten’ except the numeral five which drop the middle syllable. In addition, in the word for ‘ten’, **támmá**, **mm** is degeminated to **m** when combined with other

numerals. Tariku (2010: 22&40) uses the degeminated **m** in the cardinals **laatama**, ‘twenty’ ‘and **ʔoitama**, ‘fourty’. Besides, Hirut (2007: 120) uses the degeminated **m** for the cardinal twenty, thirty, fourty and fifty but she uses the geminated **mm** for the numerals sixty to ninety. As a result, as the data shows, I agree completely with Tariku (2010) but partially with Hirut (2007).

Multipler of hundreds are formed when the numeral hundred is modified by the numerals from one to nine. The examples are given in (4) below.

4)	(ʔittí)	s’eetá	‘one hundred’
	laaʔú	s’eetá	‘two hundred’
	Héézzú	s’eetá	‘three hundred’
	ʔojdu	s’eetá	‘four hundred’
	ʔicefu	s’eetá	‘five hundred’
	ʔúsúppun	s’eetá	‘six hundred’
	Lááppun	s’eetá	seven hundred’
	Hóspun	s’eetá	eight hundred’
	ʔúddúppun	s’eetá	‘nine hundred’
	ǰáʔá		‘thousand’

In the above example, when one to ten numerals modify hundred, one to five (1—5) numerals change their terminal vowel (the vowel **a** alters to **u**) while the numbers from six to nine (6—9) drop their terminal vowel.

The following examples show the formation of cardinal numerals from one hundred one to one hundred nine.

5)	s’eetá-nne	ʔittá	‘one hundred one’	101
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s'eetá-nne	laaʔá	‘one hundred two’	102
s'eetá-nne	Héézzá	‘one hundred three’	103
s'eetá-nne	ʔojda	‘one hundred four’	104
s'eetá-nne	ʔíceʃa	‘one hundred five’	105
s'eetá-nne	ʔúsúppuna	‘one hundred six’	106
s'eetá-nne	Lááppuna	‘one hundred seven’	107
s'eetá-nne	Hósppuna	‘one hundred eight’	108
s'eetá-nne	ʔúddúppuna	‘one hundred nine’	109

Multiplets of thousand are formed in the same way as multiplets of hundreds. **ʃáʔá** ‘thousand’ is modified by the numerals from one to nine as illustrated in (6) below.

6)

(ʔíttí)	ʃáʔá	‘one thousand’
laaʔú	ʃáʔá	‘two thousand’
Héézzú	ʃáʔá	‘three thousand’
ʔojdu	ʃáʔá	‘four thousand’
ʔíceʃu	ʃáʔá	‘five thousand’
ʔúsúppun	ʃáʔá	‘six thousand’
Lááppun	ʃáʔá	‘seven thousand’
Hósppun	ʃáʔá	‘eight thousand’
ʔúddúppun	ʃáʔá	‘nine thousand’
Támmú	ʃáʔá	‘ten thousand’

The conjunctive morpheme, **-nne** ‘and’ plays an important role in the cardinal number system of Dawuro. The cardinal numbers above ten always use this conjunctive word to express the numbers. Cardinal numerals above hundred use this conjunctive morpheme even twice or three times as considered in the illustrations given in (7) below.

- 7) a) s'eetá-nnetámmá-nne?ícefa
 hundred-CON ten-CON five
 ‘One hundred fifteen’
- b) ?ícef-ú fájá-nne?ícefus'eetá-nnetámmá-nne?úsúppuna
 five-NOM thousand-CON five thousand-CON ten-CON six
 ‘Five thousand five hundred sixteen’

In the sentences (8) below the cardinals occur before nouns.

- 8) a) ?ícefu def-a-tú tá-w de?-e
 Five goat-TV-PL:NOM I-DAT exist-1SG:PRS:DCL:AFF
 ‘I have five goats.’
- b) ?ícefu támmá-nne ?ícefu dorsá-tú zál?-étt-eddino
 Five ten-CON Five sheep-TV-PL:NOM sell-PASS-3PL:PAST:DCL:AFF
 ‘Fifty five sheep were sold.’

Cardinal numerals are also used as expressions of frequency. The forms of expressions of frequency are derived by combining the cardinal numerals with the word **tará** ‘time’. The detail is given in (9) below.

- 9) ?ittí Tárá ‘one time’
 laa?ú Tárá ‘two times’

Heezzú	Tárá	‘three times’
ʔojdu	Tárá	‘four times’
ʔíceʃu	Tárá	‘five times’
ʔúsúppun	Tárá	‘six times’
Lááppun	Tárá	‘seven times’
ʔúddúppun	Tárá	‘nine times’
Támmú	Tárá	‘ten times’

The following sentences contain the frequentive cardinal numerals.

- 10) a) ta ʔáb-ú héezzú Tárá máj-u-a ʃámm-anawunu
my father-TV:NOM Three Time cloth-TV-ACC buy-3MSG:FUT:DCL:AFF
‘My father will buy me cloth thrice.’
- b) ʔíttí tárá-ka wák-á-ko b-abeeeki
One time-ADD waka-TV-DIR go-1SG: PAST: DCL:NEG
‘I did not go to Waka even once.’
- c) Lááppun Tárá ʃál-u-a talʔ-eddo
Seven Time money-TV-ACC borrow-1PL:PAST:DCL:AFF
‘We borrowed money seven times.’

Like nouns and adjectives, cardinal numerals inflect for case. The illustration in (11) below shows cardinal numeral in their masculinenominative, accusative and dative case.² Numerals

² Cardinal numerals do not mark gender.

behave differently from those of nouns. The nominative is formed by dropping the terminal vowel **a** and attaching another vowel, **u**, on the numerals. Unlike nouns, the accusative is realized by attaching the morpheme **-a** (the morpheme is similar to the accusative marker morpheme of nouns and the glide **w** is inserted to break vowel sequence). The dative marker **-ó** and genitive marker morpheme **-we** are special for numerals (examine that for nouns, the dative marker is **-w** or **-ssi** and that of genitive is **-wa**). The rest of the peripheral cases are built on the accusative form with the usual case suffixes of nouns: **-ppe** for ablative, **-na** for comitative, **-n(i)** for instrument and **-ko** for directive.

11)	Citation form		NOM	ACC	DAT
	ʔíttá	‘one’	ʔíttú	ʔíttuwa	ʔíttó
	laaʔá	‘two’	laaʔú	laaʔuwa	laaʔó
	Héézzá	‘three’	Héézzú	Héézzuwa	Héézzó
	ʔojda	‘four’	ʔojdú	ʔojduwa	ʔojdó
	ʔíceʔa	‘five’	ʔíceʔú	ʔíceʔuwa	ʔíceʔó
	ʔúsúppuna	‘six’	ʔúsúppunú	ʔúsúppunuwa	ʔúsúppunó
	Lááappuna	‘seven’	lááappunú	Lááappunuwa	lááappunó
	Hóspuna	‘eight’	hóspunú	Hóspunuwa	hóspunó
	ʔúddúppuna	‘nine’	ʔúddúppunú	ʔúddúppunuwa	ʔúddúppunó
	Támmá	‘ten’	Támmú	Támmuwa	Támmó

In (12) cardinal numerals are in their masculine genitive and ablative cases.

12)	Citation form		GEN	ABL
	ʔíttá	‘one’	ʔíttuwa-we	ʔíttuwa-ppe

laaʔá	‘two’	laaʔuwa-we	laaʔuwa-ppe
Héézzá	‘three’	héézzuwa-we	héézzuwa-ppe
ʔojda	‘four’	ʔojduwa-we	ʔojduwa-ppe
ʔíceʃa	‘five’	ʔíceʃuwa-we	ʔíceʃuwa-ppe
ʔúsúppuna	‘six’	ʔúsúppunuwa-we	ʔúsúppunuwa-ppe
Lááppuna	‘seven’	lááppunuwa-we	lááppunuwa-ppe
Hósppuna	‘eight’	hósppunuwa-we	hósppunuwa-ppe
ʔúddúppuna	‘nine’	ʔúddúppunuwa-we	ʔúddúppunuwa-ppe
Támmá	‘ten’	támmuwa-we	támmuwa-ppe

In Example (13) below cardinals are in their comitative, instrumental and directive cases.

13)	Citation form		COM	INS	DIR
	ʔittá	‘one’	ʔittuwa-na	ʔittuwa-ni	ʔittuwa-ko
	laaʔá	‘two’	laaʔuwa-na	laaʔuwa-ni	laaʔuwa-ko
	Héézzá	‘three’	héézzuwa-na	héézzuwa-ni	héézzuwa-ko
	ʔojda	‘four’	ʔojduwa-na	ʔojduwa-ni	ʔojduwa-ko
	ʔíceʃa	‘five’	ʔíceʃuwa-na	ʔíceʃuwa-ni	ʔíceʃuwa-ko
	ʔúsúppuna	‘six’	ʔúsúppunuwa-na	ʔúsúppunuwa-ni	ʔúsúppunuwa-ko
	Lááppuna	‘seven’	lááppunuwa-na	lááppunuwa-ni	lááppunuwa-ko
	Hósppuna	‘eight’	hósppunuwa-na	hósppunuwa-ni	hósppunuwa-ko

ʔúddúppuna	‘nine’	ʔúddúppunuwa-na	ʔúddúppunuwa-ni	ʔúddúppunuwa-ko
Támmá	‘ten’	támmuwana	támmuwa-ni	támmuwa-ko

Ordinals

In Dawuro cardinals and ordinals are differentiated by morphological features. As a result, ordinals are derived by attaching the suffix morpheme, **-ntsuwa** on the cardinals. When this morpheme is attached, the base of the cardinals modify their phonological shape. Illustrations are provided in (14) below.

14)	Cardinal numerals		Ordinal numerals	
	ʔíttá	‘one’	ʔítté-ntsuwa	‘first’
	laaʔá	‘two’	laaʔé-ntsuwa	‘second’
	Héézzá	‘three’	héézzé-ntsuwa	‘third’
	ʔojda	‘four’	ʔojde-ntsuwa	‘fourth’
	ʔíceʃa	‘five’	ʔíceʃe-ntsuwa	‘fifth’
	ʔúsúppuna	‘six’	ʔúsúppu-ntsuwa	‘sixth’
	Lááppuna	‘seven’	lááppu-ntsuwa	‘seventh’
	Hósppuna	‘eight’	hósppu-ntsuwa	‘eighth’
	ʔúddúppuna	‘nine’	ʔúddúppu-ntsuwa	‘ninth’
	Támmá	‘ten’	támmú-ntsuwa	‘tenth’

As illustrated in (14) above, when the morpheme **-ntsuwa** is attached to the cardinals most of them modify their base. For instance, the cardinals one to four (1—4) drop their terminal vowel **a** and the vowel **e** is introduced instead. Similarly the cardinal ten drops its terminal vowel **a** and the vowel **u** attaches to it instead. When the terminal vowels are deleted they leave their tone

trace. The cardinals six to nine (6—9) drop their terminal vowel without replacing another vowel to be attached on it.

In large ordinal numbers, the morpheme **-ntsuwa** is attached on the last number as illustrated in (15) below.

- 15) a) laaʔú s'eetá-nne hósppu-támá-nne hósppun-ntsuwa
 Two hundred-CON eight-ten-CON eight-ORD
 'two hundred eighty eighth.'
- b) ʔíttí ǰáʔá-nne Hósppun s'eetá-nne
 One thousand-CON Eight hundred-CON
 Hósppun támmá-nne hósppun-ntsuwa
 Eight ten-CON eight-ORD
 'one thousand eight hundred eighty eighth.'

Ordinals are inflected for case and gender. The illustration in (16) below shows ordinals in their masculine nominative, absolute and dative case.

16)	Ordinal		NOM	ABS	DAT
	ʔítté-ntsuwa	'first'	ʔítté-ntsú	ʔítté-ntsuwa	ʔítté-ntsuwa-w
	laaʔé-ntsuwa	'second'	laaʔé-ntsú	laaʔé-ntsuwa	laaʔé-ntsuwa-w
	héézzé-ntsuwa	'third'	héézzé-ntsú	héézzé-ntsuwa	héézzé-ntsuwa-w
	ʔojde-ntsuwa	'fourth'	ʔojde-ntsú	ʔojde-ntstuwa	ʔojde-ntstuwa-w
	ʔíceʃe-ntsuwa	'fifth'	ʔíceʃe-ntsú	ʔíceʃe-ntsuwa	ʔíceʃe-ntsuwa-w

As observed in examples (16) above, ordinals are inflected for case. When the ordinals are in the masculine nominative case, the element **-wa** is dropped. The vowel **u**, which bears low tone in the

citation form, gets high tone in the nominative form. Hence, high tone becomes the nominative marker morpheme for masculine. On the other hand, the masculine absolutive form of ordinals is the citation form. In addition, the dative form is marked by the dative marker morpheme of the language without modification of the base of ordinals. In (17) below, ordinals are in their genitive and ablative form.

17)	Ordinals		GEN	ABL
	ʔitté-ntsuwa	‘first’	ʔitté-ntsuwa-wa	ʔitté-ntsuwa-ppe
	laaʔé-ntsuwa	‘second’	laaʔé-ntsuwa-wa	laaʔé-ntsuwa-ppe
	héézzé-ntsuwa	‘third’	héézzé-ntsuwa-wa	héézzé-ntsuwa-ppe
	ʔojde-ntsuwa	‘fourth’	ʔojde-ntstuwa-wa	ʔojde-ntstuwa-ppe
	ʔícefe-ntsuwa	‘fifth’	ʔícefe-ntsuwa-wa	ʔícefe-ntsuwa-ppe

As clearly observed in (17) above, to mark genitive and ablative cases the morphemes are attached to the citation form of ordinals without modification of their base. Similar situation is observed in comitative, instrumental and directive forms in (18) below.

18)	Ordinals		COM	INS	DIR
	ʔitté-ntsuwa	‘first’	ʔitté-ntsuwa-na	ʔitté-ntsuwa-n	ʔitté-ntsuwa-ko
	laaʔé-ntsuwa	‘second’	laaʔé-ntsuwa-na	laaʔé-ntsuwa-n	laaʔé-ntsuwa-ko
	héézzé-ntsuwa	‘third’	héézzé-ntsuwa-na	héézzé-ntsuwa-n	héézzé-ntsuwa-ko
	ʔojde-ntsuwa	‘fourth’	ʔojde-ntstuwa-na	ʔojde-ntstuwa-n	ʔojde-ntstuwa-ko
	ʔícefe-ntsuwa	‘fifth’	ʔícefe-ntsuwa-na	ʔícefe-ntsuwa-n	ʔícefe-ntsuwa-ko

In (19)---(20) below, ordinals are in their feminine nominative, accusative, dative and genitive ablative, instrument and directive cases.

19)	Ordinals		NOM	ACC	DAT
	ʔítté-ntsuwa	‘first’	ʔítté-nts-átt-á	ʔítté-nts-átt-ó	ʔítté-nts-átt-i-w
	laaʔé-ntsuwa	‘second’	laaʔé-nts-átt-á	laaʔé-nts-átt-ó	laaʔé-nts-átt-i-w
	héézzé-ntsuwa	‘third’	héézzé-nts-átt-á	héézzé-nts-átt-ó	héézzé-nts-átt-i-w
	ʔojde-ntsuwa	‘fourth’	ʔojde-nts-átt-á	ʔojde-nts-átt-ó	ʔojde-nts-átt-i-w
	ʔíceʃe-ntsuwa	‘fifth’	ʔíceʃe-nts-átt-á	ʔíceʃe-nts-átt-ó	ʔíceʃe-nts-átt-i-w ³

For feminine nouns, like other class nouns the nominative case marker is **-á**. The morpheme is attached in association with feminine marker morpheme **-átt /-tt**. When ordinals are in nominative form, the element **-uwa** is deleted from the citation form. Similarly, the accusative marker morpheme for feminine ordinals is **-ó**. It co-occurs with feminine marker, **-átt/-tt**. To mark feminine dative form, the dative marker is attached after the feminine marker. To break impermissible consonant cluster, epenthetic vowel **i** is inserted between the dative and the feminine marker. Similar situation is observed when the genitive, ablative, comitative, instrument and allative marker are attached to feminine ordinals.

20)	Ordinals		GEN	ABL
	ʔítté-ntsuwa	‘first’	ʔítté-nts-átt-i-wa	ʔítté-nts-átt-i-ppe
	laaʔé-ntsuwa	‘second’	laaʔé-nts-átt-i-wa	laaʔé-nts-átt-i-ppe
	héézzé-ntsuwa	‘third’	héézzé-nts-átt-i-wa	héézzé-nts-átt-i-ppe
	ʔojde-ntsuwa	‘fourth’	ʔojde-nts-átt-i-wa	ʔojde-nts-átt-i-ppe
	ʔíceʃe-ntsuwa	‘fifth’	ʔíceʃe-nts-átt-i-wa	ʔíceʃe-nts-átt-i-ppe

³-nts is nominalizer morpheme

-átt function as the feminine marker

-ó is absolutive/accusative marker

21)	Ordinals		COM	INS	DIR
	ʔítté-ntsuwa	‘first’	ʔítté-nts-átt-i-na	ʔítté-nts-átt-i-n	ʔítté-nts-átt-i-ko
	laaʔé-ntsuwa	‘second’	laaʔé-nts-átt-i-na	laaʔé-nts-átt-i-n	laaʔé-nts-átt-i-ko
	héézzé-ntsuwa	‘third’	héézzé-nts-átt-i-na	héézzé-nts-átt-i-n	héézzé-nts-átt-i-ko
	ʔojde-ntsuwa	‘fourth’	ʔojde-nts-átt-i-na	ʔojde-nts-átt-i-n	ʔojde-nts-átt-i-ko
	ʔíceʃe-ntsuwa	‘fifth’	ʔíceʃe-nts-átt-i-na	ʔíceʃe-nts-átt-i-n	ʔíceʃe-nts-átt-i-ko

The following text contains feminine ordinal inflectional form.

22) tá-ssíhéézzú^{mí}ʔítté-átt-tu-a deʔ-ajʔíttígáláss-aʔúntútu
I-DAT threesister-F-PL-ACCexist-1SG:PRS:DCL:AFFone day-TVthey:NOM
goll-i-a-ko b-aaddiʔítténts-átt-á tá-ssímaj-u-a
house-TV-ACC-DIRgo-1SG:PAST:DCL:AFF ORD-F-NOMI-DATcloth-TV-ACC
ʃámm-addulaʔénts-átt-óʃal-u-a ʔímm-á g-aaddi
buy-3FSG:PAST:DCL:AFF ORD-F-ACCmoney-TV-ACCgive-IMP:SGsay-
1SG:PAST:DCL:AFF
héézzénts-átt-i-ppeʔájnéʔócc-addi
ORD-F-EPN-ABL nothingask-1SG:PAST:DC:AFF
‘I have three sisters. One day, I went to their house. The first one bought me cloth. I asked the
second one to give me money. From the third, I did ask nothing.’

When the ordinals modify the noun, they do not carry case and gender markers rather ordinals modify their stem.

23)	Citation form	Modifier form	
	ʔítténtsúwa	ʔítténtsó	‘a first’
	laaʔéntsúwa	laaʔéntsó	‘a second’
	héézzéntsúwa	Héézzéntsó	‘a third’
	ʔojdentsúwa	ʔojdentsó	‘a fourth’
	ʔícejentsúwa	ʔícejentsó	‘a fifth’

As in (24) below since the citation form is the basic form, when the ordinals are in their modifier form the element **-wa** is deleted and the vowel **u** alters to vowel **o** as illustrated in.

24)	a)	ʔítténtsó	ʔas-a-i	gej-a-ppe	j-eedda
		ORD	man-TV-NOM	market-TV-ABL	come-3MSG:PAST:DCL:AFF
		‘A first man came from market.’			
	b)	ʔítténtsó	náʔ-á-i	k’ara	
		ORD	boy-TV-NOM	Intelligent	
		‘A first boy is intelligent.’			
	c)	laaʔéntsó	ná-átt-á	ʔádussa-tt-ó	
		ORD	child-F-NOM	long-F-ACC	
		‘A second girl is tall.’			

CONCLUSION

In Dawuro two types of numerals are identified: cardinals and ordinals. In their citation form, Dawuro cardinals and ordinals have the terminal vowel **-a**. They inflect like nouns even if their inflectional morphemes seem different in some ways. It is suggested that Dawuro cardinals be analysed as a decimal numeral system. However, it is possible to suggest that at one time in the past the language used a quinary 5-base system. When cardinals are used as modifiers, they usually drop or alter their terminal vowel. The basic counting units and modifier cardinals of the language are one to ten. Numerals between eleven and nineteen are derived from the combination of lower numerals (one to nine) and the word for ten, **támmá**. In the combinations, the coordinating conjunction, **-nne** ‘and’ is suffixed to **támmá**, ‘ten’ and combines the lower numerals and the word for ten.

Multipler of ten are derived by modified form of the cardinals from two to nine followed by the word for ‘ten’, **támmá**. Multipler of hundreds are formed when hundred is modified by the numerals from one to nine. Multipler of thousand are formed in the same way as multipler of hundreds.

Cardinal numerals are also used as expressions of frequency. The forms of expressions of frequency are derived by combining the cardinal numerals with the word **tára** ‘time’. Like nouns cardinal numerals are inflected for case. In Dawuro, ordinals are formed by attaching the morpheme, **-ntsuwa** on the cardinals followed by the change of phonological shape of the cardinals. The phonological process triggers the change of phonological shape. Except some phonological change of the cardinals, ordinals follow the same pattern as the cardinals. Ordinals are inflected for case and gender.

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