



Chapter 10 – The semantics of ut-Ma'in noun classes

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1 Introduction

This article¹ presents an overview of the noun class groupings in the Ror variety of ut-Ma'in² (a Benue-Congo language belonging to the Kainji subgroup). The ut-Ma'in language is spoken in northwestern Nigeria, with approximately 36,000 speakers in Kebbi State and Niger State (Regnier 1992: 7); the language's ISO 639-3 code is [gel] (Lewis 2009). ut-Ma'in is characterized by a complex noun classification system and a robust agreement system that permeates the language. Thirteen distinct noun classes are indicated by a prefix on the noun and agreement marking on target elements including quantifiers, demonstratives, the associative construction, adjectives, pronouns and interrogatives, among others.³ Semantic properties characterize the noun classes and the noun class pairings; these semantic elements appear to serve as the primary criteria for the assignment of a noun to a particular class or class pairing.

¹ This article grew out of a presentation made at the Jos Linguistics Circle in March 2007. Much of the article appeared in Smith (2007), my Masters thesis at the University of North Dakota. The word list collection that is the basis for the analysis was collected under IRB # IRB-200601-006 at the UMCA Bible School in Tungun Magajiya, Rijau LGA, Niger State, Nigeria. Data was collected between February 2006 and March 2007 from Ror speakers who work with the ut-Ma'in Language Development Project, based in Tungun Magajiya. I'd like to thank David Heath for first introducing me to the fascinating phenomenon of noun classes. My sincere thanks to Sunday John, Serah John, Ibrahim Tume, John Ibrahim and Philemon Steven, without whose involvement I would have learned very little about the ut-Ma'in language.

² The current ut-Ma'in orthography uses the underlined “u” to represent the near close-mid central vowel [ɘ]. The glottal stop [ʔ] is indicated by the apostrophe “'”. Therefore the language name is pronounced [ʔtmāʔɪn], and the language name is spelled “ut-Ma'in.”

³ See Smith (2007:67-93) for an account of ut-Ma'in agreement targets.

In §2 evidence for semantic cohesion and semantic assignment criteria is provided from the derivational relationships that exist between classes as well as from the distribution of loanwords throughout the classes. Section 3 presents semantic regularities found in *ut-Ma'in* noun class pairings with notable exceptions mentioned. Section 4 presents semantic regularities for unpaired classes and a note on the distribution of verbal nouns throughout the noun classes. And finally, §6 offers a conclusion.

All examples are given in IPA throughout. The term NOUN CLASS indicates the individual class in which a particular noun occurs and the particular set of noun class agreement markers that occur on other clause constituents. Noun class PAIRINGS refer to sets of two noun classes that occur with the same noun root, where one class prefix marks the singular and a second distinct class prefix marks the plural. UNPAIRED CLASSES refer to nouns that do not make a singular/plural distinction. The term 'single class gender' is avoided. Data discussed below was collected via wordlist elicitation using primarily the 1700 SIL Comparative African Wordlist (Snider and Roberts 2004). Most examples included here have been taken from a count of 604 nouns collected with that elicitation tool. The count of 604 nouns does not include any loanwords or compounds formed using the associative construction. Future text-based analysis will likely offer more insights into the semantic flexibility of the noun class system.

2 Evidence of semantic cohesion of noun classes

There are two extreme positions noted in the literature regarding semantic cohesion of a particular class or singular/plural class pairing. As Hoffman (1963: 169) distinguishes, noun classes may (i) simply be morphological categories void of any inherent meaning or (ii) have inherent meaning and assign nouns based on such meaning. Corbett (1991: 68) states that nouns may be assigned to a gender⁴ according to semantic criteria alone or based on morphological and/or phonological criteria in addition to semantic criteria. This combination of assignment criteria plays out for the Bantu language Sesotho as described by Demuth (2000: 13-16): semantic productivity is maintained for the acquisition of animate/human loanwords, whereas other loanwords are absorbed into the class system via morphophonological processes.

There are thirteen distinct noun classes in *ut-Ma'in*. Even though three classes share the same *ū-* prefix, each is distinguished by the unique combination of agreement elements required by the different classes. Similarly, four classes have a null \emptyset - prefix on the noun, but these four classes can be distinguished by the

⁴ Corbett (1991:44) uses 'gender' as a cover term for gender and noun class.

agreement elements.

Table 1 below shows the thirteen distinct noun classes. The first column gives a reference label that will be used to denote each class.⁵ The second column shows the prefix that occurs on the nouns of that class. The third column represents the agreement targets and is indicated by the object pronoun. The fourth column provides examples from each class.

Table 1: *ut-Ma'* in noun classes

Class	Noun prefix	Object pronoun	Examples	
1u	<i>ū-</i>	<i>ú/wá</i>	<i>ū-mákt</i> <i>ū-rāg</i>	'barren woman' 'stupid person'
1Ø	<i>Ø-</i>	<i>wá</i>	<i>Ø-hámòt</i> <i>Ø-z^wàr</i>	'visitor' 'young man'
2	<i>Ø-</i>	<i>é</i>	<i>Ø-ná</i> <i>Ø-híṣ</i> <i>Ø-règèr</i>	'oxen, bovines' 'guinea corn (pl)' 'stars'
3u	<i>ū-</i>	<i>ó</i>	<i>ū-bù</i> <i>ū-kóm</i> <i>ū-sēp</i>	'house' 'arm' 'song'
3Ø	<i>Ø-</i>	<i>ó</i>	<i>Ø-bò?</i> <i>Ø-ḍḍāb</i> <i>Ø-s^wás</i>	'dream' 'heart' 'fish trap' ⁶
4	<i>ṣs-</i>	<i>sé</i>	<i>ṣs-bò?</i> <i>ṣs-rā</i> <i>ṣs-bà:t</i>	'dreams' 'muscle' 'medicine'
5	<i>ṣr-</i>	<i>dé</i>	<i>ṣr-kók</i> <i>ṣr-ḍḍāb</i> <i>ṣr-hí</i>	'calabash' 'liver' 'head'
6	<i>ṣt-</i>	<i>tó</i>	<i>ṣt-kók</i> <i>ṣt-ís</i>	'calabashes' 'eyes'

⁵ Class labels are based on the Bantu noun class numbering system in that odd numbers indicate a singular class; even numbers indicate a plural class. For a discussion of the relationship of *ut-Ma'* in noun classes to Proto-Benue-Congo and Proto-Kainji see Smith (2007:30-34). No direct link between the diminutive and augmentative classes of *ut-Ma'* in and the proto forms was established; for this reason, the labels DIM and AUG are used as opposed to a number (Smith 2007:36).

⁶ This entry was incorrectly glossed in Smith (2007) as 'entrance hut'. See the Appendix to Smith (2007:122) for the correct meaning, 'fish trap'.

Table 1: *ut-Ma'in* noun classes

Class	Noun prefix	Object pronoun	Examples
6m	<i>̄m-</i>	<i>mó</i>	<i>̄t-rīn</i> 'charcoal'
			<i>̄m-nò:g</i> 'oil'
			<i>̄m-h'ó</i> 'blood'
			<i>̄m-h'òròg</i> 'sand'
7u	<i>ū-</i>	<i>já</i>	<i>ū-ná</i> 'ox, bovine'
			<i>ū-tfān</i> 'feather'
			<i>ū-nín</i> 'tooth'
7Ø	Ø-	<i>já</i>	<i>Ø-tfāmpá</i> 'man'
			<i>Ø-mārimárí</i> 'the dead'
			<i>Ø-rām</i> 'cripple (n)'
AUG	<i>ā-</i>	<i>á</i>	<i>ā-kók</i> 'huge calabashes'
DIM	<i>ī-</i>	<i>é</i>	<i>ā-bà</i> 'big lake'
			<i>ī-kók</i> 'tiny calabash'
			<i>ī-g^wá</i> 'tiny (piece of) grass'
			<i>ī-ràndí</i> 'thread'

For Classes 1u, 3u and 7u, words occur with the prefix *ū-*. Classes 1Ø, 3Ø and 7Ø occur with the null Ø- prefix. Both Class 1u and Class 1Ø take the same agreement pattern, demonstrated by the object pronoun *wá*, as shown above. Class 3u and 3Ø take *ɔ* agreement marking, and Classes 7u and 7Ø take *ja* agreement marking. It is in the combination of the prefix and the agreement pattern that the different classes become apparent. But the occurrence of similar agreement patterns also points to the close, and perhaps historical, relationship between the two classes. For this reason, classes with identical agreement patterns are labelled with the same number, and the character that follows distinguishes the phonological form of the prefix (i.e. the label Class 3u is used for nouns with the *ū-* prefix, while the label Class 3Ø is used for nouns with the null Ø- prefix).

2.1 Derivational evidence for semantic assignment

Eliciting the word for 'thing' proved troublesome. When asked, "What kind of thing?" I was then afforded a glimpse of the various semantic properties that can be indicated by using different class prefixes to indicate more precisely the 'thing' I have in mind. The root *nəm*, generally meaning 'thing', can occur in multiple classes with a distinct shift in the meaning of the word. Table 2 below shows five different class pairings for the root *nəm*. These class specifications can indicate that a 'thing' is round (5/6), long (7u/4), big (3u/AUG), small (DIM/6m) or unspecified

(3u/6). Bendor-Samuel et al. (1973: 121) and McGill (2007: 7) mention similar phenomena in the closely related Kainji languages of Duka and Cicipu respectively.

Table 2: Derivations of *nòm* ‘thing’

Class	Agreement	Word	Gloss
3u	<i>ɔ</i>	<i>ū-nòm</i>	‘thing’
6	<i>tɔ</i>	<i>ṣt-nòm</i>	‘things’
5	<i>de</i>	<i>ṣr-nòm</i>	‘round thing’
6	<i>tɔ</i>	<i>ṣt-nòm</i>	‘round things’
7u	<i>ja</i>	<i>ū-nòm</i>	‘long thing’
4	<i>sɛ</i>	<i>ṣs-nòm</i>	‘long things’
3u	<i>ɔ</i>	<i>ū-nòm</i>	‘big thing’
AUG	<i>a</i>	<i>ā-nòm</i>	‘big things’
DIM	<i>i/ɛ</i>	<i>ī-nòm</i>	‘tiny thing’
6m	<i>mɔ</i>	<i>ṣm-nòm</i>	‘tiny things’

All five of these pairings are inanimate, but the root *nòm* is also known to occur in the compound meaning ‘evil spirit/s’ (literally, ‘thing/s of the trees’). Though not overtly marked with a noun class prefix, the singular *nòm-jə̀s-té* ‘evil spirit’ takes the *ja* agreement marking of Class 7Ø. The plural *nòm-ə̀s-té* ‘evil spirits’ takes the *ɛ* agreement marking of Class 2, reserved for plural animates. Morpheme-by-morpheme glosses are provided below in (1).

- (1) *nòm-jə̀s-té* *nòm-ə̀s-té*
 thing-C7Ø.Assoc.C4- tree thing-C2.Assoc.C4-tree
 ‘evil spirit’ ‘evil spirit’
 (Lit. ‘thing of the trees’) (Lit. ‘things of the trees’)

The root *nòm* occurs in ten of the thirteen possible noun classes – a total of six different noun class pairings which provide a wide range of semantic possibilities.

Pairing 7u/4 includes ‘length’ as a semantic characteristic; for example, consider the pair *ū-nòm/ṣs-nòm*. It is the plural Class 4 prefix *ṣs-* that implies ‘length’, as the singular Class 7u prefix *ū-* can have a broader range of semantic

characteristics. The concept of relative length holds for the Unpaired Class 4 as well. For example, the root *k^wām* 'iron' usually occurs in the Pairing 7u/6, but can take the Class 4 prefix *ṡs-* instead to alter the meaning and imply a 'long piece of iron'. Similarly, the root *gó* 'seed', that usually occurs in Pairing 7u/2, can occur with the Class 4 prefix. The resulting form *ṡs-gó* implies 'the (long) seed used for planting sweet potatoes or cassava'. Both *ṡs-k^wām* and *ṡs-gó* were elicited without a singular form. My estimation is that a singular 'long piece of iron' and a singular 'sweet potato or cassava seed' would be indicated by the Class 7u prefix *u-* and the Class 7u agreement marking *ja*, though no evidence yet exists.

Additional evidence for the semantic cohesion of the classes includes the possible manipulation of other noun stems. Examples for *tāḡār* 'stone' and *ràndí* 'cotton' are given below.

Table 3: Derivations of *tāḡār* 'stone'

Class	Agreement	Word	Gloss
5	<i>dε</i>	<i>ṡr-tāḡār</i>	'stone'
6	<i>tɔ</i>	<i>ṡt-tāḡār</i>	'stones'
DIM	<i>i/ε</i>	<i>ī-tā:r</i>	'pebble'
6m	<i>mɔ</i>	<i>ṡm-tāḡār</i>	'gravel'
3u	<i>ɔ</i>	<i>ū-tā:r</i>	'boulder'
AUG	<i>a</i>	<i>ā-tā:r</i>	'boulders'
4	<i>sε</i>	<i>ṡs-tāḡār</i>	'long stones used as the base of a granary'

The stem *tāḡār* 'stone' occurs with its most common form, Pairing 5/6, presumably because stones are typically round. When specified as small stones, the noun stem occurs in the Pairing DIM/6m. When specified as rather large rocks, the noun stem *tāḡār* occurs in the Pairing 3u/AUG. One final occurrence of the noun stem *tāḡār* is with Unpaired Class 4. Here the word is specific to the long pointed stones used to form the base of a granary. The stones are placed as the foundation of the clay brick granaries constructed in traditional *ut-Ma'in* homes.

Derivational semantic change can also be seen in the example of the root *ràndí* below. Its most basic form is Pairing 5/6 meaning 'cotton (from the field)'. In Class 4 it has the meaning 'heap of cotton in a field'. In Pairing DIM/6m the meaning shifts to that of thread. The augmented version is an increase in the size of the thread yielding a meaning of 'strong thread' as opposed to a huge amount of

cotton from the field.

Table 4: Derivations of *ràndí* ‘cotton’

Class	Agreement	Word	Gloss
5	<i>dε</i>	<i>ṣ̄r-ràndí</i>	‘cotton (from field)’
6	<i>tɔ</i>	<i>ṣ̄t-ràndí</i>	‘cotton (from field)’ (pl)
4	<i>sε</i>	<i>ṣ̄s-ràndí</i>	‘heap of cotton in field’
DIM	<i>i/ε</i>	<i>ī-ràndí</i>	‘thread’
6m	<i>mɔ</i>	<i>ṣ̄m-ràndí</i>	‘threads’ or ‘spider web’
3u	<i>ɔ</i>	<i>ū-ràndí</i>	‘strong thread’
AUG	<i>a</i>	<i>ā-ràndí</i>	‘strong threads’

Abstract nouns may also occur in multiple classes. For example, the root *tṣ:g* occurs in Class 3Ø meaning ‘sacrifice’ taking *ɔ* agreement marking, but can occur as in the pairing 3u/4 meaning ‘prayer/s’ taking *ɔ/sε* agreement marking as in (2) below.

- (2) *ū-tṣ:g* *ṣ̄s-tṣ:g*
 ‘prayer’ ‘prayers’

The previous examples are of noun roots that occur in multiple classes with a distinct change in meaning. There are in fact certain nouns that move between classes with no apparent change of meaning. For example the noun roots *t/āmpá* ‘man’ and *nētá* ‘woman’ can occur in Pairing 1Ø/2 and trigger *wá/é* object pronouns, or in Pairing 7u/6 and trigger *já/tṣ* object pronouns. This may be a discourse level feature allowing for the reference of multiple participants within a text.

2.2 Loanwords as evidence for semantic assignment criteria

In *ut-Ma*’ in the semantic characteristics of a word are used as the primary basis for the assignment of loanwords to a particular unpaired class or class pairing. Loanwords⁸ are distributed throughout the pairings and unpaired classes, and

⁸ An (H) in the gloss of a loanword indicates its original language as Hausa. Though some words appear as if they have been borrowed directly from English, most of these

typically, they align with semantic regularities associated with each group.

Table 5: Loanword distribution

Class	Semantic tendencies	Example loanwords from wordlist	
5/6	mostly inanimate / round	<i>ṣr-àlédè</i>	'pig' (H)
7u/2	animates	<i>ū-rākūm</i>	'camel' (H)
3u/6	inanimate objects	<i>ū-àk"àtí</i>	'box' (H)
3u/4	inanimate objects / speech acts	<i>ṣs-lábári</i>	'news' (H)
7u/4	plants / long things	<i>ṣs-kòtòrkò</i>	'bridges' (H)
7u/6	change over time/'baby sling'	<i>ū-bísá?</i>	'animal' (H)

This is in stark contrast to the assignment processes that are apparently active in many other noun class languages. For example, Corbett (1991: 49), quoting Stroganova (1952: 206-207) regarding modern Swahili, states “the fact that genders are now largely formal is shown by the assignment of loanwords, which are allocated according to their form rather than their meaning.”

In recent research on Cicipu (from the Kambari branch of Kainji), McGill (2009: 274f.) indicates that though loanwords may be found “in most genders”, they are assigned to genders that on the whole allow for the Hausa loanwords to occur with a null prefix or a reduplicated consonant of the initial segment of the borrowed word. Other nouns may be assigned based on the phonological shape of the initial syllable. McGill (2009: 276) concludes:

It seems in Cicipu borrowed words are not assigned gender on the basis of their meaning. This contrasts with the situation found in ut-Ma'in from the Northwest branch of West Kainji ... One reason for this difference may be that the null prefix class in ut-Ma'in is restricted to humans, and is therefore unavailable as a general destination for formal assignment.

According to Wade (2010: 50), the Turege variety of Kamuku (also a Kainji language) assigns loanwords to a null prefix class and Turege functions more like Cicipu than ut-Ma'in.

All loanwords in ut-Ma'in seem distributed throughout the noun classes based solely on semantic characteristics. There is no evidence of a large number of words being assigned to a default class or assigned on the basis of phonological form. And there are no nouns in the corpus that have been borrowed into a null prefix class. As Corbett (1991: 71) indicates the borrowing of words is “a continuously

come by way of Hausa. These will be indicated as (H/E).

running experiment, allowing verification of assignment system in language.” As the experiment continues, these claims regarding assignment of loanwords must be reassessed.

3 Semantic content of noun class pairings

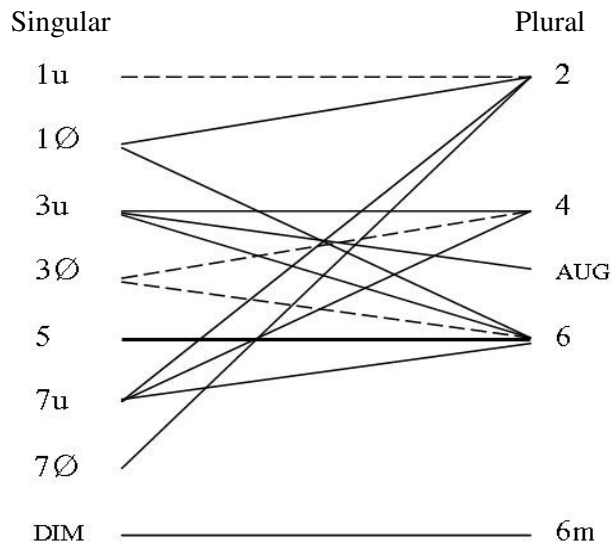
Numerical counts given in the discussion below are for single root pairings found among 604 nouns in the wordlist. Items with identifiable multiple roots (e.g. compound forms) are omitted from the counts. Loanwords are also not included in the counts, but available examples of loanwords are included as they give further insight to the semantic characteristics of each group.

Table 6: Frequency of noun class pairings in the wordlist corpus (N = 604)

Class Pairing	Frequency	%
5/6	139	23.1
7u/2	77	12.5
7u/4	71	11.8
3u/6	61	10.1
1Ø/2	27	4.5
3u/4	9	1.5
1Ø/6	6	<1.0
DIM/6m	6	<1.0
7u/6	4	<1.0
7Ø/2	4	<1.0
3u/AUG	4	<1.0
3Ø/6	2	<0.5
3Ø/4	2	<0.5
1u/2	2	<0.5
5/4	1	<0.5
3u/2	1	<0.5
5/2	1	<0.5
DIM/4	1	<0.5

The relationship of singular and plural noun class pairings are represented visually by the affix net in Figure 1.

Figure 2: Noun class pairings



The most common noun class Pairing 5/6 is represented in the diagram by a thick connecting line in Figure 1. Pairings 7u/2, 7∅/2, 7u/4, 7∅/4, 3u/6 and 3∅/6 occur frequently and are represented in the diagram by solid connecting lines. Pairings that occur fewer than five times are represented by dotted lines. Pairings that occur fewer than three times are not included unless it is the only pairing in which a class occurs; for example, Pairing 1u/2 occurs with only two nouns, but is included in the diagram to show how Class 1u fits into the system. Each set of noun class pairings delimits a set of nouns marked to at least some degree by certain identifiable semantic qualities. Discussion begins with the most common pairings and then moves on to the least common.

3.1 Round shape – Pairing 5/6 (̄r-/̄t-)

Pairing 5/6 is the largest pairing by far. Nouns occur with the noun class prefixes ̄r-/̄t- and object pronouns *dé/tó*. There were one hundred and thirty-nine nouns in the corpus within this pairing.

(3)	Class 5 sg.	Class 6 pl.	Gloss
	<i>ṣr-kɔ̃:r</i>	<i>ṣt-kɔ̃:r</i>	‘basket’
	<i>ṣr-nɔ̃m</i>	<i>ṣn:ɔ̃m (ṣt-nɔ̃m)</i>	‘round thing’
	<i>ṣr-dú</i>	<i>ṣt-dú</i>	‘well (n.)’
	<i>ṣr-dʒóʀ</i>	<i>ṣt-dʒóʀ</i>	‘club, cudgel’
	<i>ṣr-gē</i>	<i>ṣt-gē</i>	‘egg’
	<i>ṣr-hɔ̃</i>	<i>ṣt-hɔ̃</i>	‘sun/day’
	<i>ṣr-bàn</i>	<i>ṣt-bàn</i>	‘crowd/swarm’
	<i>ṣr-p'ákót</i>	<i>ṣt-p'ákót</i>	‘flower’

Many round or spherical objects are included in Pairing 5/6. Specific round or spherical body parts and plants/foods can be seen in (4).

(4)	Class 5 sg.	Class 6 pl.	Gloss
	<i>ṣr-hí</i>	<i>ṣt-hí</i>	‘head’
	<i>ṣr-ís</i>	<i>ṣt-ís</i>	‘eye’
	<i>ṣr-gēkòs</i>	<i>ṣt-gēkòs</i>	‘neck’
	<i>ṣr-gáʔ</i>	<i>ṣt-gáʔ</i>	‘ <i>tuwo</i> ’ ⁷
	<i>ṣr-n'ṣ:w</i>	<i>ṣt-n'ṣ:w</i>	‘mushroom’
	<i>ṣl:ʷāʔ (ṣr-rʷāʔ)</i>	<i>ṣt-rʷāʔ</i>	‘yam’

Most of these nouns are inanimate, though a number of animals do occur in Pairing 5/6. The majority of animals occur in Pairing 7u/2. Animals that occur in Pairing 5/6 are characterized by their round shape.

(5)	Class 5 sg.	Class 6 pl.	Gloss
	<i>ṣr-gòròp</i>	<i>ṣt-gòròp</i>	‘dove’
	<i>ṣl:i:s (ṣr-rì:s)</i>	<i>ṣt-rì:s</i>	‘porcupine’
	<i>ṣr-kā:r</i>	<i>ṣt-kā:r</i>	‘tortoise’
	<i>ṣr-fák</i>	<i>ṣt-fák</i>	‘turtle’
	<i>ṣr-zʷá</i>	<i>ṣt-zʷá</i>	‘maggot’ ⁸

Loanwords that occur in 5/6 include inanimate objects like ‘plate’, ‘bucket’ and ‘drum’. Animals include ‘pig’ and ‘leech’. Foods include ‘banana’, ‘pineapple’ and ‘tomato’.

⁷ The Hausa word *tuwo* is loosely translated into English as ‘mush food’. *Tuwo* in the *ut-Ma*’in area is often made from guinea corn. The *tuwo* is formed into a round lump before serving.

⁸ Roundness may perhaps be indicated by a cross-section of a ‘maggot’.

(6)	Class 5 sg.	Class 6 pl.	Gloss
	<i>ṣr-fēréntì</i>	<i>ṣt-fēréntì</i>	'plate' (H)
	<i>ṣr-bṣkítì</i>	<i>ṣt-bṣkítì</i>	'bucket' (H/E)
	<i>ṣr-gòṅgú</i>	<i>ṣt-gòṅgú</i>	'drum' (H)
	<i>ṣr-àlédè</i>	<i>ṣt-àlédè</i>	'pig' (H)
	<i>ṣr-mádàmbōrò</i>	<i>ṣt-mádàmbōrò</i>	'leech' (?)
	<i>ṣr-àjàbà</i>	<i>ṣt-àjàbà</i>	'banana' (H)
	<i>ṣr-abarba</i>	<i>ṣt-abarba</i>	'pineapple' (H)
	<i>ṣr-tùmátùr</i>	<i>ṣt-tùmátùr</i>	'tomato' (H/E)

The inclusion of nouns like *ṣr-àjàbà* 'banana' in this pairing gives interesting insight to the boundaries of the idea of roundness in ut-Ma'in. The conceptual category of round is reflected in the cross-section of a banana rather than an outsiders' perception of the shape of the individual fruit. I had every indication during data collection that the word applied to the individual fruit rather than the bunch of bananas prior to being separated, although the concept of 'round' would also seem to apply to the bunch of bananas as well. Bananas could be considered long in another taxonomy. The inclusion of *ṣr-àjàbà* 'banana' here in Pairing 5/6 instead of in the characteristically long Pairing 4/6 indicates the primary conceptual category of the Pairing 5/6 is indeed a round shape. It could also be included here by semantic analogy (Corbett 1991: 75) "according to which the loanword takes the gender of a noun of similar meaning already in the language". Here the case would be that other fruits are contained within Pairing 5/6.

Other nouns may be included in 5/6 by analogy to the concept of a traditional (and typically round) house as seen in (7).

(7)	Class 5 sg.	Class 6 pl.	Gloss
	<i>ṣr-sàr</i>	<i>ṣt-sàr</i>	'wall'
	<i>ṣr-tágà</i>	<i>ṣt-tágà</i>	'window' (H)
	<i>ṣr-búkà</i>	<i>ṣt-búkà</i>	'hut' (H)
	<i>ṣr-gó</i>	<i>ṣt-gó</i>	'beam'
	<i>ṣr-kúnkú</i>	<i>ṣt-kúnkú</i>	'mud block'
	<i>ṣr-bág</i>	<i>ṣt-bág</i>	'bed'

The above examples represent the concept round very neatly, but it is also important to note that many words occur in Pairing 5/6 that one may not readily characterize as round. Examples of nouns that are more difficult to assimilate to this concept of round include 'language', 'word' and 'name'. There are definite exceptions to the current understanding of this class pairing.

3.2 Life cycle – Pairings 7u/2 (\bar{u} -/Ø-) and 7Ø/2 (Ø-/Ø-)

Pairing 7u/2 is marked on the noun with the prefix set \bar{u} -/Ø-; the object pronouns are *já/é*. Seventy-seven nouns occur in Pairing 7u/2, including most animals – mammals of all sizes, birds and insects.

(8)	Class 7u sg.	Class 2 pl.	Gloss
	<i>ū-śr</i>	Ø- <i>śr</i>	‘hare’
	<i>ū-rʷág</i>	Ø- <i>rʷág</i>	‘elephant’
	<i>ū-nō</i>	Ø- <i>nō</i>	‘bird’
	<i>ū-jāg</i>	Ø- <i>jāg</i>	‘crow’
	<i>ū-wàp</i>	Ø- <i>wàp</i>	‘earthworm’
	<i>ū-r̀̀nt</i>	Ø- <i>r̀̀nt</i>	‘mosquito’
	<i>ū-ś?</i>	Ø- <i>ś?</i>	‘dog’
	<i>ū-mús</i>	Ø- <i>mús</i>	‘cat’
	<i>ū-t̀̀r̀̀m</i>	Ø- <i>t̀̀r̀̀m</i>	‘warthog’
	<i>ū-zūr</i>	Ø- <i>zūr</i>	‘lion’

When the names of animals are elicited, the plural, with a zero prefix, was often given first. The plural is thus the unmarked form and the singulative the marked form. The plural Class 2 has a Ø- prefix, the singular Class 7u a \bar{u} - prefix.

(9)	Class 7u sg.	Class 2 pl.	Gloss
	<i>ū-kā:r</i>	Ø- <i>kā:r-nè</i>	‘prostitute’
	<i>ū-b̄n</i>	Ø- <i>b̄n-nè</i>	‘witch’

This marked singularity is in contrast to the Pairing 7Ø/2 used for humans, shown in (10) below. The singular and plural forms both occur with the Ø- prefix, but the plural is marked by an additional suffix *-nè*. Two exceptions are *ū-b̄n* ‘witch’ and *ū-kā:r* ‘prostitute’, which both occur with the \bar{u} - prefix. In the singular they have an \bar{u} - prefix and in the plural they have the *-nè* suffix. Only four nouns occur in the corpus in Pairing 7Ø/2; all refer to humans, as shown in (10). This pairing triggers the same *já/sé* agreement as 7u/2.

(10)	Class 7Ø sg.	Class 2 pl.	Gloss
	Ø- <i>t̄āmpá</i>	Ø- <i>t̄āmpá-nè</i>	‘man’
	Ø- <i>nētá</i>	Ø- <i>nētá-nè</i>	‘woman’
	Ø- <i>r̄ām</i>	Ø- <i>r̄ām-nè</i>	‘cripple’
	Ø- <i>mārimári</i>	Ø- <i>mārimári-nè</i>	‘the dead’

There are also crops included in this pairing, as in example (11) below.

(11)	Class 7u sg.	Class 2 pl.	Gloss
	<i>ū-hīš</i>	<i>Ø-hīš</i>	'guinea corn'
	<i>ū-sàp</i>	<i>Ø-sàp</i>	'rice'
	<i>ū-g^wān</i>	<i>Ø-g^wān</i>	'groundnut'
	<i>ū-fák</i>	<i>Ø-fák</i>	'sesame seed'

A very limited sub-group of body parts occurs in 7u/2 that includes 'toe', 'shin', 'molar' and the examples shown in (12).

(12)	Class 7u sg.	Class 2 pl.	Gloss
	<i>ū-nín</i>	<i>Ø-nín</i>	'tooth'
	<i>ū-džó</i>	<i>Ø-džó</i>	'finger'
	<i>ū-kārāḡkù</i>	<i>Ø-kārāḡkù</i>	'fingernail'

From the variety of semantic content in this pairing, it seems that all are items that change (shape/length/height) over time and show signs of visible growth. Though arguably, I do not know what distinguishes the change in shape of a finger over a person's lifetime as opposed to, for example, the change in the shape of the whole hand.⁹ Exceptions to this may include *ū-k^hēmēfī* 'spark', *ū-règèr* 'star' and *ū-zér* 'sourness'. Loanwords that occur within the Pairing 7u/2 include only animals, like *ū-jímínà* 'ostrich'. Other examples are demonstrated in (13).

(13)	Class 7u sg.	Class 2 pl.	Gloss
	<i>ū-rākūm</i>	<i>Ø-rākūm</i>	'camel' (H)
	<i>ū-dzāḡkā</i>	<i>Ø-dzāḡkā</i>	'horse' (H)
	<i>ū-k^wānā</i>	<i>Ø-k^wānā</i>	'fruit bat' (H) ¹⁰
	<i>ū-pāḡgà</i>	<i>Ø-pāḡgà</i>	'hawk' (H) ¹¹
	<i>ū-kórktò</i>	<i>Ø-kórktò</i>	'louse' (H)

3.3 Length or Edge – Pairing 7u/4 (ū-/ās-)

Pairing 7u/4, marked by the prefixes *ū-/ās-* and the object pronouns *já/sé*, is characterized by items with relative length or time cycle, or things that have a ridge

⁹ The noun *ū-kòm* 'hand' occurs in pairing 3u/6.

¹⁰ The Hausa word is *kwana* 'to pass the night'.

¹¹ Bargery (1934) includes the Hausa entry "'*dan mangya* {n.m.}. (Kats. and D.) Hawk; falcon.'" This Hausa phrase may be the source of the *ut-Ma'in* word for 'hawk'.

or an edge. Seventy-two nouns occur in the Pairing 7u/4. Inanimate examples from the pairing are given in (14).

(14)	Class 7u sg.	Class 4 pl.	Gloss
	<i>ū-bór</i>	<i>ṣs-bór</i>	'boundary'
	<i>ū-fṣn</i>	<i>ṣs-fṣn</i>	'road'
	<i>ū-tór</i>	<i>ṣs-tór</i>	'tail'
	<i>ū-nòm</i>	<i>ṣs-nòm</i>	'long thing'
	<i>ū-r'áp</i>	<i>ṣs-r'áp</i>	'whip'
	<i>ū-hóm</i>	<i>ṣs-hóm</i>	'crevice'
	<i>ū-kò:r</i>	<i>ṣs-kò:r</i>	'valley'
	<i>ū-ròkóròm</i>	<i>ṣs-ròkóròm</i>	'rainbow'
	<i>ū-p'ā:t</i>	<i>ṣs-p'ā:t</i>	'moon/month'
	<i>ū-hāk</i>	<i>ṣs-hāk</i>	'year'

Some body parts also occur here, including *ū-f'âr* 'throat', *ū-hí* 'hair (of head)', *ū-fār* 'bone' and *ū-rā* 'muscle'. Others can be seen in (15).

(15)	Class 7u sg.	Class 4 pl.	Gloss
	<i>ū-dòr</i>	<i>ṣs-dòr</i>	'nape of neck'
	<i>ū-gòg</i>	<i>ṣs-gòg</i>	'voice box, larynx'
	<i>ū-f'ân</i>	<i>ṣs-f'ân</i>	'hair (of body)'
	<i>ū-gàs</i>	<i>ṣs-gàs</i>	'side (of body)'
	<i>ū-kòkôn</i>	<i>ṣs-kòkôn</i>	'elbow'
	<i>ū-mák</i>	<i>ṣs-mák</i>	'kidney'
	<i>ū-tên</i>	<i>ṣs-tên</i>	'gall bladder'

Only two animals occur in Pairing 7u/4. These are shown in (16); interestingly, they are both long.

(16)	Class 7u sg.	Class 4 pl.	Gloss
	<i>ū-tóṅgèn</i>	<i>ṣs-tóṅgèn</i>	'guinea worm, threadworm'
	<i>ū-ròmbìn</i>	<i>ṣs-ròmbìn</i>	'millipede'

Trees and grasses (non-food) as well as plant-related words are included in Pairing 7u/4. Examples can be seen in (17).

(17)	Class 7u sg.	Class 4 pl.	Gloss
	<i>ū-té</i>	<i>ḡs-té</i>	'tree'
	<i>ū-kót</i>	<i>ḡs-kót</i>	'thorn-tree'
	<i>ū-rókós</i>	<i>ḡs-rókós</i>	'tamarind tree'
	<i>ū-g^wá</i>	<i>ḡs-g^wá</i>	'(blade of) grass'
	<i>ū-g^wáb</i>	<i>ḡs-g^wáb</i>	'bamboo'
	<i>ū-fèʔ</i>	<i>ḡs-fèʔ</i>	'branch'
	<i>ū-fāb</i>	<i>ḡs-fāb</i>	'(piece of) bark'
	<i>ū-gḡr</i>	<i>ḡs-gḡr</i>	'root'
	<i>ū-kàmb</i>	<i>ḡs-kàmb</i>	'stem/stalk'

Loanwords in Pairing 7u/4 include clothing words like *ū-tóʔgò* 'shirt' and clothing-related words like *ū-ārdzīhū* 'pocket', as well as other domains as seen in (18). Clothing words are perhaps conceptually connected by semantic analogy to the Class 4 word *ḡs-ràndí* 'cotton'.

(18)	Class 7u sg.	Class 4 pl.	Gloss
	<i>ū-rézà</i>	<i>ḡs-rézà</i>	'razor' (H/E)
	<i>ū-máógí</i>	<i>ḡs-máógí</i>	'tooth stick/brush' (H)
	<i>ū-k^wálbá</i>	<i>ḡs-k^wálbá</i>	'bottle' (H)
	<i>ū-hítíl:ā</i>	<i>ḡs-hítíl:ā</i>	'lamp, torch' (H)
	<i>ū-lōdzì</i>	<i>ḡs-lōdzì</i>	'sickle' (H)
	<i>ū-k^wèmpí</i>	<i>ḡs-k^wèmpí</i>	'fishhook' (H)
	<i>ū-mōlō</i>	<i>ḡs-mōlō</i>	'harp' (H)
	<i>ū-tābà</i>	<i>ḡs-tābà</i>	'(leaf of) tobacco' (H/E)
	<i>ū-kòtòrkò</i>	<i>ḡs-kòtòrkò</i>	'bridge' (H)

3.4 Inanimate – Pairing 3u/6 (*ū-/ḡt-*) and 3Ø/6 (*Ø-/ḡt-*)

Sixty-one nouns occur in classes 3u/6, with the prefixes *ū-/ḡt-* and the object pronouns *ó/tó*. Pairing 3u/6 is characterized by mostly inanimate objects that are not otherwise characterized by roundness or length.

(19)	Class 3u sg.	Class 6 pl.	Gloss
	<i>ū-nòm</i>	<i>ṣn:òm (ṣt-nòm)</i>	‘thing’
	<i>ū-dàk</i>	<i>ṣt-dàk</i>	‘ground/country’
	<i>ū-jṣ</i>	<i>ṣt-jṣ</i>	‘rain’
	<i>ū-kúr</i>	<i>ṣt-kúr</i>	‘room’ ¹²
	<i>ū-tà:s</i>	<i>ṣt-tà:s</i>	‘village’
	<i>ū-tál:ḡ</i>	<i>ṣt-tál:ḡ</i>	‘market’
	<i>ū-rān</i>	<i>ṣt-rān</i>	‘leaf’
	<i>ū-só?</i>	<i>ṣt-só?</i>	‘cave’

Body parts in this pairing include *ū-kóm* ‘arm’, *ū-sók* ‘upper chest’ and *ū-ṣ* ‘face’. Other examples appear in (20). The semantic properties that distinguish these body parts from those in other classes have not been fully explored.

(20)	Class 3u sg.	Class 6 pl.	Gloss
	<i>ū-tṣ</i>	<i>ṣt-tṣ</i>	‘ear’
	<i>ū-nú</i>	<i>ṣn:ú (ṣt-nú)</i>	‘mouth’
	<i>ū-kūt</i>	<i>ṣt-kūt</i>	‘thigh’

There are also a number of kinship terms like *ū-ṣsō* ‘father’ included in Pairing 3u/6.

(21)	Class 3u sg.	Class 6 pl.	Gloss
	<i>ū-ṣsō</i>	<i>ṣt-ṣsō</i>	‘father’
	<i>ū-īnō</i>	<i>ṣt-īnō</i>	‘mother’
	<i>ū-kámrò</i>	<i>ṣt-kámrò</i>	‘in-law’ ¹³
	<i>ū-ṣḡbrō</i>	<i>ṣt-ṣḡbrō</i>	‘fellow-wife, co-wife’

Only three loanwords in the corpus occur in this pairing, *ū-àk^vàtí* ‘box’, *ū-zṣrtḡ* ‘saw (n)’ and *ū-lēmbú* ‘garden’ borrowed from Hausa. These are not seemingly specified for any special semantic feature like roundness or length.

Pairing 3Ø/6 has two members given in (22). These occur with a Ø- prefix on the singular form, but they also trigger the Class 3 *ṣ* object pronoun. In the plural they resemble other Class 6 nouns and trigger the Class 6 *tṣ* object pronoun.

¹² I would have expected this noun to occur in Pairing 5/6 with other words related to the traditional round shaped homes.

¹³ More specifically, it means the husband’s parents or the son’s wife.

(22)	Class 3Ø sg.	Class 6 pl.	Gloss
	Ø- <i>p'ís</i>	<i>ḡt-p'ís</i>	'entrance hut'
	Ø- <i>s^wás</i>	<i>ḡt-s^wás</i>	'fish trap'

3.5 Inanimate with Length – Pairing 3u/4 (*ū*-/*ḡs*-) and 3Ø/4 (Ø-/*ḡs*-)

Pairing 3u/4 is marked on nouns by the singular Class 3 prefix *ū*- and the plural Class 4 prefix *ḡs*-. Class 3 triggers the object pronoun *ó* and Class 4 triggers the object pronoun *sé*. Ten nouns occur with the Pairings 3u/4. Body parts include *ū-gár* 'jaw' and *ū-ná* 'leg'. All are inanimate. The rest of the Pairing 3u/4 nouns can be seen in (23).

(23)	Class 3u sg.	Class 4 pl.	Gloss
	<i>ū-úž</i>	<i>ḡs-úž</i>	'bead'
	<i>ū-gā?</i>	<i>ḡs-gā</i>	'plait, braid'
	<i>ū-pân</i>	<i>ḡs-pân</i>	'facial incisions/tattoo'
	<i>ū-pāmā</i>	<i>ḡs-pāmā</i>	'work'
	<i>ū-džḡr</i>	<i>ḡs-džḡr</i>	'sewing', ¹⁴
	<i>ū-tḡ:g</i>	<i>ḡs-tḡ:g</i>	'prayer'
	<i>ū-wés</i>	<i>ḡs-wés</i>	'odor, smell'
	<i>ū-só?</i>	<i>ḡs-só?</i>	'island'

Only three nouns occur with the Pairing 3Ø/4. These can be seen in (24).

(24)	Class 3Ø sg.	Class 4 pl.	Gloss
	Ø- <i>džāb</i>	<i>ḡs-džāb</i>	'heart'
	Ø- <i>bò?</i>	<i>ḡs-bò?</i>	'dream'
	Ø- <i>k^wár</i>	<i>ḡs-k^wár</i>	'island'

Two loanwords occur in Pairing 3u/4. Both inanimate objects are shown in (25).

(25)	Class 3u sg.	Class 4 pl.	Gloss
	<i>ū-lábáři</i>	<i>ḡs-lábáři</i>	'news' (H)
	<i>ū-fīḡgì</i>	<i>ḡs-fīḡgì</i>	'fence' (H)

¹⁴ The gloss 'sewing' may not be the best; likely it is a noun associated with the action of sewing. I elicited this pair when asking for the word 'sew' (v).

The noun *ū-lábàrì* ‘news’ refers to information shared person to person, as opposed to the evening television show or even the written “news” of a newspaper. This relationship to spoken words links it by semantic analogy to other speech words, found in Unpaired Class 4. No loanwords occur in Pairing 3Ø/4.

3.6 Human – Pairing 1Ø/6 (Ø-/̄t-)

There are six nouns that occur in the corpus in Pairing 1Ø/6 with a Ø- prefix in the singular. The plural takes the Class 6 *̄t-* prefix. All six of the nouns denote human beings. None of the human plurals employ the *-nè* suffix, indicating that the *-nè* suffix is reserved for the distinction between human and non-human in Class 2.

(26)	Class 1Ø sg.	Class 6 pl.	Gloss
	Ø- <i>nét</i>	<i>̄n:ét (̄t-nét)</i>	‘person’
	Ø- <i>má:n</i>	<i>̄t-má:n</i>	‘in-law’ ¹⁵
	Ø- <i>bómós</i>	<i>̄t-bómós</i>	‘widow’
	Ø- <i>h̄:b</i>	<i>̄t-h̄:b</i>	‘friend’
	Ø- <i>hām̄t</i>	<i>̄t-hām̄t</i>	‘guest’
	Ø- <i>fàr̀̀k</i>	<i>̄t-fàr̀̀k</i>	‘chief’ ¹⁶

No loanwords occur in this class pairing.

3.7 Human/Agentative – Pairing 1u/2 (ū-/Ø-) and 1Ø/2 (Ø-/Ø-)

Two nouns occur in Pairing 1u/2 and are shown in (27). In the singular form they occur with the *ū-* prefix and trigger the *wá* object pronoun.

(27)	Class 1u sg.	Class 2 pl.	Gloss
	<i>ū-mákt</i>	Ø- <i>mákt-nè</i>	‘barren woman’
	<i>ū-rāg</i>	Ø- <i>rāg-nè</i>	‘stupid person’

Three nouns occur in Pairing 1Ø/2 and are shown in (28). In the singular form they occur with a null Ø- prefix and trigger the *é* object pronoun. Nouns in both pairings occur with a null Ø- prefix and employ the plural suffix *-nè* that is used only for nouns that refer to human beings.

¹⁵ More specifically, the wife’s parents or the daughter’s husband.

¹⁶ This word *fàr̀̀k* ‘chief’ may be borrowed from Arabic.

(28)	Class 1Ø sg.	Class 2 pl.	Gloss
	Ø-pó	Ø-pó-nè	'blind man'
	Ø-hí ^w	Ø-híw-nè	'thief'
	Ø-tók	Ø-tók-nè	'slave'

The number of items in this class pairing is relatively small, but there is a very productive derivational process that feeds nouns into the Pairing 1Ø/2. The derivational pre-prefix, *wá-* in the singular and *á-* in the plural, is added to a noun (or verbal noun¹⁷) preceding the noun's inherent class prefix to derive an agent closely associated with the noun. In example (29) the noun *ū-bòr* 'boundary' occurs with the prefix *wá-* 'AGT'. This results in the form *wá^wbòr* meaning 'neighbour', and the application of the plural prefix *á-* results in the form *ásbòr* 'neighbours'.

(29)	<i>wá</i>	+	<i>ū-bòr</i>	→	<i>wá^w-bòr</i>	'neighbour'
	AGT	+	C3-boundary		AGT-C3-boundary	
	<i>á</i>	+	<i>ās-bòr</i>	→	<i>á-s-bòr</i>	'neighbours'
	AGT	+	C4-boundary		AGT-C4-boundary	

Twenty-nine such derivations are attested in the data corpus. These derivations are considered in Pairing 1Ø/2 because they trigger the object pronouns *wá/é*. Other examples are given below.

(30)	Class 1Ø sg.	Class 2 pl.	Gloss
	<i>wá^w-bū</i>	<i>á^w-bū</i>	'master' from <i>ū-bū</i> 'house'
	<i>wá-s-kón</i>	<i>á-s-kón</i>	'beggar' from <i>ās-kón</i> 'begging'
	<i>wá-r-hí</i>	<i>á-r-hí</i>	'intelligent person' from <i>ār-hí</i> 'head'
	<i>wá^w-g'èr</i>	<i>á^w-g'èr</i>	'coward' from <i>ū-g'èr</i> 'fear'
	<i>wá-m-h'án</i>	<i>á-m-h'án</i>	'fortune-teller' from <i>m-h'án</i> 'seeing'
	<i>wá-m-hā</i>	<i>á-m-hā-nè</i>	'traveler' from <i>ām-hā</i> 'going'

3.8 Diminutive – Pairing DIM /6m (ī-/ā̄m-)

The noun class Pairing DIM/6m is a derivational option for the speaker to categorize some inanimate object as markedly small. There are six examples in the corpus, but presumably many other inanimate objects can occur within this pairing.

¹⁷ Verbal nouns occur distributed throughout the unpaired classes. See §4 for discussion.

(31)	Class DIM sg.	Class 6m pl.	Gloss
	<i>ī-g^wá</i>	<i>ṁm-g^wá</i>	‘tiny grass (blade of)’
	<i>ī-ràndí</i>	<i>ṁm-ràndí</i>	‘thread/spider web’
	<i>ī-tā:r</i>	<i>ṁm-tā?ār</i>	‘tiny stone’
	<i>ī-k^wām</i>	<i>ṁm-k^wām</i>	‘tiny iron (piece of)’
	<i>ī-bà</i>	<i>ṁm-bà</i>	‘tiny lake’
	<i>ī-nòṁ</i>	<i>ṁm-nòṁ</i>	‘tiny thing’

Noun roots normally found in other classes can take the prefix *ī-* in the singular, *ṁm-* in the plural, and trigger the object pronouns *é/mó*, to indicate a diminutive size.

3.9 Pairing 7u/6 (*ū-/ṁt-*)

The Pairing 7u/6 has only four members in the data corpus, and the content is varied. The singular form occurs with the *ū-* prefix and triggers the *já* object pronoun. The plural form occurs with the *ṁt-* prefix and triggers the *tó* object pronoun.

(32)	Class 7u sg.	Class 6 pl.	Gloss
	<i>ū-nēṅgēn</i>	<i>ṁn:ēṅgēn (ṁt-nēṅgēn)</i>	‘elder (male)’
	<i>ū-hāp</i>	<i>ṁt-hāp</i>	‘baby sling’
	<i>ū-t/ān</i>	<i>ṁt-t/ān</i>	‘feather’
	<i>ū-k^wām</i>	<i>ṁt-k^wām</i>	‘iron (piece of)’

The four loanwords that belong to Pairing 7u/6 appear in (33).

(33)	Class 7u sg.	Class 6 pl.	Gloss
	<i>ū-kúrú má</i>	<i>ṁt-kúrú má</i>	‘deaf person’ (H)
	<i>ū-bīsá?</i>	<i>ṁt-bīsá?</i>	‘animal’ (H)
	<i>ū-tòlòtòlò</i>	<i>ṁt-tòlòtòlò</i>	‘turkey’ (H) ¹⁸
	<i>ū-māgánā</i>	<i>ṁt-māgánā</i>	‘maize, corn’ (H) ¹⁹

¹⁸ The Hausa word also occurs as *talotalo* ‘turkey’.

¹⁹ The Hausa word *magana* can mean ‘a word /speech’ or ‘a public place’ depending on the tones. The direct link of these meanings, to that of *ū-māgánā* ‘maize, corn’, is not immediately apparent. The *ūt-Ma*’in term may in fact not be connected to Hausa.

3.10 Augmentative – Pairing 3u/AUG (*ū*-/*ā*-)

Noun class Pairing 3u/AUG is a derivational option for speakers who wish to indicate marked increase in size. Inanimate objects that normally occur in another noun class pairing can occur here with the singular Class 3u prefix *ū*- and the plural Class AUG prefix *ā*-. The object pronouns that occur with these words in Pairing 3u/AUG are *ó* in the singular and *á* in the plural.

(34)	Class 3u sg.	Class AUG pl.	Gloss
	<i>ū-tā:r</i>	<i>ā-tā:r</i>	'large rock'
	<i>ū-bà</i>	<i>ā-bà</i>	'big lake'
	<i>ū-nòm</i>	<i>ā-nòm</i>	'big thing'

The three examples given in (34) are the only nouns attested in the corpus that occur with the Pairing 3u/AUG. Presumably, many other inanimate objects could occur with Pairing 3u/AUG to emphasize an increased size.

3.11 Round and long – Pairing 5/4 (*ṡr*-/*ṡs*-)

The Pairing 5/4 contains only one noun, which appears in (35). The singular form occurs with the Class 5 prefix *ṡr*- and triggers the object pronoun *dé*, and the plural form occurs with the Class 4 prefix *ṡs*- and triggers the object pronoun *sé*.

(35)	Class 5 sg.	Class 4 pl.	Gloss
	<i>ṡr-ēr</i>	<i>ṡs-ēr</i>	'arrow shaft' ²⁰

This noun seems to exhibit a combination of the roundness characteristic Pairing 5/6 and the length characteristic of Pairing 3u/4, suggesting that there may be semantic characteristics associated with the individual classes as well as the class pairings.

3.12 'giant' – Pairing 3u/2

Only the noun *ū-béb* 'giant' occurs in the Pairing 3u/2. This is probably due to the augmentative and human qualities inherent in the word's meaning. The augmentative is reflected in the use of Class 3u singular prefix *ū*- (from the Pairing 3u/AUG), and the human quality is reflected in the use of the Class 2 null \emptyset - prefix with the human suffix *-nè* (which occurs with Pairings 7 \emptyset /2, 1u/2 and 1 \emptyset /2). Class 3u and Class 2 pair together here to mark the unique characteristics of this noun.

²⁰ This word *ṡr-ēr* 'arrow shaft' does not include the meaning 'arrow head'.

(36)	Class 3u sg. <i>ū-béb</i>	Class 2 pl. <i>Ø-béb-nè</i>	Gloss 'giant'
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3.13 'puff adder' – Pairing 5/2

Only one noun in the data corpus occurs in Pairing 5/2, as seen in (37). The singular form takes a *ū-* prefix similar to other animals in Class 7u, but triggers the *dé* object pronoun similar to Class 5. It may be that this word can trigger agreement marking in either Class 7u or Class 5. Further elicitation is necessary to determine the flexibility of this noun in regards to the agreement system. This combination of classes only occurs with this word and may be the result of elicitation pressure. This pattern may also be a reflection of a particular speaker's preference.

(37)	Class 5 sg. <i>ū-dòp</i>	Class 2 pl. <i>Ø-dòp</i>	Gloss 'puff adder'
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The combination of these two classes seems to bring together the roundness characteristic of Class 5 from Pairing 5/6 and the animacy characteristic of Class 2 from Pairing 7u/2. It is likely that the shape of this snake dictates that it take *dé* agreement from Class 5. Other snakes occur in Pairing 7u/2.

3.14 'argument' – Pairing DIM/4

Only one word occurs in Pairing DIM/4. Presumably, the word occurs with the plural Class 4 prefix because many words related to speech occur in Unpaired Class 4.

(38)	Class DIM sg. <i>ī-nàn</i>	Class 4 pl. <i>īs-nàn</i>	Gloss 'argument'
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4 Unpaired classes

Classes 2, 3u, 3Ø, 4, 5, 6, and 6m occur as unpaired classes, with no distinction made for either singular or plural. These include such categories as mass nouns, non-countable nouns and abstract nouns. The semantic characteristics of each unpaired class are discussed throughout the following sections.

Table 7 lists all unpaired classes found in the wordlist corpus. Column two lists the object pronoun associated with each class. Column three lists the number of nouns that occurred in each unpaired class. Column four lists the percentages of the unpaired class in relation to the total number of nouns (604) in the corpus.

Table 7: Frequency of nouns in unpaired classes

Class	Agreement Pronouns	Frequency	% of 604
6m	<i>mɔ</i>	76	12.6%
6	<i>tɔ</i>	39	6.5%
3u	<i>ɔ</i>	24	4%
5	<i>dɛ</i>	24	4%
4	<i>sɛ</i>	19	3.2%
2	<i>ɛ</i>	3	<1.0%
7u	<i>ja</i>	1	<0.5%

Classes 3u, 3Ø, 4, 5, 6 and 6m, i.e. all unpaired classes except Class 2 and Class 7u, also contain words with verb-like meaning. These verb-like words occur with a noun class prefix that is identical to that of other nouns in the class; they can be modified like other nouns, and they require the same agreement marking on modifiers. Because of the morphological similarity to noun phenomena, these verb-like words will be called verbal nouns and will be considered within the noun class system in the discussion below. English glosses for verbal nouns include the *-ing* suffix in order to reflect the idea of activity. Verbal nouns are not included in the counts given for the unpaired classes, but examples of the verbal nouns that occur in each unpaired class are given at the end of each section. All unpaired classes are discussed in the sections below, starting with those with the most members and then moving on to those with the fewest members.

4.1 Class 6m

Class 6m is by far the largest of the unpaired classes, with seventy-eight nouns occurring in the data corpus. The noun prefix associated with the class is *̄m-*, and the object pronoun is *mɔ*. Mass nouns, including words that denote liquids and diseases, occur here e.g. *̄m-tá* 'tears', *̄m-àp* 'meat' and *̄m-kútʃákùtʃi* 'fungal infection'. Other examples can be seen in (39).

(39)	Class 6m	Gloss
	<i>̄m-bɔ</i>	'water'
	<i>̄m-zón</i>	'light'
	<i>̄m-ká:rì</i>	'rust'
	<i>̄m-óg</i>	'juice'
	<i>̄m-g'isp</i>	'night'

Four abstract nouns occur in Class 6m, as seen in (40).

(40)	Class 6m	Gloss
	<i>ṣm-náp</i>	‘knowledge’
	<i>ṣm-éʔ</i>	‘shame’
	<i>ṣm-sék</i>	‘honor’
	<i>ṣm-jṣʔ</i>	‘wickedness’

Words that refer to the senses, like *ṣm-kṣʔ* ‘bad smell’ and *ṣm-r'ábèr* ‘softness’; and words that denote measurement, like *ṣm-wśr* ‘length’ and *ṣm-dzáʔ* ‘height’; and perception, as in *ṣm-rè* ‘pain’, *ṣm-hèk* ‘largeness’ and *ṣm-hṣr* ‘speed’, are also included. Twenty five verbal nouns occur in Class 6m. Examples are shown in (41).

(41)	Class 6m	Gloss
	<i>ṣm-zàp</i>	‘shivering’
	<i>ṣm-àṅk</i>	‘working (for a salary)’
	<i>ṣm-hóg</i>	‘feeling’
	<i>ṣm-bàkèṭ</i>	‘shining’

4.2 Class 6

Class 6 is marked by the prefix *ṣt-* on the noun and triggers the *tó* object pronoun. There are forty nouns found in the corpus, and examples of those can be seen in (42).

(42)	Class 6	Gloss
	<i>ṣt-sàm</i>	‘fireplace’
	<i>ṣt-kútáràṅk</i>	‘brain’
	<i>ṣt-ṣní</i>	‘music’
	<i>ṣn:íp (ṣt-níp)</i>	‘truth’
	<i>ṣt-kógórò</i>	‘beer made at harvest’
	<i>ṣt-mā</i>	‘salt’
	<i>ṣt-kús</i>	‘clothing’
	<i>ṣt-hót</i>	‘crossroads’
	<i>ṣt-bómós</i>	‘mourning’

Several descriptive nouns occur in Class 6 including, *ṣt-mòr* ‘nearness’. Others are shown in (43).

- (43) **Class 6** **Gloss**
 ṣt-gàg ‘bitterness’
 ṣt-nò:s ‘heaviness’
 ṣt-rē?úrī ‘blueness (colour)’
 ṣt-gà? ‘dryness’

Two hundred and forty verbal nouns occur in the data corpus in Class 6. Examples are shown in (44).

- (44) **Class 6** **Gloss**
 ṣt-fṣr ‘blowing (with mouth)’
 ṣt-b'ṣrèn ‘turning around’
 ṣt-màr ‘dying’
 ṣt-dòròt ‘ruling over, dominating’
 ṣt-pṣst ‘straining (food)’
 ṣt-m'ṣg ‘twisting’

4.3 Class 3u and 3Ø

Class 3u is marked by the prefix *ū-* on the noun, and Class 3Ø is marked by the null Ø- prefix. Both 3u and 3Ø trigger the *ṣ* object pronoun. In the corpus, only four nouns occur in Class 3Ø, as seen in (45).

- (45) **Class 3Ø** **Gloss**
 Ø-*tār* ‘tax’
 Ø-*hṣr* ‘game’
 Ø-*tṣ:g* ‘sacrifice’
 Ø-*g'ṣp* ‘tomorrow’

Nineteen nouns in the data corpus occur in Unpaired Class 3u. Nouns in this class include words used for time delineation, like *ū-sòt* ‘tomorrow’ and *ū-t'ṣṣr* ‘harmattan’ (season when dust is blown down from the Sahara).

(46)	Class 3u	Gloss
	<i>ū-rā</i>	‘fire’
	<i>ū-hār</i>	‘quarrel’
	<i>ū-sèt</i>	‘day after tomorrow’
	<i>ū-tát</i>	‘many’
	<i>ū-dóm</i>	‘east/up’
	<i>ū-táʔ</i>	‘west/down’

To complete the inventory of Class 3u nouns, the remaining class members found in the corpus can be seen in (47). Only one loanword, *ū-gá:dò* ‘inheritance’, borrowed from Hausa, occurs in Unpaired Class 3u.

(47)	Class 3u	Gloss
	<i>ū-dāk</i>	‘country, ethnic area’
	<i>ū-níáʔ</i>	‘gift’
	<i>u-as</i> ²¹	‘adultery’
	<i>ū-kəp</i>	‘foam’
	<i>ū-rē</i>	‘sky/god’
	<i>ū-dà</i>	‘season’
	<i>ū-tf^wōm</i>	‘darkness’
	<i>ū-hó</i>	‘daytime’
	<i>ū-tfām</i>	‘thickness’
	<i>ū-kōr</i>	‘sharpness’
	<i>ū-hēn</i>	‘cleanliness’

Eighteen verbal nouns occur in Class 3u. Examples are shown in (48). Only one verbal loanword, *ū-kíwò* ‘feed (animals)’ occurs in Class 3u, borrowed from Hausa.

(48)	Class 3	Gloss
	<i>ū-mā</i>	‘building’
	<i>ū-tèʔ</i>	‘weaving’
	<i>ū-dók</i>	‘burying’
	<i>ū-hūw</i>	‘stealing’

²¹ The recorded file for this word has been corrupted and the tone was not transcribed in the original wordlist.

Eight verbal nouns occur in Class 3Ø and are shown in (49).

(49)	Class 3Ø	Gloss
	<i>Ø-s^wàb</i>	‘swimming’
	<i>Ø-fǝg</i>	‘(being) satisfied’
	<i>Ø-úb</i>	‘(being) pregnant’
	<i>Ø-nén</i>	‘growing up’
	<i>Ø-kǝw</i>	‘sowing, planting’
	<i>Ø-két</i>	‘harvesting’
	<i>Ø-bák</i>	‘hunting’
	<i>Ø-fás</i>	‘bartering’

4.4 Class 5

Class 5 is marked with the *ǝr-* prefix on the noun, and it triggers the *dé* object pronoun. Twenty-five nouns occur in the data corpus in Unpaired Class 5, and examples of these are shown in (50).

(50)	Class 5	Gloss
	<i>ǝl:ég (ǝr-rég)</i>	‘hernia (umbilical)’
	<i>ǝr-bǝn</i>	‘invitation’
	<i>ǝr-dǝns</i>	‘announcement’
	<i>ǝr-kǝŋgì</i>	‘frontier (edge of ethnic area)’
	<i>ǝr-mág</i>	‘debt’
	<i>ǝr-māʔin</i>	‘tradition/custom’
	<i>ǝr-tàkǝn</i>	‘beginning’
	<i>ǝr-màʔ</i>	‘end (n)’

A number of descriptive nouns occur here, including *ǝr-fá* ‘youth’ and *ǝr-wǝʔ* ‘old age’, *ǝr-béb* ‘strength’ and *ǝr-z^wàr* ‘beauty’. Other descriptive nouns can be seen in (51).

(51)	Class 5	Gloss
	<i>ǝr-sǝ</i>	‘joy’
	<i>ǝr-ón</i>	‘pity (n)’
	<i>ǝr-fǝb</i>	‘jealousy’
	<i>ǝr-kǝb</i>	‘hardship, distress’
	<i>ǝr-sǝʔ</i>	‘nakedness’
	<i>ǝr-kik</i>	‘shortness’
	<i>ǝl.āʔ (ǝr-rā)</i>	‘depth’

Forty six verbal nouns occur in Class 5. Examples are shown in (52).

- (52) **Class 5** **Gloss**
 ṣr-pṣksè ‘stumbling’
 ṣr-hé?é ‘failing’
 ṣr-k^wṣp ‘obstructing’
 ṣr-fátè ‘sliding’
 ṣt-èṅk ‘losing’

4.5 Class 4

Nouns that occur in Class 4 are marked with the prefix *ṣs-* and trigger *sɛ* agreement. Nineteen nouns occur in this class, and examples are shown in (53).

- (53) **Class 4** **Gloss**
 ṣs-kàt ‘beard’
 ṣs-rṣr ‘beard (goatee)’
 ṣs-tf^vā ‘soup, broth’
 ṣs-dʒ^wà ‘splinter, sliver (n)’
 ṣs-héw ‘dance (n)’
 ṣs-rān ‘cooked leaves’
 ṣs-kó? ‘silk, hair (of maize)’
 ṣs-rāndí ‘heap of cotton from field’
 ṣs-vṣjē ‘air (breathed)’

Five nouns related to speech occur in Unpaired Class 4. Examples include *ṣs-vēr* ‘wisdom’ and *ṣs-bī* ‘lie/falsehood’. Others can be seen in (54).

- (54) **Class 5** **Gloss**
 ṣs-zṣṅg ‘plan (n)’
 ṣs-p’áp ‘insult (n)’
 ṣs-rēm ‘speech, discourse’

Other abstract nouns are given below in (55).

- (55) **Class 5** **Gloss**
 ṣs-mēr ‘hunger’
 ṣs-bà:t ‘medicine’
 ṣs-gôṃ ‘illness’

Twenty six verbal nouns occur in the data corpus in Class 4. Examples are shown in (56).

- (56) **Class 4** **Gloss**
 $\bar{s}s$ -fág 'calling'
 $\bar{s}s$ -dòròg 'thinking'
 $\bar{s}s$ -n $\bar{s}k\bar{s}m$ 'stretching'
 $\bar{s}s$ -vók 'greeting'

4.6 Class 2

Class 2 nouns occur with a null Ø- prefix. Only three nouns in the corpus occur in Unpaired Class 2, and these are shown below in (57).

- (57) **Class 2** **Gloss**
 Ø-ké? 'beer (traditional)'
 Ø-fík 'money'
 Ø-h'òròg 'beach'

4.7 Class 7u

Only one noun in the data corpus, \bar{u} -d $\bar{z}\bar{a}n$ 'eczema', occurs in Unpaired Class 7.

4.8 Note on verbal nouns

Verbal nouns are distributed throughout six of the eight unpaired classes, but a majority, 67%, occur in Class 6. Of the 359²² verbal nouns in the corpus, 241 occur in Class 6. Compare the relative size of the unpaired classes that contain verbal nouns in Table 8.

Table 8. Frequency of verbal nouns in unpaired classes

Class	Agreement pronouns	Frequency	% of 359
6	$t\bar{o}$	241	67.1%
5	$d\bar{e}$	46	12.8%
4	$s\bar{e}$	26	7.2%
6m	$m\bar{o}$	13	3.6%
3u	\bar{o}	8	2.2%

²² This number is in addition to the 604 noun count from the wordlist used for previous frequency charts.

The large number of verbal nouns that occur in Class 6 in contrast to the relatively small number in Classes 3u, 4, 5 and 6m may give some evidence as to the process of nominalisation. Perhaps the verbal nouns that occur in Class 6 are the result of a derivational process in which the Class 6 noun class prefix $\bar{s}t-$ is applied to the verb stem. Smith (2007: 77) proposes that verbal nouns in the other classes may in fact be more basically nouns. Noun classes may however actually be delineating different aspectual categories that would be more apparent in textual data or through different techniques of elicitation. McGill (2009: 257) identifies eight derivational processes for deverbal nominalisation in Cicipu (also Kainji): including infinitives and locatives, repeated action, continuous action, agent, and individuating. Additional text-based data will be crucial to further understanding of the derivational processes of $\bar{u}t$ -Ma'in nouns.

5 Summary and conclusion

In summary, the thirteen noun classes of $\bar{u}t$ -Ma'in exhibit identifiable semantic characteristics that play a significant role in the assignment of nouns to a particular class. This has been evidenced by derivational processes on multiple roots and the distribution of loanwords in multiple classes based on semantic criteria alone. This is further evidenced by the content of the unpaired classes. Table 9 below summarizes some of the generalisations that can be made about the semantic properties of the individual $\bar{u}t$ -Ma'in noun classes.

Table 9: *Semantic generalisations of individual noun classes*

Class	Noun prefix	Object pronoun	Semantic characteristics (generalisations)
1u	$\bar{u}-$	$\acute{u}/w\acute{a}$	human
1 \emptyset	$\emptyset-$	$w\acute{a}$	human
2	$\emptyset-$	\acute{e}	animate
3u	$\bar{u}-$	\acute{s}	inanimate/augmentative sg
3 \emptyset	$\emptyset-$	\acute{s}	inanimate/augmentative sg
4	$\bar{s}s-$	$s\acute{e}$	long, mostly inanimate
5	$\bar{s}r-$	$d\acute{e}$	round, mostly inanimate
6	$\bar{s}t-$	$t\acute{o}$	default plural, nominalizer
6m	$\bar{s}m-$	$m\acute{o}$	mass, diminutive pl
7u	$\bar{u}-$	$j\acute{a}$	animate
7 \emptyset	$\emptyset-$	$j\acute{a}$	human
AUG	$\bar{a}-$	\acute{a}	augmentative pl
DIM	$\bar{i}-$	\acute{e}	diminutive sg

The noun class pairings of singular and plural classes also exhibit observable semantic properties, as shown in Table 10. Pairings that contain humans are listed first, followed by pairings that contain animates, then pairings that contain inanimate objects. Finally, the diminutive and augmentative class pairings are listed.

For some pairings the majority of nouns are unified by a clear semantic characteristic, e.g. Pairing 5/6 contains round objects, including nouns that refer to round body parts. But other pairings contain body parts that are not as easily identified in regard to the characteristic that would group them together. Further investigation into the culture and semantic divisions given to noun classes and noun class pairings is needed to understand why certain nouns have been grouped together. A more detailed attempt may also be made at determining any analogic process that may be involved in the assignment of nouns to a particular noun class or noun class pairing.

Table 10: Semantic generalisations for class pairings

Pairing	Prefixes	Object pronouns	Semantic tendencies
1u/2	\bar{u} -/Ø-	wá/é	humans
1Ø/2	Ø-/Ø-, wa-/a-	wá/é	humans/ agentative ²³
1Ø/6	Ø-/ṣt-	wá/tó	humans
3u/2	\bar{u} -/Ø-	ó/é	'giant'
7Ø/2	Ø-/Ø-	já/é	humans
5/2	ṣr-/Ø	dé/é	'puff adder'
5/6	ṣr-/ṣt-	dé/tó	mostly inanimate / round
7u/2	\bar{u} -/Ø-	já/é	animates / fruits
3u/6	\bar{u} -/ṣt-	ó/tó	mostly inanimate objects
3Ø/6	Ø-/ṣt-	ó/tó	mostly inanimate objects
3u/4	\bar{u} -/ṣs-	ó/sé	only inanimate objects
3Ø/4	Ø-/ṣs-	ó/sé	only inanimate objects
5/4	ṣr-/ṣs-	dé/sé	'thatch'/'arrow'
7u/4	\bar{u} -/ṣs-	já/sé	plants / long things / speech acts
7u/6	\bar{u} -/ṣt-	já/tó	change over time/'baby sling'
3u/AUG	\bar{u} -/á-	ó/á	augmentative
DIM/4	\bar{i} -/ṣs-	é/sé	'argument'
DIM/6m	\bar{i} -/ṣm-	é/mó	diminutive

²³ The agentative prefixes wá-/á- trigger the Pairing 1Ø/2 agreement marking.

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Abbreviations

AGT	agentative	DIM	diminutive
ASSOC	associative marker	N	noun
AUG	augmentative	PL	plural
C	class	V	verb