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ŊɲaćaḶa, the language of *???*

uruwi

een^{g}s.-meibpelbe-kona

A complete grammar

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Dedicated to someone.

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0.1 | Introduction

ŊþaċaḤa /ˌŋθatɬaˌχa/ < ⟨Ŋþċ⟩ *speech* in nominative singular attractive + ⟨-Ḥa⟩ first-person plural possessive suffix.

1 | Phonology and orthography

1.1 | Phoneme inventory and (roman|hacm)isation

Phonemes may have a noninitial or initial variant, or both. Initial phonemes are marked with a capital letter in both the romanisation and the hacmisation.

Table 1.1: Phonemes of ŊƀaċaḤa.

#	NI	I	Roman	Hacm
0	m		m	ᗪ
27	n		n	ᑎ
54	ŋ	,ŋ	ŋ	ᑎᵠ
162	p	,p	p	ᗡ
189		,t	t	ᒥ
190	ts	,ts	c	ᒽ
191	ꞇɬ	,ꞇɬ	ċ	ᒾ
192	tˢ		ṭ	ᒼ
216	k		k	ᒣ
217	q		q	ᒣꞏ
324		,f	f	ᘐ
350	θ	,θx	þ	ᔑᵅ
351	s	,s	s	ᔑ
352	ɬ		ṡ	ᒪ
378	x		h	ᕼ
379		,χ	ḥ	ᕼꞏ
380	xʷ		w	ᗝ
405	ɹ		r	ᑭ
486	a	,a	a	ᐞ
513	u	,u	u	ᘐ

(In this document, we use the romanisation.)

Phoneme #486 is an arbitrary open vowel, and #513 is a closed or near-closed rounded vowel. Any other vowel may be inserted epenthetically.

The phoneme numbers listed are *initiality-independent* (we shall call them *inumbers*). *Initiality-dependent* numbers (*dnumbers*) are derived from the the former by leaving them as-is for non-initials and adding 13 for initials.

1.2 | Allophony

The exact realisations of /u/ varies depending on the preceding phoneme:

Table 1.2: Allophony of /u/.

Allophone	Preceding
o	q χ
u	ŋ tˤ k x xʷ ɹ
ʉ	t ts s ɬ
ʏ	θ tɬ n
y	p f m
ø	a

1.3 | Phonotactics

In ŊþaċaḤa, a *phonorun* consists of one initial phoneme followed by zero or more noninitial phonemes. In IPA, we shall mark phonorun boundaries by commas and syllable boundaries by full stops. When they coïncide, we shall use the semicolon.

If a word begins with a non-initial phoneme, an initial vowel (usually /a/) is inserted at the front. We will not write this vowel in the romanisation.

For instance, ⟨raTnu⟩ (*flower*, in the accusative case) has two phonoruns: ⟨(A)ra⟩ and ⟨Tnu⟩.

1.3.1 | Prosody

In speech, a phonorun fits into an integral number of fixed-size *cells*. The number of cells taken by a phonorun is roughly proportional to the number of vowels (including epenthetic vowels) pronounced. The last formal (non-epenthetic) vowel of a phonorun (if any) receives the stress.

1.3.2 | Syllabification

[TODO: need some example sentences to come up with something useful]

A syllable contains a nucleus: one of the two formal vowels, an epenthetic vowel or a syllabic /ɹ/, in that order of preference.

Generally, syllables prefer not to cross phonorun boundaries, unless ρ_1 ends with a vowel then a consonant, and ρ_2 begins with a vowel.

An epenthetic is most often inserted:

- between two plosives within a phonorun
- after a plosive and before a nasal within a phonorun
- after a nasal and before a plosive at a different PoA, within a phonorun
- after a consonant if it is the only one in a phonorun
- between two copies of the same phoneme (ignoring initiality differences)

For instance, ⟨raTnu⟩ /ɹa,tnu/ could be syllabified as [a.ɹa;tə.nu]. [a.ɹa,t.nu] is suboptimal because one of the syllables crosses a phonorun boundary.

2 | Syntax

Sentences prefer to be in verb-final order, although other word orders are permitted. Modifiers precede their antecedents.

2.1 | The topic

The topic usually occurs at the beginning of the sentence and receives the ⟨=Cu⟩ clitic.

3 | Roots

A root consists of three consonants (initial or otherwise). For any root r (represented by a triplet of dnumbers), the following predicate P holds for a permutation s of r if and only if $r = s$:

$$
\begin{aligned}
P(a,b,c) &= L(A,B) \wedge L(B,C) && \text{where}\\
L(p,q) &= ((q-p) \bmod 729) \leq 364\\
u &= (a+b+c) \bmod 729\\
v &= (\min\{w : w \geq v \wedge \gcd(w,729) = 1\}) \bmod 729\\
A &= (va+128) \bmod 729\\
B &= (vb+128) \bmod 729\\
C &= (vc+128) \bmod 729
\end{aligned}
$$

In addition, a root has a gender of $(\mathbb{Z} \cap [-13,13])^3$. This is used for adjectives and adverbs.

3.1 | Prefixed roots

These are like roots, but receive a prefix. Applying a prefixed root involves applying the base root and prepending the prefix.

We notate a prefixed root by separating the prefix from the base root with a hyphen.

4 | Nouns

Nouns are marked for one of the following cases:

Table 4.1: Cases of ŊþaċaḤa.

Case	Permutation	Explanation
Nominative	123	The subject of the sentence, as well as the possessor in a possessive phrase.
Accusative	132	The direct object of the sentence. Also used for durations of time.
Ablative	213	The origin of an action, either spatially or temporally. Also a vocative, instrumental or causal.
Benefactive	231	An entity on whose behalf an action is done.
Allative	321	The destination of an action, either spatially or temporally. The indirect object of the sentence (thus acting as a dative). Also a locative.
Comitative	312	An entity in whose company an action is done.

These other grammatical categories are marked:

- Number-mutability: *singular* (one object, and the quantity is unlikely to change), *plural* (multiple, but the quantity does not change often) or *mutable* (multiple, but the quantity changes often). Uncountable or abstract entities use the plural.
- Subjective attractiveness: *neutral*, *attractive* or *unattractive*.
- Possession: if the noun is possessed, then it is marked for the person and NM of its possessor.

The schemata for number-mutability and subjective attractiveness is outlined in table 4.2.

Table 4.2: NM and attractiveness inflections in ŊþaċaḤa.

NM \ Attr	Neutral	Attractive	Unattractive
Singular	1a23u	12a3a	1u2u3
Plural	12a3šu	1ša2a3	š1u23u
Mutable	u12a3	a1a23	u1u23

The possessive affixes are outlined in table 4.3.

Table 4.3: Possessive affixes in ŊþaċaḢa.

Person \ NM	Singular	Plural	Mutable
1	-wa	-Ḣa	-Ŋa
2	-pu	-Tu	-Ċu
3(prox)	-kþ	-kṡ	-kh
3(obv)	-qþ	-qṡ	-ra

Table 4.4: Degenerate cases in ŊþaċaḢa.

Case	Case I	Case II	Case III
Nominative (123)	111	113	122
Accusative (132)	151	131	142
Ablative (213)	411	413	212
Benefactive (231)	451	431	221
Allative (321)	541	341	421
Comitative (312)	511	311	412

4.1 | Degenerate cases

Duplicate consonants in roots do not occur in basic (non-derived) roots, and even in derived roots, they are quite rare. However, when this happens, there are three cases.

(Here, a_i is the dnumber of consonant i and $S(a)$ is the next dnumber after a that belongs to a consonant, wrapping around if necessary.)

4.1.1 | 1 = 2 = 3

In this case, let $a_4 = S(a_1)$ and $a_5 = S(a_4)$. Then the permutations change as shown in the second column of table 4.4.

4.1.2 | 1 = 2 ≠ 3

In this case, let $a_4 = S(((a_3 - a_1)/2 \bmod 729) + a_1)$. Then the permutations change as shown in the third column of table 4.4.

Note that in Case II, a_4 is not guaranteed to be different from both a_1 and a_3. *C'est la vie.*

4.1.3 | 1 ≠ 2 = 3

In this case, let $a_4 = S(a_2)$. Then the permutations change as shown in the fourth column of table 4.4.

4.2 | Derivations

The basic process of derivation involves:

- carrying one of the consonants of the root to a prefix, possibly with some more phonemes around it. If there is already a prefix, then the new prefix is appended to the old one.
- inserting a new consonant to fill its place

- reärranging the root part to satisfy the predicate

In more complex derivations, this is done multiple times (either in series or in parallel).

Table 4.5: Derivations in ŊþaċaḤa.

Name	Derivation	Example
Action	3-(12m)	mpḢ *write* → Ḥ-mmp *writing* Used only for roots with an explicit definition as a noun. For others, this is zero-derived: qṭF *run, running.*
Agent	1-(23p)	qṭF *run* → q-pṭF *runner*
Coägent	1a3-(n2p)	mpḢ *write* → maḤ-npp *coäuthor*
Location	2u-(13þ)	śwŋ *cook* → wu-ŋþś *kitchen*
Instrument	1a-(23S)	mpḢ *write* → ma-SḢp *pen*
Patient	a3-(12P)	śwŋ *cook* → aŋ-Pwś *raw food*
Result	a2-(13F)	śwŋ *cook* → aw-Fśŋ *cooked food*

5 | Verbs

Verbs are conjugated for the following:

- Person and number of the ergative (A) and the absolutive (P) arguments
- Tense and aspect
- Polarity and modality
- Probability
- Speaker desirability of action
- Effect of action on the patient (intensity and duration)
- Location or direction in relation to an object
- Voice
- Time of day
- Shape and size of the noun in slot II

In addition, verbs can incorporate up to three nouns, with the following restrictions:

- Compound words are not allowed.
- The agent cannot be incorporated.
- Other prefixed roots are allowed only in slot I.
- Only the root (with case permutation) is visible in slot III, without any information about number-mutability or attractiveness.
- Slot I must be filled if the other slots are filled.

These are ordered as such:

5.1 | Person of A and P and tense

These interact with the root as outlined in table 5.2.

ŊþaċaḤa does not distinguish the regular future from the present, but it has an *imminent future* tense for actions that are "about to happen at any second".

Table 5.1: Order of categories in ŊþaċaḤa. Categories in the same rank are fused or interleaved.

Rank	Category
-7	[Time of day]
-6	[Location or direction]
-5	[Noun III]
-5	[Shape and size of noun II]
-4	[Location of direction]
-3	[Effect of action on patient]
-2	[Noun I]
-1	[Number of P]
0	Root
0	Person of A and P
0	Tense
1	[Number of A]
2	[Polarity and modality]
3	[Probability]
4	[Noun II]
5	[Voice]
6	[Desirability]

Table 5.2: Interactions with the root.

Tense	P \ A	0	1	2	3p	3o

Present

A | Dictionary

An entry looks like this:
mpḤ *r(7, -7, 1)* (n) written work (vi, vt) write
From left to right:

1. The entry – the ŊþaćaḤa term listed.
2. The part of speech of the corresponding entry:
    - *r(#, #, #)* – a root of the specified gender
    - (n) – usage as a noun
    - (vi) – usage as an intransitive verb
    - (vt) – usage as a transitive verb
3. The definition – the gloss for the corresponding entry.
    - (S) – nominative argument
    - (P) – absolutive argument
    - (O) – accusative argument
    - (A) – ergative argument
4. If applicable, any special grammatical or semantic notes for this term.
5. Optionally, examples of usage.

m

mpḤ *r(7, -7, 1)* (n) written work (vi, vt) write

q

qṭF *r(3, 5, -2)* (vi) run
qḤp *r(-12, 9, 7)* (n) fish

F

FsĊ *r(9, -5, 4)* (n) water

ṡ

ṡwŋ *r(4, -7, 5)* (vt) cook

r

r(8, 9, 11) (n) language (v) speak
rnT *r(1, 5, -8)* (n) flower