

# A Survey of the Athabaskan Language Mattole

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## Introduction

Mattole belongs to the Athabaskan language family, which is part of the Na-Dené phylum. This phylum spreads over part of the West of the North-American continent, with three separate regions of speakers: West Canada, North California and Arizona and New Mexico. Mattole was spoken in North-West California, near the mouth of the Mattole river [lit.ref. 2]. By the time it was recorded [lit.ref. 1] (1930), there were only one or two speakers left and the Encyclopedia Britannica of 1973 marks it as extinct. Other prominent Athabaskan languages are Chipewyan in Canada and Navaho and the Apache languages in Arizona and New Mexico. Mattole does not differ more from Navaho than the average British country-side dialect from Standard English; if it were not for the two thousand kilometers that separate them, they might well be considered dialects of the same language. All in all, Mattole is somewhat simpler than Navaho. If recent research is correct, the Na-Dené languages are remotely related to Chinese and arrived in America somewhere around 7000 BC.

Although the structure of the Athabaskan languages strikes the European as weird, upon closer look we find that many of its seemingly unusual features also occur, for example, in German or French (though to a lesser extent in English). The phonetics is very different.

## Phonetical features

There are four vowels, a, e, i and o, each short and long, pronounced as in Italian and a short vowel ɪ (between the i in Eng. will and the u in Eng. but). The ɪ is a phonetical variant of the i, i.e. there are no opposition pairs ɪ/i. No word can start with a vowel, and if it ends in a vowel, the vowel is long. The oo at the end of a word is often pronounced ow.

There are 23 consonants, many of which sound composite to the western ear.

reconstructed Athabaskan	Mattole	The consonants approximate description
'	'	glottal stop, as in Ger. Theater
h	h	as in Eng., also at the end of a syllable
y	y	as y in Eng. yes
	w	as w in Eng. wall (see below)
c	x/xw	as ch in Ger. Bach
b	b/m	between b and p in Eng.
d	d	between d and t in Eng.
t	tx	heavily aspirated t
t'	t'	glottalized t
n	n/ng	as in Eng.
g/γ	g/gw/γ/γw	g between g and k in Eng., γ as the g in Dutch geen
k/x	kx	heavily aspirated k
k'	k'	glottalized k
c	c	broad s
s/ts/z	ts/s	sharp s; ts almost as s
t's	t's	glottalized ts
ky'	t'sy	the above followed by y
gy/dj	dj	between the J in Eng. John and the ch in Eng. church
tc	tcx	as dsch in Dutch boodschap
t'c	t'c/tc	t' or t followed by c
ky	tç	as dch in Ger. Mädchen
l	l	as in Eng.
ɬ/dl/tl	ɬ	voiceless l, as the ll in Welsh Llangollen
t'ɬ	t'ɬ	t' followed by ɬ

All of these are single phonemes and should be considered single letters. The forms separated by / are variants

of the same phoneme, depending on circumstances. *g*, *ɣ* and *x* turn into *ɔw*, *ɣw* and *xw* before or after the vowel *o* (the *w* is pronounced together with the guttural rather than after it); *n* is pronounced and written *ɲg* before *g*, *k*, *x* and *ʔ* and their variants; and *ts* turns into *s* in prefixes. The stand-alone *w* is a variant of the unstressed *o* at the end of a word, or a glide between vowels, one of which is an *o*.

Unlike English and the other European languages, which divide consonants in voiced (*b*, *d*, *g*, *v*, *z*) and voiceless (*p*, *t*, *k*, *f*, *s*), Mattole and the other Athabaskan languages divide them in plain, aspirated and glottalized. A consonant is aspirated by pronouncing an *h* at the same time or slightly after it; an example from English is the *t* in *talk*, which is aspirated versus the *t* in *stalk*, which is not. Aspiration in Mattole is so strong that it is rather a *x* (as in Scottish *loch*) than an *h* that marks it. A consonant is glottalized by pronouncing a glottal stop at the same time or slightly after it; there are no examples in the European languages, though the British substandard pronunciation of *sitting* as *si'n* has some of the flavour. The following table summarizes the three main lines.

	plain	aspirated	glottalized
dental	<i>d</i>	<i>tx</i>	<i>t'</i>
velar	<i>g</i>	<i>kx</i>	<i>k'</i>
palatal	<i>dj</i>	<i>tcx</i>	<i>t'c</i>

The plain consonants are marked by the absence of aspiration and glottalization; they could as well be written *t*, *k* and *tc*. The aspirated and glottalized consonants can occur only as the first consonant of a root.

The stand-alone glottal stop *'*, which is a separate consonant, differs from the *'* in glottalized stops like *t'*, where it indicates a modification to the original stop, and should probably be written *ʔ*, as it is in some Algonkian languages. Here both are represented by *'*, conforming to the literature reference and to standard Navaho spelling.

Unlike the majority of the Athabaskan languages, Mattole has no tones. Stress is generally on the last syllable, but may fall on the one but last syllable, especially in third person verb forms and in some nouns.

### Lexical features

The centerpiece of the Mattole vocabulary is the verb form, which includes indications for subject, object, aspect and adverbial modification, in addition to the stem of the verb. Adjectives are part of the verbal system, with special prefixes to derive adjectives from verbs; example: *-tcxe'n* = *to be bad*, which yields *nitcxe'n* = *bad*.

There are only a hundred or so real nouns, all concerned with kinship relations, body parts, animals and some common objects (like *t'ɬéle'* = *'elk-horn spear used to spear sea lions'*). All other nouns are constructed (and can be constructed on the spot) from verbs; an example is *biɬ'iyiltxa'dj* = *pencil*; the word is composed of *biɬ-* *i-ɣi-l-txa'dj* = *with it - it - thing (noun indicator) - passive - scratch/write = a thing-with-which-it-is-written*, i.e. a pencil. The form *biɬ* = *with it* is again composed of two elements: *bi* = *of it* and *ɬ* = *with*. Nouns thus constructed are called *thematic*.

Mattole has no gender, not even in the personal pronouns; that is, there is no difference between he, she or it. Pronouns are not distinguished in the three classes singular and plural the way the European languages do. The following table shows the various pronouns, as subjects, objects and possessors, corresponding, for example, to Eng. I, me and my.

Class	P r o n o u n s			English equivalent
	Subject	Object	Possessor	
speaker	<i>c/ii</i>	<i>ci</i>	<i>ci/'ic</i>	I
listener	<i>n/ng</i>	<i>ni</i>	<i>ni</i>	you
known absent person/thing	-	<i>'i/yi/-</i>	<i>bi</i>	he/she/it
unknown absent person	<i>dji/'dji</i>	<i>'i/y</i>	<i>gwo</i>	somebody
group of the speaker	<i>di</i>	<i>noh</i>	<i>noh</i>	we
some listeners	<i>oh</i>	<i>noh</i>	<i>noh</i>	you (plural)
addressed crowd	<i>oyah</i>	<i>noh</i>	<i>noh</i>	you all
all unknown absent people	<i>ya/yaa</i>	-	-	everybody [else]
self		<i>'adi</i>	<i>'a/'aadi</i>	..self/..selves

The dashes (-) in the above table indicate cases that are signalled by the absence of a particle. The empty entry (self as a subject) of course does not exist.

### Verbs

A verb form consists of a number of prefixes, a verb stem, and possibly one of two suffixes. The verb itself has often a rather broad meaning, for example *-'aan* = *to handle a round object*; its meaning is then narrowed down by some of the prefixes, which may specify meanings like 'upwards' (*ni-*), to give *ni-'aan* = *to*

*pick up a round object*; or 'into pieces' (djiɣa-) giving djiɣa-...-'aan = *to smash a round object*. These prefixes correspond closely to the German prefixes auf- and zer-. Prefix-verb combinations like ni-...-'aan and djiɣa-...-'aan which together have a meaning, are called *verb bases*.

The verb form can be compared reasonably closely to the German compound past participle, for example aufgehoben = *picked up*, which has the structure auf-ge-hob-en = *upwards (prefix) - past tense (prefix) - lift (the stem) - past participle (suffix)*. None of the particles in the verb can be used independently, not even the verb stem. When pronounced, the particles influence each other and are glued together, like in French: *il t'a vu* = *he has seen you* has the particles il-te-a-vü = *he - you - past tense third person - see*, and is pronounced itavü. There are some tens of rules for contracting verb forms. Some are simple; for example, nɛ reduces to ɛ. Some are more complex: cɛtɕ reduces to cɛ: né'icxooos = *I pick it up a fabric* from ni-'i-c-ɛ-tɕooos = *upwards - it - I - active - handle a fabric*. The examples below show more of these effects.

The prefixes appear in a fixed order:

□ general prefixes

These modify and narrow down the meaning of the verb stem. The prefix may describe the way an action is performed, e.g. dahdi- = *in a stealthy way*, as in dahdiɣii 'áán = *I stole it (a round object)* from dahdi-ɣi-ii--'aan = *stealthily - past tense (result) - I - active - handle a round object*. Or the prefix may say something about the place or direction, e.g. ni- = *upwards*, as in ne'intxíix = *you pick it up (a long object)* from ni-'i-n--txíix = *upwards - it - you - active - handle a long object*. Note the use of an absent particle to indicate 'active' in both examples. There are about fifty different general prefixes.

Some particles have no clear meaning. An example is the prefix gwo- which occurs, for example, in the composite verb gwo-ni-...-yee = *to win* from -yee = *to eat up*. This is comparable to a German prefix like er-, which does not do anything to explain the relationship between zählen = *to count* and erzählen = *to tell*. Such prefixes are translated here as 'some prefix'.

Some prefixes have a different form if the subject is absent (i.e. third person): ginicyéex = *I talk* from gini-c--yeex = *some prefix - I - active - talk* versus kxééneex = *he talks* from kxeeni---yeex = *same prefix for third person - he - active - talk*.

□ an object prefix

See the table of pronouns. The subject prefixes for the unknown persons (singular and plural) also appear in this position.

□ more general prefixes

A dozen or so prefixes take this position; generally they refer more to the object than to the verb, as if they were suffixes to the object, which in fact they are. Example: -o- = *towards*, as in nóst'sih = *I am acquainted with you* from ni-o-c-ɛ-t'sih = *you - towards - I - active - know* (with 'I know towards you' meaning 'I am acquainted with you'). Actually, if such a prefix occurs, the preceding position (the object) has the possessive form of the pronoun rather than the object form: biɣa'iyɛnɛtsíil = *he has thrown it right through it* from bi-ɣa-'i-ɣɛn--ɛ-tsíil = *its - through - it - past tense (result) - he/she/it - active - throw*.

□ aspectal prefixes

They express whether the action or situation starts (di/dee), stops (ni/nee) or is momentaneous (ni).

□ more general prefixes

Only two prefixes can have this position: si/see = *to death* and di = *into the fire*.

□ more aspectal prefixes

These express whether the action or situation lasts on (si), is going on all the time or is concerned with the result (ɣi), is momentaneous (ni), occurs in the future (diɣi), or involves a permission (oo).

□ a subject prefix

See the table of pronouns.

□ a verb classifier

There are two classes of verbs, the zero-class and the ɛ-class. If both classes exist of a verb root, generally the ɛ-class is the causative of the zero-class. An example is the root -tsih = *to become*: djíntsih = *you wake up* from dji-n--tsih = *awake - you - active zero-class - become*, versus djíɛsih = *you wake him up* from dji--n-ɛ-tsih = *awake - him - you - active ɛ-class - become* = *you cause him to become awake*.

Beyond that, the class has to be learned with each verb, which is not really a problem, since the class shows up on almost every usage of the verb. The classifier for verbs of the zero-class is the absent particle, that for the ɛ-class is ɛ. Both classes have a different form of the classifier if the action is not done *by* the subject, but *for* or *to* the subject, the medial and passive forms. The zero-class has di and the ɛ-class has l, the latter being a contraction of ɛdi. An example is the active djiɣaasiit'ííd = *I smashed it to pieces* from djiɣa-si-ii--t'ííd = *to pieces - past result - I - active zero-class -*

*smash*, versus the passive *djiyaasisdit'łííd = I am smashed to pieces* from *djiya-si-c-di-t'łííd = to pieces - past result - I - passive di-class - smash*. It is amusing to see that the medial form of *-yiix* (t-class) = to whistle, is *-yiix* (l-class) = to rest, i.e., to whistle to oneself.

Many verbs occur in one of the subclasses only. For example, verbs denoting a state rather than an action often occur in the di-class only: *-di-biin = to be sharp*. The Mattole verb class system is parallel to but simpler than the Hebrew binyanim, in which also a root produces many different stems. The Mattole zero-class corresponds roughly to the Hebrew qal, the di-class to the nif'al, the t-class to the hif'il and the l-class to the hitpa'el. Note that the characterizing particle of the Mattole di-class *di-* and the characterizing particle of the Hebrew nif'al *ni-* both mean 'we' in the corresponding language; this is a phenomenon found in many otherwise unrelated languages.

□ the verb stem

There are about 300 verb roots in total. This may seem to be very little, but since each root can be combined with any number of prefixes, of which there are more than fifty, it is easy to make thousands of combinations, enough to satisfy all semantic needs. A good example of such a semantic construction is supplied by the root *-gol = to scrape*, which when combined with the prefix *nehe-* = *back into shape*, yields the verb base *nehe-...-gol = to shave*.

All roots have the form consonant-vowel-consonant or consonant-vowel; in the first form there may be an additional glottal stop before the final consonant (*-tcxii'n = to do*), in the second form the vowel is always long. The initial consonant is special in that it is the only position in the language in which the aspirated and glottalized consonants can occur (*-txah = to smoothe* and *-t'ah = to fly*).

The root of a verb has different forms for the different tenses: *-tcxii'n = do (present)*, *-tcxii??? = did (past)*, *-tcxii??? = will do (future)*, *-tcxii??? = may do (optative)*. This is comparable to the English verb paradigms like *to do - did - done*. The Mattole verb root normally has four forms, called the stems, designating present, past, future and outside of time. While the English stems are generally made by varying the vowel in it, Mattole stems are often made by varying the final consonant. For the past, the final consonant is often assimilated to an *-n* or a *-d*, for the future to an *-l*, and for the optative to a *-'*, although many other phenomena are found, including vowel changes. Four verbs have two more stems, one for the continuous present and one for the continuous past. The verbs stems are displayed in the following manner:

present	(continuous) (present)	past	(continuous) (past)	future	optative	= meaning
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The continuous forms, if applicable, are shown between parentheses.

Each of the four stems (six if one counts the continuous stems) can exist in a heavy and a light form. The heavy form ends in a voiced consonant, the light form ends in the corresponding voiceless one; given the heavy form, one can derive the light form. The choice between heavy and light form depends on the surrounding prefix and suffix. Many verbs have a heavy or a light form only for each of the stems,

No verb has all 12 (6 × 2) forms different; the maximum found is nine, for example:

-'aax	(-'aa) (-'ai)	-'ang 'aan	(-'a')	-'aał 'aal	-'a'	= to handle a round object (zero-class).
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in which the light forms are shown on top.

There are about 65 verbs that have only one form for all stems:

-yeex	-yeex	-yeex	-yeex	= to talk
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Such verbs could be called 'regular', although the forms of the other verbs also display considerable regularity. Normally there are 4 to 5 forms:

-naah	-naad	-naal	-naah	= to lick (t-class)
-txiix	-txang -txaan	-txiil	-txih	= to handle a long object (zero-class)

Example, to be worked on (???):

-txix (-txee) -txing (-txe') -txeel -txe' = (1-class:) to handle a living being  
 (-txeen) (zero-class:) a living being moves

né' iłtxix = you pick him up from ni- 'i--n-ł-txix = upwards - him - present - you - active - handle a person.

nisiłtxéén = you have picked him up from ni--si-n-ł-txeen = upwards - him - past result - you - active - handle a person.

nidiγıłtxéél = you are going to pick him up from ni--diγı-n-ł-txeel = upwards - him - future - you - active - handle a person.

niyółtxe' = let him pick him up from ni-yi-o--ł-txe' = upwards - him - permission - he - active - handle a person.

□ possibly a suffix

Suffixes can be used to define the 'setting' of the verb form: emphasis can be lent by adding the suffix -ha' and negative emphasis by -ihih. A verb form is marked as indirect speech (quoting) by adding -laah/-laan.

Negation is expressed by putting doo = not/no in front of the verb.

A verb form cannot start with the stem, the classifier or even the subject prefix; if no other prefix is required, the verb form starts with the dummy prefix 'i-.

**Nouns**

Like the verb stem, the noun stem is preceded by prefixes and possibly followed by suffixes. There is no difference between definite and indefinite, i.e., there is nothing corresponding to the English the and a.

□ a prefix

The prefix to the noun describes its possessor: citcxóó = my grandmother from ci-tcxóó = my - grandmother. See the table of pronouns above. The prefix ci- = my has a different form when used for addressing a person: 'icxóó = grandmother! from 'ic-tcxóó = oh-my - grandmother.

□ the noun stem

Most nouns are composite, the single noun forms being reserved for kinship terms, body parts, etc, as explained above. Many single nouns are 'inalienable', that is, they cannot occur without an owner prefix: there is no stand-alone word for grandmother and -tcxóó can only be translated as 'somebody's grandmother'.

□ possibly some suffixes

Many noun suffixes (about 14 of them) play the same role as the prepositions in the Germanic and Romance languages: kxa 'bayéh = under the roots from kxa '-bayeh = root - under. This suffixing of prepositions is actually not unusual in Dutch or German: D. *de tuin in* or G. *den Garten hinein* = into the garden, literally 'the garden into'. These suffixes also combine with the possessive pronouns: cibi' = in me from ci-bi' = my - in. Likewise, bił = with him / with it / therefore from bi-ł = his/its - with.

Other noun suffixes modify the size of the object: the diminutive suffix -idjeh is comparable to the suffix -chen in German or the suffix -je/-tje in Dutch. Unlike these languages, Mattole also has an augmentative suffix, -tçoh/-tçow-, describing larger than usual size; this suffix is comparable to the Italian suffix -one (Pepe → Peppone).

The difference between singular and plural is not expressed in the noun, though for the subject it may be indicated by using ya- in the verb. Also, action by a group is sometimes perceived as conceptually different from action by a single person, and is therefore designated by a different verb: -yaax = to go (one person, alone), versus -dił = to go (several persons, in a group).

**Syntax**

The adjective, which we have seen is actually a verb form, follows the noun; a few real adjectives (hai = this, sánding = other) precede the noun.

The usual Mattole sentence patterns are subject-verb-object and subject-object-verb; if there is no explicit subject, object-verb is usual. Small adjuncts (nínaa = for you) often precede or follow the verb.

Subject relative clauses – relative clauses in which the subject refers back – are generally expressed by an

adjective-like verb form with the noun indicator -gwo-: gwonist'é' naagwowilíγ = *people that will come to be* from gwonist'e' = *people* (in itself a verb form, meaning 'those that are so') and naa-gwo-γi--liγ = *all-the-time - noun indicator - subst - active - become = the people, those that will come to be*.

Object relative clauses – relative clauses in which the object refers back – are constructed with a special form of the object pronoun, 'aa-: hai 'aadil'íín = *this is what we do* from hai = *this* and 'aa-di-ł-'iín = *which - we - active - do*.

Subordinate clauses as such do not exist; the idea is expressed by having two main clauses connected by a conjunction comparable to the English *and*. Examples are: bił = *then* from bi-ł = *its - with*; biγaa = *therefore* from bi-γaa = *its - because of*. A sentence like 'We did not see him because he had already left' would be rendered as 'He had already left; therefore (= bi-γaa) we did not see him', a construction closely parallel to the Latin *cogito, ergo sum*.

Indirect speech is handled by the quotative suffixes -laah/-laan which follow the verb in the quoted part.

### Numerals

Numerals			
1	láiha'	7	ła'sgwód
2	nakxéh	8	djiht'syéđ
3	daak'éh	9	....
4	dint'syéh	10	nisiyáán
5	djikxóóla'	11	nisiyáán bik'eláiha'
6	gwostxáán	12	nisiyáán bik'enakxéh

A form like 11 is constructed as follows: nisiyáán bi-k'e-laiha' = *ten - of it - after - one*, i.e., ten and one after it.

### A short comparison between Navaho and Mattole

Navaho seems to have more of everything: more verbs stem forms (N. 5 vs. M. 4), more differences between light and heavy forms (N. 3 to 4 vs. M. 2), more assimilation rules, etc., but this may just reflect our limited knowledge of Mattole. Navaho has two tones, a high tone indicated by an acute accent (shí = *I*, cf. M. ci) and a low tone indicated by a grave accent (nì = *you*, cf. M. ni), with each and every syllable carrying a tone; Mattole has no tones.

Simple verbs forms are often almost equal: N. dibáh = *he starts off on a raid*, vs. M. dibaah = *he goes to war*, N. yi'ààł vs. M. yi'ał = *he chews it*, and even longer forms are often very similar: N. nínishtèèh vs. M. neenictxix = *I put you down* from nee-ni--c-ł-txix = *down - you - present - I - active - handle a person*, or, with an additional prefix in Mattole: N. 'áđishdéeéh = *I clean myself*, vs. M. gwona'adicdeh = *I wash myself* from gwona-'adi--c-l-deh = *some prefix - self - present - I - reflexive - wash*. The numerals, however, correspond only for 1, 2, 3, 4 and 10; the others differ completely.

The pronounced division of consonants in those usable in prefixes, as the initial consonant in the stem and as the final consonant of it, is typical of Mattole, although the principle is present in Navaho too, to a much lesser extent.

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