An Introduction to the

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Matoran Language (Matoric)

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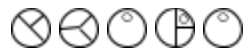
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Preface

This is an introduction to one of the languages of the Bionicle, the historical period which spanned the destruction and reformation of the superplanet Spherus Magna. Matoric (Standard Matoran: *Mataryk*) is a language associated first and foremost with the biomechanical "Matoran" species of Antiquity, although it was also spoken by many other species, all of whom originally inhabited the "Matoran Universe (MU)": a planetoid-sized technobiological synthezoid tasked by its builders, the Great Beings, with the restoration of the aforementioned superplanet.

Matoric is an artificially created xenolanguage designed by the Great Beings as a means of functional communication amongst the units working within the system of the MU. Over time, the inhabitants of the MU evolved from their original state as automaton-laborers to a state of self-actualization and self-awareness, and their use of language reflects this shift, with increases in creative variation, coinage of new words and repurposing of old ones, historical changes in form, shifts in convention, the formation of dialects, etc.--all at a timescale, however, much longer than that seen in Spherus Magnan languages, given the apparently unbounded nature of Matoran lifespans.

This document is designed to include all of the features of Matoric necessary to allow readers to understand the sound system, lexicon, and grammatical structure of the language and to begin using it as quickly as possible. The intention is to present these features with only a small amount of technical and theoretical vocabulary in the earlier chapters, although some terms will be necessary. In later chapters, more familiarity with principles of syntax and morphology will be assumed.

This text has been reviewed and approved for dissemination amongst the wider public by the administration of the Adherency.

Thos Annonys amat.
Long Live Annona

Note on Translation

The text preserved here was not originally written for a human audience, although the native inhabitants of Spherus Magna appear to share some features with our species--including, quite possibly, a similar faculty of language. In translating this work from the original, however, the goal has been to "transliterate" the Spherus Magnan audience into a human one, presenting all the linguistic concepts in terms understandable to humans.

Therefore, all explicit references to Agori have been changed to "human" and all analogies to Agoric languages have been adapted to the human language of English, including references for spelling and pronunciation, replacing the Agoric writing system with the Latin Alphabet, and altering example words, phrases, sentences, and references to grammatical concepts in all chapters.

It is my hope that this translated guide to the language of the Matoran might serve the same purpose for the humans of Earth that it (apparently) did for the later generations of Agori who inhabited Spherus Magna. In this cycle of origin, loss, change, and rebirth, may it be that we catch a glimpse of the way of the BIONICLE.

Language Acknowledgment

The names of characters, creatures, objects, and locations in the first year of the BIONICLE storyline were taken from the Māori Language (*Te Reo*), the language of the indigenous peoples of New Zealand, along with other Oceanic/Polynesian languages. This taking was an act of appropriation by LEGO, and several Māori tribes objected to it soon after. As a result, some words were removed or replaced, some were altered in form, and some were allowed to remain.

One of the detrimental effects of appropriation is the erasure of the cultural origin of the appropriated item(s). Therefore, at the outset of this work, I wanted to acknowledge and affirm the origin of the set of words that remained within the BIONICLE "corpus" after the agreement between LEGO and Māori tribes.

These are the words of the language of the Māori people, a part of their cultural history and linguistic identity, and they must not be erased:[1]

āki "urging, encouragement"	*mata* "face, countenance, surface"
harakeke "flax"	*matatū* "(be) watchful, wakeful; enduring"
hau "vital essence, vitality"	*mātau* "(be) clever, knowledgeable"
huki "rise up, convulse"	*naho* "hasty, quick"
huna(-a/-ia) "to conceal, hide"	*nui* "large, great, many"
ihu "nose, snout"	*onepū* "sandy, sand"
kāhu "hawk"	*oneone* "earth, soil, dirt"
kaitā "(be) large, big, major"	*ōnewa* "dark grey stone, basalt"
kakama "alertness, quickness"	*pakari* "mature, ripe, strong"
kanohi "face, eyesight"	*pōhatu* "stone, stony, rocky"
kāpura "fire"	*puku* "?quietly, secretly"
kauae "jaw, chinbone"	*rahi* "big, large, great, importance"
kaukau "swimming, bathing"	*rau* "?leaf; plume, spray"
kewa "whale, fish"	*ruru* "?sheltered"
kōmau "to cover a fire"	*tahu(-na)* "to set alight, burn"
kōngū "be cloudy, overcast"	*taipū* "heap, pile, dune"
kōpaka "ice, frost, hail, glacier"	*tāmaru* "cloudy, overcast, shady"
kōpeke "cold"	*tiro* "gaze, inspection"
koro "bay, cove, inlet"	*toa* "courage, warrior"

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[1] This table is incomplete, as there is some unclarity about the precise origin of some words in the corpus. The definitions provided here are also approximate, based on multiple lexicographic sources for Māori. The definitions provided are selected as the most likely intended choice by the developers of BIONICLE--most of the words have multiple additional meanings.

kūmū "promontory, headland" *?mirumiru* "bubble" *mākū* "wet, moist, damp" *mana* "prestige, authority, control" *māngai* "mouth"	*wahi* "location, locality, place" *wairua* "spirit, soul" *whenua* "land, country, ground"

Although this document is a work of creative fiction, my hope is that it may generate a broader interest in language amongst its readers and point them in the direction of language learning, linguistics, and the study of minority and indigenous languages like Māori, which deserve support, respect, and preservation.

An additional goal of this work is to provide a way for BIONICLE fans to invent universe-internal names for their original characters and creations as an alternative to the practice of taking additional words from the Māori Language, or related languages, simply to create a "Polynesian" aesthetic.

Chapter 1. The Sound System of Matoric
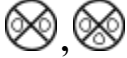
First and foremost, it should be emphasized that Matoric is a *xenolanguage*--not a human language--neither is it spoken or acquired by human speakers within the universe of BIONICLE. As such, there is no guarantee that Matoran (and Matoran-adjacent species) pronounce the sounds of their language using means that are at all similar to those used by humans: an oral/nasal cavity, lips, teeth, palate, tongue, etc. Indeed, it is clear that the audible expression of Matoric is likely to be very different in reality from the way that it is represented in "translation". In fact, the Matoric vocal system appears to consist of a single oral aperture with (at least) four wedge-shaped articulators and possibly no nasal cavity, even though Matoran have been depicted with fully articulated mouths and lips in various forms of media.

With this said, the notion of *translation* is significant. If we assume that the form of names and terms that are presented within the BIONICLE record are not random and do indeed reflect some aspects of the original Matoric system, then an approximate sound system can be constructed based on those names/terms and their corresponding "human" pronunciations.

1.1 Basic Pronunciation & Spelling

A system for representing the basic pronunciation of Matoric letters is presented in the table below, associating specific sounds (represented by IPA transcription and an informal English description) with letter-forms in both the Matoran Alphabet and the transliteration of that writing system into the Latin Alphabet.

Matoran Alphabet	Latin Alphabet	Sound (IPA)	Sound (English example)
	< k >, < c >	[k]	"**k**ick"
	< x >, < kh >, < ch >	[ks, kh]	"mi**x**", "ba**ckh**and"
	< g >	[g]	"**g**ive"
	< h >	[h]	"**h**at"
	< ng >	[ŋ]	"ki**ng**"
	< sh >	[ʃ]	"**sh**ell"
	< j >	[dʒ]	"**j**ump"
	< t >	[t]	"**t**ell"
	< d >	[d]	"**d**ell
	< th >	[θ]	"**th**ing"
	< s >, < c >	[s]	"**s**ell"
	< z >	[z]	"**z**oo"
	< n >	[n]	"**n**et"
	< l >, < lh >	[l]	"**l**et"
	< r >, < rh >	[ɾ]	"pi**t**y" in fast speech; Spanish pe**r**o
	< y >	[j]	"**y**et"

(symbol)	< p >	[p]	"**p**et"
(symbol)	< b >	[b]	"**b**et"
(symbol)	< f >, < ph >	[f]	"**f**ail"
(symbol)	< v >, < vh >	[v]	"**v**eil"
(symbol)	< m >	[m]	"**m**et"
(symbol)	< w >, < wh >	[w]	"**w**et"
(symbol)	< a >	[ɑ]	"s**aw**"
(symbol)	< o >	[o]	"s**o**"
(symbol)	< u >	[u]	"s**ue**"
(symbol)	< i >, < y >	[i]	"s**ea**"
(symbol)	< e >	[e]	"s**ay**"
(symbol)	< ' >	[ʔ]	"uh‑oh" (abrupt sound between the syllables)

The Matoric sound system also contains the equivalents of diphthongs: two vowels pronounced together as a single syllable-unit. Diphthongs are simply spelled with two separate vowel symbols in a sequence at this point in time. Not all sequences of vowels are allowed as diphthongs, however. The nine diphthongs in the table below show the possibilities:[2]

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[2] Diphthongs are given a broad transcription in IPA. Assume that they are pronounced as "falling" diphthongs, and that the second segment is non-syllabic.

< ea > [eɑ] "p**ay a**ll" (as one syllable)	< ie > [ie] "r**ee**mbark" or "s**ee**"[3]	< ia > [iɑ] "r**ea**lign"
< ui > [ui] or [uj] "g**ooey**"	< ua > [uɑ] "t**o a**ll" (as one syllable)	< ou > [ou] or [ow] "n**o oo**ze" (as one syllable)
< oa > [oɑ] "st**owa**way"	< ai > [ɑi] or [ɑj] "m**i**ne"	< au > [ɑu] or [ɑw] "m**ou**nd"

When an eligible sequence of vowels is not intended to be read as diphthongal, the symbol <'> is inserted between the vowels in order to break up the syllables (<a'i> [ɑ.ʔi], <a'o> [ɑ.ʔo], etc.).

Some additional notes on spelling are in order. The use of the letter <c> in some transcriptions of words and names is the result of a basic confusion between variant letter-forms of the Matoran symbols for <k> and <s>. As shown in the table above, there is a second variant form for each symbol, directly related to the first variant. These secondary forms are very similar to each other, and have over time become conflated, hence the varying sound-values for the letter <c>. The result is that, when <c> precedes the vowels <e> and <i>, it is to be understood as the <s>-variant, with a pronunciation of [s]. In all other cases, the <k>-variant (with a pronunciation of [k]) is intended.

Other cases where there are two variant forms, such as the symbols for <l>, <r>, <f>, <v>, and <w>, have a slightly different origin than the variation with <c>. These reflect instances of historical sound change in Matoric. In earlier stages of the language, the sound system included "devoiced" or "aspirated" versions of the sounds listed above. Letter-sequences with <h> are used in the Latin transcription to represent these older sound-values (<lh>, <rh>, etc.), which have, however, collapsed over time with the default realization of the sound. Nevertheless, in many cases, the older spelling has been retained by convention (viz. ***lh****ikan*, ***rh****otuka*). Finally, the variant form for the letter <i> (transliterated as <y>), results from a "ligature" originally representing the sequence <ai> (a diphthong) by superimposing the symbols for <a> and <i>. This was eventually conflated with the symbol for the consonant <y>.

A more precise presentation of the sound system of Matoric is not possible without a detailed understanding of the xenophonology of the system, the full scope of which is beyond this document. However, a rough and incomplete version of such a system is

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[3] This diphthong is reduced to a single vowel sound, represented in the pronunciation example "s**ee**", at the end of a word.

presented below in the hopes of helping readers to understand some of the significant ways in which Matoric xenophonology converges with, and diverges from, the principles of human phonology. The section which follows assumes an understanding of phonological terminology.

1.2 Matoric (Xeno)phonology

The equivalent of "vowel" and "consonant" sounds appear to exist in Matoric, along with the principles by which sound-segments are organized into "syllables". Consonant sounds may be roughly divided up by the human equivalents of *voicing*, *place of articulation*, and *manner of articulation*, while vowels appear to be organized according to (at least) features of *height* and (something like) *roundness*--but not *frontness/backness*, notably. In other cases, the categories that exist in Matoric clearly cross-cut some of the categories that are typically at work in human languages.

For example, in Matoric there are established phonological relations between the sound represented by <k> and the sound represented by <r>, the sound represented by <g> and that represented by <d>, <b> and <g>, <v> and <l>, <s> and <t>, etc. These typically manifest as allophonic variants arising in intervocalic positions within words, as well as in dialect-wide sound changes (such as the Makuta dialect-shift of <r> to <l>, <g> to <j> in certain contexts, etc.).

Some of these correspondences (such as *s ~ t* or *r ~ l*) will be largely unsurprising to those who are versed in principles of human phonology, but others will be more marginal (*b ~ g? v ~ l?* etc.). This is because, once again, the Matoric system of phonology deals in categories that are different in some ways from human categories, both in terms of articulation (because Matoran and Matoran-adjacent beings do not have the same articulatory apparatus as humans) and possibly in perception (because they also may have different perceptual apparatus).

With some of these ideas in mind, Figure 1 below attempts to give an idea of some of the relations that exist between the consonant sounds that are represented in the table above. IPA transcriptions are not used here, because this table does not represent human pronunciations or human phonological organization. Instead, the Latin Alphabet letter forms are simply used as stand-ins for the values of the original Matoric sounds:
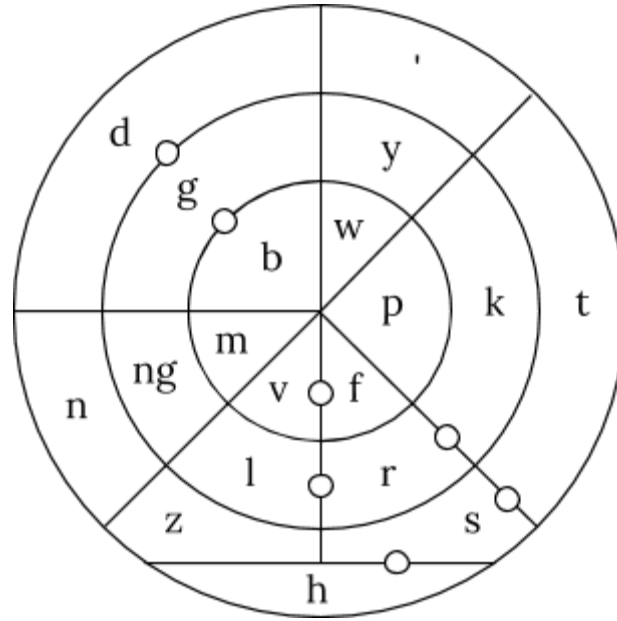
Figure 1. Approximate Matoric Consonant System

In the figure, it can be seen that the sounds in the outermost "ring" correspond to sounds with an [alveolar] place of articulation, in human terms. The medial ring corresponds to a [velar] place of articulation, and the innermost ring corresponds to a [labial] place of articulation. The division of the rings into roughly six portions represents a hybrid of "voicing" and "manner". The rightmost portion clearly includes the equivalent of "voiceless stops", while the upper left portion includes "voiced stops". The other portions correspond to "nasals", a combination of "fricatives" and "liquids/approximants", and "semivowels".

Sound changes and sound variation in Matoric generally involve one segment "crossing over" into an immediately adjacent region within the chart (as with $s \sim t$, for example), although some boundaries between regions are less permeable than others for reasons that are not yet well understood. Permeable boundaries are represented in the figure by boundaries bisected by a small circle.

The structure of the Matoric vowel system is a slightly simpler affair than the consonant system, since the organization of Matoric vowels appears to be less complex than human vowel systems, relying only on equivalents of "height" and roundness to distinguish vowel sounds. Even then, based on historical change, it may be possible to describe the Matoric vowel space purely in terms of vowel height. Specific vowels also appear to have natural correlations with specific consonants: $a > h$ is a common strategy for resolving vowel hiatus, for example, while the vowel i correlates with y in many cases. A column containing the different vowel-qualities in Matoric is placed alongside the

consonantal system in Figure 2 below, with lines indicating some correlations. Note also that internal to the vowel chart, the individual boundaries between specific vowel qualities are also permeable, as indicated by the empty circle.
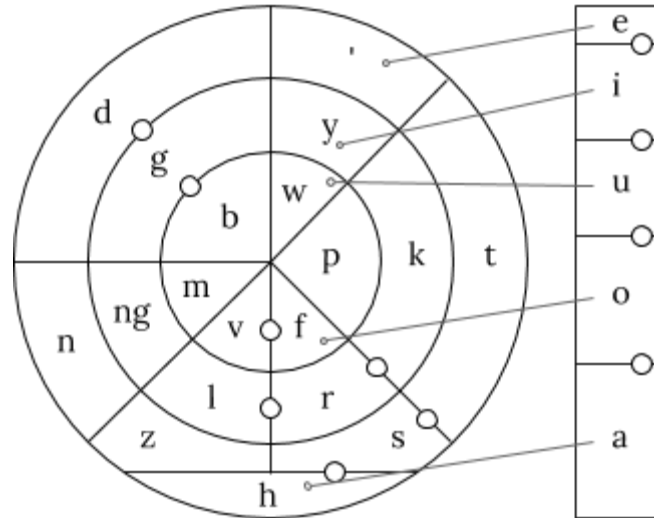
Figure 2. Approximate Matoric Consonant + Vowel System

1.3 Recap

You now have the general tools to read and pronounce the Matoric words that you will encounter later on, and you have an idea of some of the variations in sound and spelling that arise in Matoric. An additional purpose of this chapter is to introduce the basic idea that Matoric phonology is not identical with human phonology and sketch out what that might look like in practice, while also providing readers with a guide for how to approximate Matoric pronunciation using human articulations.

Chapter 2. Words and Categories

An important part of learning and using any language is understanding how the basic units of that language (roughly "words") are organized into different categories. These categories are commonly called "parts of speech", and they include things like:

(1)   **Nouns:** words like "person", "dog", "love" that signify *entities*--persons, places, things, ideas, concepts, etc.

(2)   **Verbs:** words like "run", "play", "build", "become" that signify *events*--actions, activities, processes, states, etc.

(3)   **Adjectives**: words like "red", "happy", "doubtful" that signify states or properties of nouns.

(4)   **Adverbs:** words like "often", "occasionally", "unfortunately" that signify states or properties of verbs and sentences.

All words in Matoric are, by default, "category-neutral", meaning that any word listed in the glossary may be used to specify an *entity*, an *event*, or a *state/property* of one of these, given the right context and marking. With that said, while individual unmarked Matoric words are technically category-neutral, the closest English translation of them tends to be very "noun-like"--specifying *entities*--and therefore Matoric words in isolation are typically translated with English nouns, as in the examples below:

(5)   **aki** "valor, bravery; leadership, initiative"

(6)   **aku** "sight, vision; knowledge"

(7)   **hau** "shielding, protection, safety"

(8)   **iro** "work, labor"

It is potentially helpful for learners to think of Matoric words as being nouns by default which can be "verbed" or "adjectived" in different contexts. In the next two sections, the categories of verbs and modifiers (adjectives/adverbs) will be introduced and explained. In each case, a different marking or configuration is used to indicate that the words in a specific phrase are to be interpreted as some different category from their default ("noun-like") specification.

2.1 Verbs

The equivalent of a verb in Matoric is formed by the addition of the marker *ya* "event (of)" immediately after any word. This indicates that the word marked by *ya* is to be interpreted as an "event of (the semantic content of the word)".

The following table lists isolated words with their default interpretations in the left column and corresponding "verbal" interpretations with *ya* in the right column:

Word ("noun-like")	With *ya* ("verb-like")
aku "sight, vision; knowledge"	*aku* **ya** "to see; to know ('event of sight/knowledge')"
iro "work, labor"	*iro* **ya** "to work, to labor ('event of work/labor')"
aki "valor, bravery; leadership, initiative"	*aki* **ya** "to act bravely; to lead, take initiative ('event of valor/initiative')"
hau "shielding, protection, safety"	*hau* **ya** "to shield, protect, make safe ('event of shielding')"

Sometimes it can be difficult to capture how exactly the default interpretation of a word translates into a verbal use. In general, when fitting a word into a verbal context with *ya* the translation of the newly created verbal phrase is "to act in a way defined by (the semantic content of the word)".

So, in the case of *aku ya*, the translation could be paraphrased as "to act in a way defined by sight/knowledge". This is not precisely the same as "to see" or "to know", but it could encompass these meanings. The examples with *iro* and *aki* are clearer: "to act in a

way defined by work/labor" and "to act in a way defined by valor/initiative". In these cases, the English verbs "to work" and "to act bravely, to lead" fit fairly well.

Words that signify more concrete, specific, and physical meanings can be more difficult to conceptualize, but they follow the same pattern as above: the word *taha* "(physical) fire, flame, heat" is verbalized as *taha ya*, which translates as "to act in a way defined by fire/flame/heat". This could cover a wide range of English verbs: "to flame", "to burn", to "flare (up)", "to heat (up)", etc. The common theme is that some action is performed that reflects the (physical) properties of fire/flame/heat.

2.2 Modifiers

The category of "modifiers" includes both "adjectives" and "adverbs"--words that add descriptive content to other words, both nouns and verbs. The derivation of modifiers in Matoric is not accomplished by the addition of a marking, as with the verbal *ya*. Instead, modification is indicated by the position of the words in a sequence ("syntax"). There are two methods of indicating that one word modifies another. The first involves simply placing two words in a sequence. While the other involves making one word (the intended modifier) into a "prefix", attaching to the beginning of the other word.

2.2.1 Standard Modification

When one unmarked word is placed immediately after another word, the second word is interpreted as a modifier of the first. Multiple modifiers can be strung together in this way, with the first word in the sequence being interpreted as the "head". The basic equation is as follows:

(9)   X + **Y**   = "Y modifies X"

(10)   X + **Y** + **Z**   = "Y and Z modify X"

(11)   X + **Y** + **Z** + **W** = "Y and Z and W modify X"

The table below provides a list of example words (which, again, start out with default "noun-like" status) and some phrases constructed from them, illustrating standard modification:

Example Words	Example Phrases
toa "hero, heroism" *aki* "valor, bravery" *rua* "wisdom" *paka* "strength"	*toa* **aki** "**brave** hero" *toa* **aki rua** "**wise, brave** hero" *toa* **aki rua paka** "**strong, wise, brave** hero" *aki* **toa** "**heroic** bravery" *rua* **paka** "**strong** wisdom"

The modifiers in the table above are directly equivalent to "adjectives", which modify nouns. However, modification can also apply in the context of the verbal marker *ya*, yielding the equivalent of "adverbs", which modify verbs. The modification of verbal contexts is slightly more complex, due to the fact that modifiers must be positioned with respect to the verbal marker and the word it marks. The equations below illustrate some of the possibilities:

(12) **X** + *ya* = "event-of-X"

(13) X + **Y** + *ya* = "Y modifies event-of-X"

(14) X + **Y** + **Z** + *ya* = "Y and Z modify event-of-X"

...Etc.

As can be seen, modification in a verbal context follows the exact same pattern as modification in a non-verbal context: the first word in the sequence (X, in this case) is interpreted as the "head", and all subsequent words (Y, Z, etc.) are interpreted as modifiers. Importantly, this represents an exception to the rule introduced in Section 1 whereby the verb marker *ya* verbalizes the word that immediately precedes it. In the context of modification, *ya* verbalizes the first word in the sequence (the "head"), ignoring all the intervening modifiers.

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Example Verbs	With Modifier(s)
iro ya "to work, labor" *aku ya* "to see; to know" *hau ya* "to shield, protect, make safe"	*iro **aki** ya* "to work **bravely**" *iro **aki rua** ya* "to work **bravely** (and) **wisely**" *iro **aki rua paka** ya* "to work **bravely** (and) **wisely** (and) **strongly**" *aku **aki** ya* "to see **bravely** ('to look/gaze bravely')" *hau **toa paka** ya* "to protect **heroically** (and) **bravely**"

Because of the fact that standard modification in verbal contexts places modifiers between the verbalized word and *ya*, this has the potential to create quite a bit of ambiguity in sentences, since readers will be tempted to interpret the word immediately preceding *ya* as the verb. Fortunately, there is also an additional option to represent standard modification, illustrated in the equation below:

(15)   X + *ya* + **Y**   = "Y modifies event-of-X"

(16)   X + *ya* + **Y + Z** = "Y and Z modify event-of-X"

        ...Etc.

In this case, ambiguity is avoided by placing all of the modifiers after *ya*, preserving the adjacency between *ya* and the word it verbalizes (X). There is no significant meaning-difference between these two versions of modification, and, in fact, they can be mixed together according to the speaker's preference:

(17)   X + **Y** + *ya* + **Z** = "Y and Z modify event-of-X"

Examples with modifiers after *ya*
(a) *iro ya **aki*** "to work **bravely**"
(b) *iro ya **aki rua*** "to work **bravely** (and) **wisely**"
(c) *iro ya **aki rua paka*** "to work **bravely** (and) **wisely** (and) **strongly**"

Other possibilities for (c):

(c') *iro **aki** ya **rua paka***

(c") *iro **aki rua** ya **paka***

2.2.2 Prefix Modification

Modification can also be expressed by using a given word as a "prefix"--a unit that is attached to the beginning of another word which it modifies. This form of modification tends to express a slightly different meaning for modifiers: a meaning that focuses on more concrete and physical properties or a more "literal" interpretation of the content of the modifier.

The classic example is the use of the word *nui* "greatness, vastness" in different configurations. When used in the standard modification context, *nui* can be translated as "great", meaning "significant", "important", "wide in scope", etc. In the prefix modification context, however, *nui* tends to mean "big" or "large", referring to the greatness or vastness of the concrete/physical properties of the word which it modifies. This, along with other examples, is illustrated in the table below:

Standard Modification	Prefix Modification
rahi nui "great beast"	*nui-rahi* "large beast ('physically defined by vastness/greatness in terms of form/actions')"
toa aki "brave hero"	*aki-toa* "leader hero, quick-to-act hero ('physically defined by bravery/initiative in terms of form/actions')
toa rua "wise hero"	*rua-toa* "careful/wary/perceptive/tactful hero ('physically defined by wisdom in terms of form/actions')"
toa paka "strong hero"	*paka-toa* "muscular/brawny/sturdy/athletic hero ('physically defined by strength in terms of form/actions')"

As can be seen, the basic interpretation of prefix modification is "physically defined by (the semantic content of the modifier) in terms of form/actions". Importantly, although prefix modification *tends to* lead to a physical/concrete interpretation as illustrated above, it is not *required to*. There are cases where the metaphysical/abstract interpretation is

intended, and prefix modification is used to avoid ambiguity in a larger sentence structure. These cases will be discussed later on.

One more important context where the distinction between standard and prefix modification becomes negligible is in verbal contexts. Prefix modification is available in the context of the marker *ya*, and does not necessarily impose a more physical/concrete interpretation of a given event, although such an interpretation is available. Prefix modification can be used to further avoid the ambiguity that arises with standard modification in verbal contexts, as illustrated below:

Examples of prefix modification with *ya*
(a) ***aki-****iro ya* "to work **bravely**"
(b) ***rua-aki-****iro ya* "to work **bravely** (and) **wisely**"
(c) ***paka-rua-aki-****iro ya* "to work **bravely** (and) **wisely** (and) **strongly**"
Other possibilities for (c):
(c') ***rua-aki-****iro **paka** ya*
(c") ***aki-****iro **rua paka** ya*
(c"') ***aki-****iro **rua** ya **paka***
(c"") ***rua-****iro ya **aki paka***
...Etc.

2.3 Interim Summary

All of the different parts of speech used in Matoric have been introduced so far, with the following properties:

- Words in Matoric are "category-neutral" by default, but are very close to **nouns** in this state. It is useful to simply think of all words in Matoric as nouns by default.

- **Verbs** are formed by adding the marker *ya* after a word: *iro* "work, labor" → *iro* **ya** "to work, to labor"

- Words can become **modifiers** (adjectives or adverbs) when combined together in a sequence. There are two forms of modification: Standard Modification and Prefix Modification.

- ○ **Standard Modification:** In a combination of two or more words, the first word is interpreted as the "head", and all subsequent words in the sequence are modifiers, either **adjectives** or **adverbs**, depending on the context: *toa **aki*** "**brave** hero" vs. *aki **toa*** "**heroic** bravery"; *hau **aki** ya* or *hau ya **aki*** "to protect **bravely**".

- ○ **Prefix Modification:** One word is "prefixed" onto another word. The prefixed word is the modifier, while the non-prefix word is the "head". The basic interpretation of prefix modification is "physically defined by (the semantic content of the modifier) in terms of form/actions": ***nui**-rahi* "**large** beast" ***aki**-toa* "**leader** hero"; ***toa**-hau ya* "to protect **heroically**".

2.4 Simple Equative Sentences

Now that you have been introduced to the different categories used in Matoric, it is time to introduce the basic format for a simple sentence, called an *equative sentence*, translated as "X is Y". In other words, X is *equated with* Y. A special marker *ai* "be" is used to create these sentences, placed at the very end of the sentence:

(18)   X + Y + *ai* "X is Y"

Technically, *ai* is *optional.* The sentence in (18) could be rewritten as X + Y, with the same interpretation ("X is Y"). However, this leads to ambiguity, since X + Y looks exactly like an example of Standard Modification: "Y modifies X". The specific context in which a sentence is uttered or written usually helps to clarify the intended meaning, but for beginners, it is advisable to always use *ai* when an equative sentence is intended. The reason for this overlap between equative sentences and modification is not random! Equative sentences actually do involve a form of modification, since one word is being described or embodied by the other.

The precise interpretation of equative sentences is as follows: In a structure X + Y + *ai*, X is typically interpreted as a noun (the default, as usual), while Y is interpreted either as a noun or an adjective-like modifier. The table below provides examples of equative sentences with both variant translations:

Equative sentences	Translation (noun or adjective)
*Dosne paka **ai***	"Dosne **is** strength" or "Dosne **is** strong."
*Nokama rua **ai***	"Nokama **is** wisdom" or "Nokama **is** wise."
*Aki paka **ai***	"Valor **is** heroism" or "Valor **is** heroic."
*Midak apu **ai***	"Midak **is** (a) friend" or "Midak **is** friendly."

2.4.1 Negation in Equative Sentences

The default interpretation of equative sentences (and other relations like modification) is "positive", in the sense that a statement "X is Y" is interpreted as a claim that X is indeed Y. But sometimes it is necessary to express the opposite: that X is *not* Y. This is called *negation*, and it is represented in Matoric by the marker *ru* "(be) not", placed at the very end of a sentence or phrase--in the same slot that *ai* would normally be placed. Note that *ai* and *ru* are mutually exclusive--they do not occur at the same time.
Each of the sentences in the table above can be rewritten with *ru* in order to convey the opposite meaning:

Negative sentences	Translation (noun or adjective)
*Dosne paka **ru***	"Dosne **is not** strength" or "Dosne **is not** strong."
*Nokama rua **ru***	"Nokama **is not** wisdom" or "Nokama **is not** wise."
*Aki paka **ru***	"Valor **is not** heroism" or "Valor **is not** heroic."
*Midak apu **ru***	"Midak **is not** (a) friend" or "Midak **is not** friendly."

Lastly, *ru* can also be used as a modifier to "negate" other words, such as nouns or other modifiers. In this usage, it is common to employ prefix modification to convey the meaning "not X" or "un-X":

Examples with *ru-*
*toa **ru**-aki* "**not**-brave hero"
*toa aki **ru**-rua* "brave, **not**-wise hero"
***ru**-toa paka* "strong **not**-hero"
***ru**-paka aki* "brave **not**-strength"

More discussion of negation in complex sentences is found in Section 3.3.

2.5 Recap

At this point, you have the tools to interpret isolated words, simple phrases, and simple sentences in Matoric. You have been introduced to the concepts of word-categories or parts of speech and provided with explanations for how to interpret and derive the categories of nouns, verbs, and modifiers (adjectives, adverbs). Finally, you have also been given the tools to construct simple equative sentences ("X is Y").

The next section contains a brief list of common Matoric words, some of which have been used in examples already, with corresponding translations.

2.6 Word List

aga	burden, heaviness, mantle; bowing, bending; wisdom, weight of experience
aki	valor, bravery; leadership, initiative; leader, lord
aku	sight, vision, perception; knowledge, knowing; clarity (of thought/mind)
apu	friend, friendliness, ally-hood, companionship; compatibility, reliability, trustworthiness
ar	creativity, (pure) creation, inspiration
aro	discrete unit, item, entity
atu	spirit (of), avatar, embodiment; expression, extension
axi	evaluation, measurement
bahi	significance, importance; authority, management, overseeing/oversight
cehi	variation, possibility, n-ary (non-binary)
dehi	communication
ele	search, seeking
fahi	limit, (de)limitation, end
fehi	invention, creativity, innovation
gahi	cohesion, progression, continuity
gala	(physical) water, liquid, waves
hau	shielding, protection, safety
ida	soul, spirit, substance of being
iete	measurement, measure, metric, share, dosage
igo	growth, change, mutation
ika	spirit, being, creature; form, substance, matter/energy

iki	imagery, image, reflection; flicker, flash, glint
iko	mind, intelligence, forethought, foresight, (the) future
ila	field, range, extent; array, containment; bearing, carrying, wielding
ini	memory, record; history, (the) past; star(s), constellations
ipo	personality, character
iro	construction, building; application, realization
iru	downward, earthward, descent
ite	calculation, computation, processing
ivo	linkage, transit, transmission
karo	fuel, energy source
kau	breathing, breath
khi	fragmentation, destruction
kohu	(physical) ice, cold, snow
kura	anger, rage
lehi	activity, excitability, life
leha	(physical) air, wind, breeze
me	mind, brain, mental system
nui	vastness, greatness, largeness
ona	(physical) earth, ground, soil, dirt
opo	present time, (the) present, here-and-now, current moment
otu	(high) intensity, extremeness; conversion, transition, transformation, volatility
otua	(physical) plasma, extreme heat, volatile/unstable matter
pa	solid substance/object, consistency (homogenous); resilience, immutability

poha	(physical) stone, rock, granite
pra	precedence, primordiality, precursor, ancientness
ra	unknown, (the) unseen; strangeness, foreign-ness; age, ancientness, pre-history
rahi	beast, wildlife; strange, unknown, dangerous thing(s)
ranohi	product, production, outcome of work/labor
rau	translation, understanding
rax	titan, large being, agent/actor
rhotu	rotation, spinning, wheel
ru	solid substance/object, solidity (heterogenous); foundation, grounding
sa	consumption, hunger
taha	(physical) fire, flame, heat
teri	inscrutable calculation, hidden understanding
tura	fear, terror, cowardice
turi	peace, calm; age, experience
voha	(physical) lightning, electricity, energy
vohi	satisfaction, satiation, balance

⊘

Chapter 3. Complex Sentences

At this point, simple equative sentences consisting of a set of items and the marker *ai* have been discussed ("X is Y"), but the topic of Matoric sentence structure is much more complicated. In this section, the full complexity of individual sentences will be discussed, starting with the introduction of *non-equative sentences*: sentences whose meaning is more detailed than "X is Y". These will be termed "complex sentences".

Complex sentences in Matoric are formed on the basis of a verb (reminder: a word marked with *ya*), which specifies the core action/event of the sentence. (1) provides a starting example built on *iro* "work, labor":

(1)   *iro ya* "to work, to labor"

This sequence could actually stand on its own as a sentence, translating roughly as "There is an event of working" (see Section 5 for more information on "existential sentences" of this kind). Typically, however, sentences contain a verb plus (at least) some other word specifying an entity that is involved in the action/event of the sentence. We may simply use a name such as "Midak" for the time being:

(2)   *Midak iro ya* "Midak works"

This sentence could also be translated as "There is an event of working in which Midak is involved" or, more obtusely: "Midak work event". In this case, the entity specified by *Midak* is directly involved in the event of working--in other words, Midak is the work-er of this event. With that said, more than one entity can be involved in the event/action of the sentence. Consider a new example built on *aku ya* "(to) see" (*aku* "sight, vision"):

(3)   *Midak Dosne aku ya* "???"

This sentence could be translated as "There is an event of seeing in which Midak and Dosne are involved", or "Midak Dosne sight event". However, nothing in the sentence specifies the precise *role* that the entities Midak and Dosne play--is Midak seeing Dosne, or the other way around? In order to distinguish different roles within an event, Matoric utilizes *role-markers*.

3.1 Role-markers: Subject and Object

There are two markers that function to distinguish roles within an event. Each marker is placed immediately after the word or phrase which plays that role.

Subject Agent/Causer/Controller	*ta*	Expresses that an entity is the Subject of a sentence: the agent, causer, or controller of the event.
Object Patient/Target/Controllee	*za*	Expresses that an entity is the Object of a sentence: the patient, target, or controllee of the event.

Returning to the example in (3) above, if we add one or more role-markers to this sentence, it can immediately clarify the roles of Midak and Dosne:

(4)   a. *Midak **ta** Dosne **za** aku ya* "Midak (subject) sees Dosne (object)."

b. *Midak Dosne **za** aku ya*

c. *Midak **ta** Dosne aku ya*

(5)   a. *Midak **za** Dosne **ta** aku ya* "Dosne (subject) sees Midak (object)."

b. *Midak Dosne **ta** aku ya*

c. *Midak **za** Dosne aku ya*

Note that both markers need not be present--even the addition of one marker, either *ta* or *za*, is enough to clarify the relations of the entities within the event. In addition, the role markers can be assigned in any order. In (4), *ta* is assigned to Midak, but to Dosne in (5), and this changes the interpretation of the sentence. With this said, the subject does tend to precede the object as a general rule in Matoric, and this convention will be followed consistently in examples going forward.

Another notable feature of role-markers is that they can be used to signify the presence of a subject or object entity in a sentence even if there is no word to represent

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that entity. In other words, *ta* and *za* can both function as "indefinites", translating roughly to "someone" or "something".

We will focus on *za* first. In a sentence like (6) below, *za* is present to indicate that there is an object of the event of seeing, but there is no word that "fills in" the content of the object, leaving it indefinite:

(6)   *Midak ta **za** aku ya* "Midak (subject) sees **someone/something** (object)."

This construction also exhibits a slight quirk that should be noted: When *za* is used in this indefinite manner, it is also typical, though not obligatory, for the verb (*aku*, in this case), to be prefixed onto *za*, yielding a structure like (7):

(7)   *Midak ta aku-**za** ya* "Midak (subject) sees **someone/something** (object)."

This only occurs when *za* is immediately followed by the verb. In other cases, no prefixation occurs, as in (8), where the linear order of subject and object is reversed:

(8)   ***Za** Midak ta aku ya* "Midak (subject) sees **someone/something** (object)."

The marker *ta* also may be used to convey an indefinite subject in a similar way. One slight difference is that, when *ta* is used in this way, it takes on a new form, *aka*, as in (9a), unless it happens to be adjacent to the verb, in which case, unlike with the marker *za*, the verb is *always* prefixed onto it, and it retains its *ta* form, as in (9b):

(9)   a. ***Aka** Dosne za aku ya* "**Someone/something** saw Dosne (object)."

        b. *Dosne za aku-**ta** ya* "**Someone/something** saw Dosne (object)."

Having introduced the concept of "indefinites" which refer to some non-specific entity in a sentence context, another common set of word-units that interact with role-markers and represent entities in sentences (aside from names and other generic nouns) should be mentioned: *pronouns.*

3.1.1 Tangent: Pronouns

Pronouns are divided into First, Second, and Third Person categories and are also marked by the role-markers for Subject and Object, having subsequently developed independent "fused" forms.

	Basic Form	**Subject**	**Object**
1	*(r)o*	*(o)ka* "I, we"	*oza, ako* "me, us"
2	*o(h)u*	*(o)uka* "you"	*(o)uza, ak(o)u* "you"
3	*ohi, ai*	*(a)ika* "she, he, it they"	*(a)iza, akai* "her, him, it, them"

Due to historical factors, there is a certain amount of variation in the forms listed here (*ro* vs. *o*, *ohu* vs. *ou*, etc.) and in some cases completely new alternatives have been coined (viz. the object forms, where the forms with *-z-* are older while the forms with *ak-* are younger).

The examples below illustrate the use of pronouns. Note that the subject and object forms are not obligatory together--parallel to the usage of the bare role-markers above. As long as one form is marked as either subject or object, the other can remain unmarked, up to the user's preference.

(10)　　a. **Ro** *iro ya* "I/you/they work"

　　　　b. **Ka uza** *aku ya* "I see you"

　　　　c. **Ika oza** *aku ya* "They see me"

　　　　d. *Midak* **ta** *ro aku ya* "Midak (subject) sees me (basic)"

　　　　e. *Midak* **ako** *aku ya* "Midak sees me (object)"

　　　　f. *Hahli* **iza** *ile ya* "Hahli seeks it (object)" (*ile* "seeking, search")

　　　　g. **Ohu** *Hahli* **za** *ile ya* "You (basic) seek Hahli (object)"

Additional pronoun forms also exist and are used as markers to express notions of *possession*. In addition, there are distinct pronoun forms for expressing *location* and *direction*. All of these forms are discussed in Chapter 4.

3.2 Markers for Tense, Aspect, and Mood

Thus far, Matoric sentences have been presented in relatively simple terms, expressing statements about actions and events that generally occur in the present moment. However, Matoric has the means of expressing much more complex event structures, which will be the focus of the next three sections. Sentences may be marked for temporal information ("tense"), aspectual information ("aspect"), and modal information ("mood"), and the markers for each of these categories occupy specific positions within the sequence of a given sentence.

3.2.1 Tense

The following markers may be added at the end of a sentence to indicate **when** an event, action, state, or entity occurs in time (during, before, or after the present moment).

● These markers are added **after** the markers *ai* and *ya*, if they are present.

● All of these markers have both an **independent form** and an **affixal form** (listed below it). The suffixal form may exhibit some variation from the independent form. Both are interchangeable and the choice of one or the other is up to the user's preference. The use of affixal forms is discussed in Section 3.4 below.

● If **no** tense-marker is present, the default interpretation is **present tense**. This is expressed in the table by indicating that the marker *po* is optional.

Tense	Marker	Examples:
Present	*(po)* *[-po]*	Expresses that an event, action, state, etc. occurs *at the present moment.* -------- (a) *Midak iro ya (**po**)* "Midak works (right now)." (b) *Midak apu (ai) (**po**)* "Midak is a friend."
Past	*nu* *[-nu]*	Expresses that an event, action, state, etc. *prior to the present moment.* -------- (a) *Midak iro ya **nu*** "Midak worked." (b) *Midak apu (ai) **nu*** "Midak was a friend."
Future	*ko* *[-ro]*	Expresses that an event, action, state, etc. occurs *after the present moment.* -------- (a) *Midak iro ya **ko*** "Midak will work" (b) *Midak apu (ai) **ko*** "Midak will be a friend."

In general, tense markers do not occur together, and beginners should avoid combinations of multiple tense markers. With that said, it is indeed possible, although extremely uncommon, to specify events that occur, for example, in the present moment of a past time (i.e. similar, but not identical to the past tense), a future moment of a past time or a past moment of a future time (both of which would be very close to the present). Sequences of multiple tense markers can potentially be used to signify such complex relative temporal locations--especially in poetic or narrative contexts:

(11) a. ... *po nu* = "past of the present", a past moment, basically equivalent to the general past tense.

   b. ... *nu po* = "present of the past", a past moment viewed from that moment as if it were the present, as in a storytelling context.

(12) a. ... *po ko* = "future of the present, a future moment, basically equivalent to the general future tense.

   b. ... *ko po* = "present of the future", a future moment viewed from that moment as if it were the present, as in a storytelling context.

(13) a. ... *nu ko* = "future of the past", a future moment relative to a past moment, basically equivalent to the general present tense

   b. ... *ko nu* = "past of the future", a past moment relative to a future moment, basically equivalent to the general present tense.

Combinations of more than two tense markers (e.g. "future of the present of the past") are, again, possible, but vanishingly rare and will not be discussed here.

3.2.2 Aspect

The following markers may be added at the end of a sentence to indicate **how** an event, action, state, or entity unfolds on a timeline (starting, continuing, ending, repeating, etc.).

- These markers are added **after** the markers *ai* and *ya* and also **after** the tense markers *po*, *nu*, and *ko*, if present.

- As with the tense-markers, the markers below have both an independent and an affixal form, see Section 3.4 below for discussion.

- The example sentences in the table below do not contain any overt tense-markers, meaning that they are to be interpreted by default in the present tense.

Aspect	Marker	Explanation/Examples
Inceptive/ Inchoative	*ta* [–ka]	Expresses the start or inception of an event, action, state, etc.
		(a) *Midak iro ya* **ta** "Midak starts to work" (b) *Boreas tura (ai)* **ta** "Boreas starts to be afraid."
Imperfective	*ga* [–da]	Expresses that an event, action, state, etc. is in progress, unfinished, or incomplete *viewed as a whole unit* (this aspect overlaps with the narrower Progressive/Continuous Aspect).
		(a) *Midak iro ya* **ga** "Midak continues to work (ongoing, unfinished)" (b) *Boreas tura (ai)* **ga** "Boreas continues to be afraid (ongoing, unfinished)."
Progressive/ Continuous	*de* [–de]	Expresses that an event, action, state, etc. is in progress, continuing, or ongoing *viewed from a snapshot in time* (this aspect is a subset of the broader Imperfective Aspect).
		(a) *Midak iro ya* **de** "Midak is working (at this moment)." (b) *Boreas tura (ai)* **de** "Boreas is being afraid (at this moment)."
Habitual/ Iterative	*le* [–le]	Expresses that an event, action, state, etc. repeats or iterates over a length of time (a habit or repetitive pattern).
		(a) *Midak iro ya* **le** "Midak works (as a profession, each day, etc.)." (b) *Boreas tura (ai)* **le** "Boreas is afraid (repeatedly, over and over, etc.)."
Perfective	*fa* [–la]	Expresses that an event, action, state, etc. is completed or finished, whether viewed as a whole or from a specific point in time.
		(a) *Midak iro ya* **fa** "Midak finishes/stops working." (b) *Boreas tura (ai)* **fa** "Boreas stops being afraid."

Multiple aspectual markers can be combined together to signify more complex aspectual contours for events. Some of the most common combinations involve *ta*, *fa*, *ga*

and *de*, indicating the beginning or end of an ongoing process, or the "stretching out" of a start/end for some event into an ongoing process.

(14)   a. *Midak iro ya **ta***   "Midak **starts to** work."

   b. *Midak iro ya **ta ga*** "Midak **is (in the process of) starting to** work."

   c. *Midak iro ya **ta fa*** "Midak **finishes starting to** work."

(15)   a. *Midak iro ya **ga***   "Midak **is** work**ing**."

   b. *Midak iro ya **ga ta*** "Midak **starts to be** work**ing**."

(16)   a. *Midak iro ya **fa***   "Midak **finishes** work**(ing)**."

   b. *Midak iro ya **fa ta*** "Midak **starts to finish** work(ing)."

   c. *Midak iro ya **fa de*** "Midak **is (in the process of) finishing** work**(ing) (at the moment)**."

(17)   a. *Midak iro ya **de***   "Midak **is** work**ing (at the moment)**."

   b. *Midak iro ya **de fa*** "Midak **finishes the process of** work**ing (at the moment)**."

Other combinations of aspectual markers are also possible, with few limitations, in fact (habitual ongoing or perfective events with *le* for example).

3.2.3 Mood

The following markers may be added at the end of a sentence to indicate the likelihood, capability, and/or necessity of a possible (i.e. non-real) event, action, state, or entity coming into being.

● These markers are added **after** the markers *ai* and *ya* and **after** any markers of tense or aspect.

● As with the previous markers, the markers below have both an independent and an affixal form, see Section 3.4 below for discussion.

● The example sentences in the table below do not contain any overt tense-markers, meaning that they are to be interpreted by default in the present tense.

Mood	Marker	Explanation/Examples
Gnomic/ Generic	*ba*	Expresses a general, universal truth without reference to time.

	[-ga]	(a) *Matoran iro ya **ba*** "Matoran work (that's what they do)." (b) *Toa aki (ai) **ba*** "Toa are brave (that's what they are)."
Epistemic/ Possibility	*ce* [-ti]	Expresses that an event, action, state, etc. is possible or may potentially come about ("may, might").
		(a) *Midak iro ya **ce*** "Midak might work." (b) *Boreas aki (ai) **ce*** "Boreas might be brave."
Deontic/ Ability	*vo* [-vo]	Expresses that an event, action, state, etc. is capable of coming into being ("can, be able to").
		(a) *Midak iro ya **vo*** "Midak can/is able to work." (b) *Boreas aki (ai) **vo*** "Boreas can be brave."
Necessity/ Obligation	*su* [-tu]	Expresses that an event, action, state, etc. is necessary or obliged to come about ("should, must, need to, have to").
		(a) *Midak iro ya **su*** "Midak should/must work." (b) *Boreas aki (ai) **su*** "Boreas should/must be brave."

Various combinations of mood markers are available, as illustrated in the sentences below. As with tense and aspectual markers, the ordering of the markers conveys a difference in meaning (or "scope"), although the semantic difference is sometimes extremely subtle and/or negligible.

(18)   a. *Midak iro ya **vo su***   "Midak **must be able to** work."
                                       ["obligatory ability to accomplish event"]

        b. *Midak iro ya **su vo***   "Midak **is able to have to** work."
                                         ["ability to accomplish obligatory event"]

(19)   a. *Midak iro ya **su ce***   "Midak **may have to** work."
                                         ["possible obligatory event"]

        b. *Midak iro ya **ce su***   "Midak **must possibly** work."
                                         ["obligatory possible event"]

The position of the marker *ba* does not convey any subtle semantic changes--it can be ordered anywhere in the sequence, with the same meaning:

(20)   a. *Matoran iro ya **vo ba***   "Matoran **can** build (that's what they are able to do)"

b. *Matoran iro ya **ba vo***   "Matoran **can** build (that's what they are able to do)"

3.3 Interim Summary

So far, the markers for tense, aspect, and mood have been introduced in detail. Recall that each of these markers occupies a specific position in the sentence and that they are ordered with respect to each other. The relative sequence of markers is as follows:

> *… ya/ai* + (Modifiers) + Tense + Aspect + Mood + Negation

Note that there is an optional slot for modifiers immediately following *ya/ai*. This is the position in which one or more modifiers of the verb can be placed if desired, as discussed in Section 2.2.1.

     In all of the example-sentences above, only a single type of marker has been used per sentence. The full complexity of Matoric sentences can only be appreciated, however, when multiple different types of markers are used simultaneously, as in the examples below:

(21)   a. *Midak iro ya **nu***   "Midak work**ed**."
                               = ["event of working in the past"]

        b. *Midak iro ya **nu ga***   "Midak **was** work**ing**."
                               = ["ongoing event of working in the past"]

        c. *Midak iro ya **nu ga su***   "Midak **should have been** working."
                               = ["obligatory ongoing event of working in the past"]

(22)   a. *Midak lego ya **ko***   "Midak **will** play."
                               ["event of playing in the future"]

        b. *Midak lego ya **ko ta***   "Midak **will start to** play."
                               ["start of event of playing in the future"]

        c. *Midak lego ya **ko ta vo***   "Midak **will be able to start to** play."
                               ["ability of start of event of playing in the future"]

(23)   a. *Midak iro ya **po fa***   "Midak **finishes** work**(ing)**."
                               ["completion of event of work in the present"]

        b. *Midak iro ya **po fa de***   "Midak **is finishing** work**(ing) (at the moment)**."
                               ["ongoing completion of event of work in the present"]

c. *Midak iro ya **po fa de ce*** "Midak **might be finishing** work**(ing) (at the moment).**"
["possible ongoing completion of event of work in the present"]

d. *Midak iro ya **po fa de ce vo*** "Midak **is able to maybe be finishing** work**(ing) (at the moment).**"
["ability of possible ongoing completion of event of work in the present"]

Some of these constructions are actually quite difficult to render in English in a simple manner, since the grammatical categories that English has at its disposal are different from Matoric; however, approximate translations are possible. This is the case with (7c) above, where the use of *have been* approximates the notion of an ongoing event in the past, and in (9d) where *maybe be* is used to express the epistemic/possibility modal in a progressive/continuous aspectual frame.

3.4 Negation in Complex Sentences

Just as with the simple equative sentences in Section 2.4.1, complex sentences are by default interpreted as "positive" claims or assertions ("X did indeed happen"). However, complex sentences can also be negated using the marker *cu* (-*ru*), placed at the very end of the sentence, after all tense, aspect, and mood markers, if present.

Note that the negation-marker used for sentences with *ya* is distinct from that used for negation in equative sentences with *ai*. In equative sentences, the marker *ru* is used, replacing *ai* (see Section 2.4.1 for details).

		Expresses the negation of an event, action, state, etc. ("not").
Negation	*cu* [-*ru*]	(a) *Midak iro ya **(po) cu*** "Midak **does not** work." (b) *Midak iro ya **nu cu*** "Midak **did not** work." (c) *Midak iro ya **ta cu*** "Midak **did not** start to work." (d) *Midak iro ya **su cu*** "Midak **should not** work."

3.5 Use of Affixal Forms

Each of the markers introduced in this chapter have both an independent form, which has been used in all examples so far, and an affixal form which attaches to an adjacent word. The affixal forms of markers are, in some cases, different from the full form as a result of historical changes in the form of Matoric words. The use of independent vs. affixal form is largely up to the preference of the user: there is *no semantic difference* between them, although the distinction between an independent word and an affix does, on the surface,

parallel the distinction between standard modification and prefix (affix) modification seen with modifiers (Sections 2.2.1 and 2.2.2).

All of the markers for tense, aspect, and mood introduced in this chapter have affixal forms which attach to the end of the word immediately preceding them. In other words, they are *suffixal*. In addition, the verb marker *ya*, the equative marker *ai*, and *ru*, the negation of *ai*, have suffixal forms as well: *-ya*, *-ai*, and *-ru*, although these forms are not used as frequently as other affixal forms, and these markers will continue to be presented in their independent forms in the examples below.

Other markers, which will be introduced in the next chapter (Chapter 4), are *circumfixal*, consisting of a paired prefix and suffix which "wrap around" the targeted word. The rules for the use of affixal forms listed here apply to these types of affixes as well.

- Affixal forms always attach to the word or marker that immediately precedes them in a sequence. They may be spelled with or without a "dash" separating them from the host word.

- Independent and affixal forms of different markers may be used in tandem with each other.

- The ordering of affixal forms reflects the exact same properties of "scope" seen in the examples at the ends of Sections 3.2.1-3.2.3. Affixhood is simply an alternative form for each marker which allows for variation in surface form of sentences.

Independent Form	Affix Form	Translation
Midak iro ya **po**	*Midak iro ya***po** *...ya-***po**	"Midak works."
Matoran iro ya **ba**	*Matoran iro ya***ga** *...ya-***ga**	"Matoran work (that's what they do)."
Dosne aku ya **ko vo**	*Dosne aku ya***rovo** *...ya-***ro-vo** *...ya***ro vo** *...ya* **kovo**	"Dosne will be able to see."
Nixie aki ya **nu ta**	*Nixie aki ya***nuka** *...ya-***nu-ka** *...ya***nu ta** *...ya* **nuka**	"Nixie started to act bravely."
Nikila toa ya **nu fa ce**	*Nikila toa ya***nulati** **...ya-nu-la-ti** **...yanula ce** **...yanu fati** **...ya nulati**	"Nikila might have finished acting heroic"

One final item of note is how affixal forms interact with the presence of modifiers. As noted in Section 3.3, markers follow a specific sequence that includes an optional slot for modifiers placed after *ya/ai*. The table containing this sequence is copied below:

> *... ya/ai* + (Modifiers) + Tense + Aspect + Mood + Negation

If the affixal form of a tense/aspect/mood marker is used and a modifier is present in between that marker and *ya/ai*, the marker should not be attached to the modifier itself, even though the modifier will directly precede the affixal marker. Instead, affixal markers "skip" the modifier position and affix directly onto *ya/ai*.

(24) a. *Midak iro ya aki* **nu** "Midak worked bravely."

　→ **YES:** *Midak iro ya***nu** *aki*

　→ **NO:** *Midak iro ya aki***nu**

3.6 Recap

In this chapter, complex sentences consisting of a verb and entities involved in the action/event of the verb have been introduced in detail, along with a variety of markers.

- **Role-markers** indicate the precise relation that entities have to each other within an action/event: Subject (agent, causer, controller) or Object (patient, controllee).

- **Pronouns** (first, second, and third person) were also introduced at this point, with dedicated Subject and Object forms.

- **Tense-markers** indicate the placement of an action/event in time (before, during, or after the present moment).

- **Aspect-markers** indicate the contours and internal structure of an action/event (whether an event is finished or ongoing, just starting, repeating, etc.).

- **Mood-markers** indicate reality/irreality, potential, and possibility of an event (whether an event is real or not, possible, obligatory, etc.)

Markers for **negation** have also been introduced, along with discussion of the usage of **independent** and **affixal forms** of markers. At this point, the reader has the ability to construct sentences to a high level of complexity involving actions/events with multiple actors, unfolding temporally in very specific ways.

The next chapter adds markers which specify concepts of location and direction, providing an additional wealth of information that can be integrated into sentences.

⊕

Chapter 4. Marking Location and Direction

The construction of events/states and the specification of those events/actions/states for temporal, aspectual, and modal information is, in reality, only one facet of the content of sentences. Another important facet involves information about spatial relations between entities in terms of location or position and direction/motion. Matoric has a wide range of markers whose function is to indicate such relations, signifying the location of entities and events in the world.

In this chapter, the full range of location/direction markers (LD-markers) will be introduced, followed by discussion of the usage of LD-marked words in sentences and for modificational purposes. LD-marked pronoun forms will also be introduced.

4.1 Location/Direction Markers

Unlike the markers for tense, aspect, etc., LD-markers cannot co-occur; in other words, two different LD-markers cannot be added to the same word. The first three LD-markers will be familiar if you have read through Chapter 3: they are the same in form as the markers for tense, which are primarily added to sentences built around events (and marked with *ya* or *ai*). When directly appended to individual words, however, they indicate spatiotemporal properties of those entities, rather than tense.

It is important to note that all of the LD-markers in this section may be applied to both words that count as nouns and words that count as verbs. In both cases, the markers specify some property of location and/or direction, although in the verbal context direction of motion is prominent. The table below contains the markers themselves, with both independent and affixal forms, along with translations in terms of location/position and direction/motion, followed by multiple examples of the use of each marker in nounal and verbal contexts.

Marker	(i) Location/Position (ii) Direction/Motion	Examples
po [*-ha*]	(i) "in/at/on, (along) with, amongst, during"	(a) **Koro po** *Midak ai* "Midak is **at the village.**" (b) **Inu po** *Midak iro ya nu* "Midak worked **in/during the past**."
	(ii) "through, across"	(c) **Koro po** *Midak ivo ya* "Midak moves **through the village.**" (d) *Midak ta **ivo po** ya* "Midak **moves through**."
nu [*-hai*]	(i) "before, preceding (in a sequence); behind"	(a) **Dosne nu** *Midak ai* "Midak is **before Dosne**." (b) **Suva nu** *kanohi ai* "The mask is **behind the shrine.**"
	(ii) "back to, backwards"	(c) **Kini nu** *Midak ta ivo ya* "Midak moves **back to the temple.**" (d) *Midak **ivo nu** ya* "Midak **moves backwards.**"
ko [*-ro*]	(i) "in front of, proceeding (in a sequence), after"	(a) **Dosne ko** *Midak ai* "Midak is **after Dosne**." (b) **Suva ko** *kanohi ai* "The mask is **in front of the shrine**."
	(ii) "frontwards, forward, advancing, ahead"	(c) **Kini ko** *Midak ta ivo ya* "Midak moves **forwards to the temple.**" (d) *Midak **ivo ko** ya* "Midak **moves forward/ahead.**"

These markers specify relations that can be described as *sequential*: before, with, after, forward, backward, etc. The relations signified by the remaining markers in the table below range from vertical position (above, below) to relations involving containment (into, out of), origin (from, away from), and extension (extending from).

Notably, the majority of these markers have forms that are classified as *circumpositions*, consisting of a pair of units, one preceding and one following the target word. The placement of the target word with circumpositional markers is indicated by "_".

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Some circumpositional markers have affixal forms that are prefixal, attaching to the beginning of the target word, while others retain both the preceding and following elements, counting as *circumfixal* (a pairing of a prefix and suffix).

Marker	(i) Location/Position (ii) Direction/Motion	Examples
(a)u [-*a*]	(i) "under, underneath, below"	(a) **Mangai au** *Makuta ai* "Makuta is **under/below Mangai**."
	(ii) "down, downward, toward (a position) below"	(b) **Mangai au** *Takua ivo ya* "Takua moves **down below Mangai**." (c) *Takua* **ivo au** *ya* "Takua **moves downward/descends**."
hu [-*o*]	(i) "over, above, upon, on top of"	(a) **Metru Nui hu** *Mata Nui ai* "Mata Nui is **above Metru Nui**."
	(ii) "up, upward, toward (a position), above"	(b) **Mangai hu** *Kaa ivo ya* "Kaa moves **up above Mangai**." (c) *Takua* **ivo hu** *ya* "Takua **moves upward/ascends**."
pa _ o [*pa-*]	(i) "at (a position), near (to)"	(d) **Pa Mangai o** *Ta-Koro ai* "Ta-Koro is **at/near to Mangai**"
	(ii) "around, near to, close to"	(e) **Pa Le-Koro o** *Kaa ivo ya* "Kaa moves **around Le-Koro**." (f) *Kaa* **pa ivo o** *ya* "Kaa **moves around (somewhere)**."
on _ u [*o(n)-_(-u)*]	(i) "in, interior to, inside of"	(a) **On kini u** *Lumi ai* "Lumi is **inside of the temple**."
	(ii) "into, toward (a position) inside"	(b) **On kini u** *Lumi ivo ya* "Lumi moves **inside the temple**." (c) *Lumi* **on ivo u** *ya* "Lumi **moves inside**."
ke _ u	(i) "external to, outside of"	(a) **Ke kini u** *Talvi ai* "Talvi is **outside of the temple**."

[ke-…(-u)]	(ii) "out of, toward (a position) outside"	(b) **Ke kini u** *Talvi ivo ya* "Talvi moves **outside the temple**." (c) *Talvi **ke ivo u** ya* "Talvi **moves outside**."
os _ u [oh-_(-u)]	(i) "away from, far from"	(a) **Os Ta-Koro u** *Takua ai* "Takua is **away from Ta-Koro**."
	(ii) "far from, at a distance"	(b) **Os Ta-Koro u** *Takua ivo ya* "Takua moves **far from Ta-Koro**." (c) *Takua **os ivo u** ya* "Takua **moves at a distance**."
ve _ u [ve-…(-u)]	(i) "extending from"	(a) **Ve Mangai u** *ru ai* "Darkness (is) **extending from Mangai**."
	(ii) "along, following along with"	(b) **Ve ivo u** *Takua ivo ya* "Takua moves **along the path**." (c) *Takua **ve ivo u** ya* "Takua moves **along (something)**".
ianga [-(y)anga]	(i) "beside, next to, adjacent to"	(a) **Suva ianga** *kanohi ai* "The mask is **beside the shrine**."
	(ii) "alongside of, parallel with"	(b) **Rahi ianga** *toa ivo ya* "The Toa moves **alongside/parallel with the Rahi**." (c) *Toa **ivo ianga** ya* "The Toa **moves in parallel (with something)**."
ka _ a [ka-…-a]	(i) "oriented toward, pointing to"	(a) **Ka Mangai a** *Ta-Koro ai* "Ta-Koro is **oriented toward Mangai**"
	(ii) "to, toward, directed at"	(b) **Ka Le-Koro a** *Kaa ivo ya* "Kaa moves **toward Le-Koro**." (c) *Kaa **ka ivo a** ya* "Kaa **moves toward (somewhere)**."

at _ a *[ak-...-a]*	(i) "from, originating from"	(a) **At Ta-Koro a** *Takua ai* "Takua is **from Ta-Koro**."
	(ii) "away from, off of, out of"	(b) **At Ta-Koro a** *Takua ivo ya* "Takua moves **away from Ta-Koro**." (c) *Takua* **at ivo a** *ya* "Takua **moves away**."

4.2 Usage of LD-marked Words

As noted earlier, LD-markers may be applied to words of any category--nouns, verbs, etc. Another way of thinking about this is that LD-markers do not influence the category of a word at all, unlike a marker like *ya*, which directly determines the category (verb). LD-markers simply add information to a word: information about locational and directional properties in space and time.

The example-sentences in the table above illustrate LD-markers attached to words that count as nouns (the (a) and (b) sentences) and as verbs (the (c) sentences). LD-marked words may also be used as modifiers in the exact same way that other words can, in both standard and prefix modification contexts. They may also be targeted by modifiers. The next two subsections will address each of these contexts separately:

4.2.1 LD-marked Words as Modifiers

LD-marked words may be used as modifiers of other words, just like their unmarked counterparts. The following examples will illustrate:

(1)   *kanohi **nui*** "**great** mask"

(2)   *kanohi **suva ianga*** "mask **beside (the) shrine**, **beside-shrine** mask"

In (1), *nui* functions as a modifier of *kanohi*, specifying a property of greatness. In (2), *suva ianga* also functions as a modifier of *kanohi*, specifying the location of the mask. Both of these are cases of standard modification. Prefix modification may also be used:

(3)   ***nui**-kanohi* "**great/big** mask"

(4)   ***suvayanga**-kanohi* "mask **beside (the) shrine**, **beside-shrine** mask"

In (3), *nui* is interpreted in a more physical/concrete way, while in (4) there isn't a clear correlate, since words marked with LD-markers already tend to specify physical/concrete concepts in terms of spatial/temporal location or direction. Note that the affixal form of the LD-marker *ianga* has been used in (4). This is standard in the context

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of prefix modification, although using the independent form is also an option (*suva ianga-kanohi*). See Section 4.2.3 for more details about affixal forms of LD-markers.

LD-marked words can also modify verbs, with similar results. The sentences in (5) below provide examples of an unmarked word used as a modifier (with standard and prefix modification), while (6) provides examples of LD-marked words used as modifiers of a verb in the different available positions (before and after *ya*), along with prefix modification.

(5)   a. *iro **aki** ya* "(to) work **bravely**"

         b. ***aki**-iro ya* "(to) work **bravely**"

(6)   a. *iro **kini ianga** ya* "(to) work **beside the temple**"

         b. *iro ya **kini ianga*** "(to) work **beside the temple**"

         c. ***kiniyanga**-iro ya* "(to) work **beside the temple**"

Now that the use of LD-marked words as modifiers has been discussed, the next section will describe how LD-marked words can themselves be targeted by modifiers.

4.2.2 Modification of LD-marked Words

The placement of modifiers in contexts with LD-markers follows the same rules that applied for modifiers in the context of the verbal marker *ya*. This means that there are two options for the placement of modifiers: before or after the LD-marker, as illustrated in the sentences below:

(7)   a. *toa ianga* "beside the hero"

         b. *toa **aki** ianga* "beside the **brave** hero"

         c. *toa ianga **aki*** "beside the **brave** hero"

(8)   a. *ivo au ya* "(to) move downward"

         b. *ivo **aki** au ya* "(to) move downward **bravely**"

         c. *ivo au **aki** ya* "(to) move downward **bravely**"

Remember that, in the case of (7b) and (8b), the LD-markers target the "head" (*toa* in (7b), *ivo* in (8b)), not the word that immediately precedes the marker (the modifier *aki* in both cases). Once again, this is exactly the same pattern that applied for modifiers with the verbal marker in Section 2.2.1.

One additional facet of this topic should be noted: given that LD-marked words can themselves be used as modifiers, this means that one LD-marked word can be modified by another LD-marked word (or multiple!).

(9)   a. *suva hu **kini ianga***
          "above (the) shrine (that is) **beside (the) temple;**
           above the **beside-the-temple** shrine"

         b. *suva **kini ianga** hu*
          "above (the) shrine (that is) **beside (the) temple;**
           above the **beside-the-temple** shrine"

(10)   *suva hu **kini ianga os koro u***
       "above the shrine (that is) **beside the temple** (and) **far from the village**; above the **beside-the-temple, far-from-the-village** shrine"

Circumpositional markers such as *os_u* and *on_u* deserve special attention here. In the standard case with a single word, the circumposition simply "wraps around" the target word. In the context of a modifier, the circumposition can "wrap around" either the target word on its own or the target word plus its modifiers. This is the same pattern that applies above with non-circumpositional markers (illustrated in (7)-(8)): modifiers can be placed either inside or outside the unit created by the LD-marker.

(11)   a. *Os kini u* "far from the temple"

         b. *Os kini **nui** u* "far from the great temple"

         c. *Os kini u **nui*** "far from the great temple"

(12)   a. *On ivo u ya* "(to) move into"

         b. *On ivo **aki** u ya* "(to) move into **bravely**"

         c. *On ivo u **aki** ya* "(to) move into **bravely**"

Prefix modification is also used to avoid ambiguity, and, just as with modification in verbal contexts, the meaning-difference between standard and prefix modification (i.e. metaphysical/abstract vs. physical/concrete) is suspended in these cases, as shown in (13) and (14). Note that (14) provides another example of one LD-marked word modifying another LD-marked word, with the modifying LD-marked word placed in its affixal form (see Section 4.2.3 below).

(13)   a. **aki-***toa ianga* "beside the brave hero"

b. *os* **aki**-*toa u* "far from the brave hero"

c. *os* **aki**-*ivo u ya* "(to) move away from **bravely**"

(14)   **kiniyanga**-*suva hu* "above the shrine **beside the temple**"

Another way to avoid ambiguity with LD-markers in the context of modifiers is to utilize the affixal forms of these markers, which will be the topic of the next section.

4.2.3 Use of Affixal Forms

Each of the markers above has both an independent and an affixal form, listed in the table. The choice of form is up to the preference of the user, just as it was with the tense/aspect/mood markers in Chapter 3. There is no meaning-difference between independent and affixal forms. The only important thing to note is that, when affixal, LD-markers always target the word that they mark--not just the word that immediately precedes them. This means that, if a modifier intervenes between an LD-marker and the word it targets, the affixal form of the marker will "skip" the modifier and attach directly to its target, rather than attaching to the modifier. This is illustrated below:

(15)   *Kini nui* **ianga** "**beside** (the) great temple"

→ **YES:** *Kini-***yanga** *nui*

→ **NO:** *Kini nui-***yanga**

(16)   **Os** *kini nui* **u** "far from (the) great temple"

→ **YES: Oh-***kini-**u** *nui*

→ **NO: Oh-***kini nui-**u**

Affixal forms of LD-markers are used in various contexts to decrease ambiguity. One context has already been introduced in the sentences above: when an LD-marked word is modified by other words, it is less ambiguous to use the affixal form of the LD-marker to clearly indicate which word is the "head". Thus, in the context of (15) above (*kini nui ianga*), it is unclear which of the words preceding *ianga* is actually targeted as the "head". If the affixal form of *ianga* is used (attached directly to the head), this ambiguity is resolved (*kiniyanga nui*).

The second context where affixal forms decrease ambiguity is prefix modification, where an LD-marked word is used as a modifier. In this case, the standard approach is to

use the affixal form of the LD-marker on the modifier. This has already been exemplified by a few sentences in Sections 4.2.1 and 4.2.2 above, repeated here:

(17)   a. *iro **kini ianga** ya* "(to) work **beside the temple**" (standard modification)

    b. ***kiniyanga**-iro ya* "(to) work **beside the temple**" (prefix modification)

(18)   a. *suva hu **kini ianga*** "above the shrine **beside the temple**" (standard modification)

    b. ***kiniyanga**-suva hu* "above the shrine **beside the temple**" (prefix modification)

In both cases, the affixal form *-yanga* is used instead of the independent form *ianga*. This "simplifies" the prefixed modifier and allows for less confusion about the target(s) of multiple markers.

    A third context where affixal forms decrease ambiguity is when one LD-marked word modifies another LD-marked word and the modifier is placed before the LD-marker of the head, as illustrated in the sentence below (again taken from Section 4.2.2):

(19)   a. *suva **kini ianga** hu*
    "above (the) shrine (that is) **beside (the) temple;**
    above the **beside-the-temple** shrine"

    b. *suva **kiniyanga** hu*
    "above (the) shrine (that is) **beside (the) temple;**
    above the **beside-the-temple** shrine"

In this case, the modifying LD-marked word *kini ianga* could also be placed after *hu* (the LD-marker of the head *suva*), but the use of an affixal form *kiniyanga* is also effective in indicating which word is the modifier and which word is not.

    Finally, it is worth considering the ordering of elements in contexts where multiple items are affixed to the same target, such as when the affixal form of an LD-marker is used along with prefix modification. In such cases, the LD-marker is always attached first, followed by the prefixed modifier:

(20)   **Os** *kini nui **u*** "far from (the) great temple"

    → **YES:** *Nui-**oh**-kini-**u***

    → **NO: Oh**-*nui-kini-**u***

4.3 Interim Summary

Thus far, the full range of markers for location and direction ("LD-markers") has been covered, along with details on the usage of LD-marked words as nouns, verbs, and modifiers. The modification of LD-marked words--both through standard modification and prefix modification--has also been addressed, and the use of affixal forms of LD-markers has been introduced.

To conclude this section, it is worth reviewing once again issues of ambiguity that arise in the context of modification, particularly with LD-marked words in mind. The sequence of words in (21) can be interpreted in a variety of ways, represented by (a), (b), and (c).

(21)   ***Kanohi suva ianga***

   a. *Kanohi + suva ianga + (ai)*
      "(The) mask is beside the shrine" (equative sentence with optional *ai*)

   b. *Kanohi suva + ianga*
      "beside (the) shrine-related mask" (*suva* modifies *kanohi, ianga* marks *kanohi*)

   c. *Kanohi + suva ianga*
      "(the) mask beside the shrine" (*suva ianga* modifies *kanohi*)

In (21a), the phrase is interpreted as an equative sentence, "X is Y", with X represented by *kanohi* and Y represented by *suva ianga*. The marker *ai* is optional in equative sentences, so this interpretation is certainly available, but not obligatory. In (21b), the phrase is interpreted as a case of standard modification and LD-marking, with *kanohi* being modified by *suva* ("shrine-related mask") and *ianga* targeting *kanohi* as the head ("beside (the) … mask"). In (21c), the phrase is interpreted as a different instance of standard modification and LD-marking, with *ianga* now targeting *suva* ("beside the shrine"), and the LD-marked word (*suva ianga*) functioning as a modifier of *kanohi*.

Although there is nothing inherently wrong with ambiguity, it can pose a challenge for readers. There are many options available in Matoric to distinguish these three different interpretations, some of which have been introduced in this chapter. To resolve (21a), all that is needed is an overt *ai* to signal that this is an equative sentence (along with possibly using the affixal form of *ianga* on *suva*), as shown in (22).

(22)   a. *Kanohi suva ianga **ai***
         "(The) mask **is** beside the shrine"

b. *Kanohi suva**yanga ai***
    "(The) mask **is beside** the shrine"

For (21b), the affixal form of the LD-marker *ianga* could be used on *kanohi* to clearly signal which is the head and which is the modifier. The same goes for (21c), where *ianga* could affix directly to *suva*. These are shown in (23). Alternately, prefix modification could be used, as in (24):

(23)   **Affixal form of LD-marker**

a. ***Kanohi*** *suva* ***ianga*** → ***Kanohiyanga*** *suva*
    "**beside** (the) shrine-related **mask**"

b. *Kanohi **suva ianga*** → *Kanohi **suvayanga***
    "(the) mask **beside the suva**"

(24)   **Prefix Modification**

a. ***Suva**-kanohi ianga* "beside (the) **shrine-related** mask"

b. ***Suvayanga**-kanohi* "(the) mask **beside the suva**"

4.4 More on Pronouns

Pronouns were last discussed in Chapter 3 in the context of the role-markers *ta* and *za*. They may also be targeted by LD-markers in order to convey location and direction of pronoun-referents ("I", "we", "you", "they", etc.). Recall that pronouns are divided into First, Second, and Third Person categories, each with a "basic form" to which different markers are added. Over time, the addition of markers has resulted in the development of "fused" forms, listed for each of the LD-markers in the table below.

In each case, the meaning of the LD-marker is combined with the meaning of the pronoun, e.g. *roha* "with + me/us", *ouhu* "with + you", *aiha* "with + her/him/it/them". etc.

	1	**2**	**3**
Basic Form	*(r)o* "me/us"	*o(h)u* "you"	*ohi, ai* "her/him/it/them"
po [-ha] "in/at/on, (along) with, amongst, during; through, across"	*roha*	*ouha*	*aiha*
nu [-hai] "before, preceding (in a sequence); behind; back to, backwards"	*rohai*	*ouhai*	*ohai, aihai*
ko [-ro] "in front of, proceeding (in a sequence), after; frontwards, forward, advancing, ahead"	*roro*	*ouro*	*ohko, airo*
(a)u [-a] "under, underneath, below; down, downward, toward (a position) below"	*roa*	*ohua*	*ahia, aia*
hu [-ha] "over, above, upon, on top of; up, upward, toward (a position), above"	*rohu*	*ouhu*	*aihu*
pa _ o [pa-_-o] "at (a position), near (to); around, near to, close to"	*paro'o*	*pahu'o*	*pai'o*
on _ u [on-_-u] "in, interior to, inside of; into, toward (a position) inside"	*onou*	*onu'u*	*onai'u*
ke _ u [ke-_-u] "external to, outside of; out of, toward (a position) outside"	*kero'u*	*kehu'u*	*kai'u*
os _ u [oh-_-u] "away from, far from; far from, at a distance"	*oto'u*	*otou'u*	*otai'u*
ve _ u [ve-_-u] "extending from; along, following along with"	*ver"u*	*vehu'u*	*vai'u*

ianga [-yanga] "beside, next to, adjacent to; alongside of, parallel with"	*royanga*	*ouyanga*	*ayanga*
ka _ a [ka-_-a] "oriented toward, pointing to; to, toward, directed at"	*karo'a*	*kahu'a*	*kai'a*
at _ a [ak-_a] "from, originating from; away from, off of, out of"	*ako'a*	*akou'a*	*akai'a*

In addition to expressing the location and direction of pronominal entities in a communicative context, LD-marked pronouns may also be used for modification. Under this usage, they express the equivalent of *demonstratives* like "this" and "that" in English, signifying the deictic position of the words that they modify. It is conventional for Prefix Modification to be used in order to express these meanings, as shown in the following examples:

(25) a. ***paro'o****-koro* "**this** village (**here**)" or "the **near-to-me** village"

b. ***oto'u****-koro* "**that** village (**over there**)" or "the **away-from-me** village"

c. ***rohu****-koro* "**that** village (**up there**)" or "the **above-me** village"

d. ***royanga****-koro* "**this** village (**beside me**)" or "the **beside-me** village"

…Etc.

These examples only contain First Person LD-marked forms, but all of the LD-marked pronoun forms can be used in this demonstratival way, yielding a wide variety of deictic positions relative to different actors within a context ("near to me", "near to you", "near to them", etc.).

4.5 Possession-marking

In order to convey the concept that one thing possesses or controls another thing, one of the following structures is used:

(26) X Y ***ai*** "X**'s** Y, Y **of** X"

(27) X ***ai****-Y* "X**'s** Y, Y **of** X"

In (26), *ai* is added after a sequence of two words and marks the second word as being possessed by the first. In (27), *ai* is added as a prefix to the second word, with the same interpretation.

These structures originate historically from the combination of the Third Person pronoun *ai* "she/he/it/they" with the second item in the sequence (Y) as a modifier. (26) originates from an instance of standard modification, while (27) originates as prefix modification. Astute readers will note, of course, that (26) is identical in form to the marking used in equative sentences if no additional markers of tense, aspect, etc. are included. Compare (28) below:

(28)   a. *Midak apu **ai***
       "Midak **is** a friend/friendly" or "Midak**'s** friend"

       b. *Midak **ai**-apu*
       "Midak**'s** friend, friend of Midak"

No such ambiguity arises with the prefix forms in (26) and (27b), and for this reason it tends to be preferred as the possession-marker in contexts where ambiguity is possible, as in (29b) below:

(29)   a. *Koro Turaga **ai** iro ya po ga*
       "The village**'s** elder is working."

       b. *Toa **ai**-suva guuri ai nu*
       "The Toa**'s** suva was in decay."

This introduction to general possession-marking sets up the marking of possession using other pronouns, as outlined in the table below. Each Person (First, Second, Third) has an independent form which can be placed after the target of possession as in (26) above or prefixed as in (27). In addition, the possessive pronouns each have an affixal form which manifests as a suffix attached, once again, to the target of possession.

Person	Marker	Translation	Examples
1	*(r)o* [-'o]	"my, our"	(a) *Kanohi **(r)o*** "**my/our** mask" (b) *Kanohi'**o*** "**my/our** mask" (c) **(R)o**-*kanohi* "**my/our** mask"
2	*ou* [-'u]	"your"	(a) *Kanohi **ou*** "**your** mask" (b) *Kanohi'**u*** "**your** mask" (c) **Ou**-*kanohi* "**your** mask"
3	*ai* [-'(a)i]	"her/his/its/their"	(a) *Kanohi **ai*** "**her/his/its/their** mask" (b) *Kanohi'**(a)i*** "**her/his/its/their** mask" (c) **Ai**-*kanohi* "**her/his/its/their** mask"

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4.6 Recap

At this point, you have the tools to construct and interpret units containing Location/Direction markers, to use LD-marked words as verbs, nouns, and modifiers, and to modify LD-marked words as well. You have been introduced to the use of both independent and affixal forms of these markers, and you have been introduced to the forms of LD-marked pronouns, along with concepts of possession-marking and possessive pronouns.

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Chapter 5. More on Complex Sentences

At this point, two types of sentences have been introduced: complex sentences with *ya* and equative sentences with *ai*, illustrated in (1) and (2):

(1)   *Pekka iro **ya*** "Pekka works."

(2)   *Dosne apu **ai*** "Dosne is (a) friend/friendly."

In addition, Chapter 3 introduced the role-markers for Subject and Object (*ta* and *za*, respectively), which provide information on the way that entities are involved in an event, process, or state--as the agent/controller (*ta*) or the patient/controllee (*za*).

(3)   *Nikila **ta** koro **za** hau ya* "Nikila (subject/agent) protects the village (object/patient)."

In this chapter, the precise interpretation of the role-markers will be further fleshed out, and additional types of sentences will be introduced, taking advantage of different combinations of markers (in particular, role-markers and *ya/ai*).

5.1 More on Role-markers

The two role-markers, *ta* and *za*, have been described so far as indicating "agenthood" and "patienthood", broadly speaking. On a more abstract level, this can be understood as a difference in the *intentionality* of a given entity. This sharpening of the role-markers as a function of intentionality has a direct impact on the translation of sentence-meanings.

- A word overtly marked by *ta* indicates an entity that is involved in an event, action, process, or state in an *intentional* way--not in a passive way--not as a neutral experiencer of the event--but in an active and purposeful way.

- A word overtly marked by *za* indicates an entity that is involved in an event, action, process, or state in a *non-intentional* way, as a target of the action of the event or an experiencer of a given state.

The key phrase in both of the above descriptions is *overtly marked*. Recall that the role-markers in a sentence may be optionally present ("overt") or absent ("non-overt"). The choice of an overt or non-overt role-marker has a direct impact on the meaning of a sentence. An overt role-marker commits the marked entity to one of the interpretations above in an obligatory way, while the absence of a marker leaves the precise interpretation of the entity's role more flexible. Consider the following sentences:

(4)   a. *Boreas aku ya* "Boreas sees ('perceives, notices')."

        b. *Boreas **ta** aku ya* "Boreas looks ('watches, examines')."

The difference between these two sentences is simply in the absence vs. presence of the role-marker *ta*. In (4a), *Boreas* is still the Subject of the sentence, since it is the only entity present, but Boreas is not necessarily involved in the event of seeing in an active or highly purposeful way (although Boreas could still be construed as an agent, given the right context). Because of this, the verb *aku ya* is translated in ways that convey a sense of "(to) see unintentionally" ("perceive", "notice", etc.). In contrast, (4b) has *ta* marking *Boreas* as the active agent of the sentence, and so *aku ya* is translated with more active verbs, conveying a sense of "to see intentionally" ("look", "watch", "examine", etc.).

The same goes for the marker *za*. If *za* is present overtly in the sentence, it indicates that an entity is not active or intentional in its involvement within the event, and this can expand or narrow the meaning of the sentence. The word *tura* "fear, cowardice" will be used to exemplify this below.

(5)   a. *Ahkmou tura ya* "Ahkmou fears ('harbors fear/cowardice')."

        b. *Ahkmou **za** tura ya* "Ahkmou is frightened ('terrified, reacting with fear, surprised')"

        c. *Ahkmou **ta** tura ya* "Ahkmou fears ('respects, takes precautions against')"

The distinctions between (5a), (5b), and (5c) can be subtle. In (5a), the relation of Ahkmou to the action/event of fear is "neutral" in the sense that Ahkmou is simply involved in the event, with no further information provided. In (5b), Ahkmou is a non-intentional patient (marked with *za*), indicating a sense of being frightened by something or reacting with fear in an uncontrolled or unintentional way. In (5c), Ahkmou is intentional with respect to the action/event of fear, conveying a sense that Ahkmou engages in fear with some level of control (i.e. fear as respect or reverence).

Similar distinctions could be made for the sentences with *aku ya* above, where in (4a) Boreas's relation to the action/event of seeing is "neutral", whereas in (4b) Boreas's relation is active. Were *Boreas* to be marked with *za* (*Boreas **za** aku ya*), it would convey the sense that some visual perception happened to Boreas without their intent or expectation ("A vision struck Boreas"). In general, however, the "neutral" version of the sentence (with no role-markers, as in (4a) and (5a) above) tends to be bear a meaning very similar to (though not identical with) the version of the sentence with *za*, while the version with *ta* is more distinct.

The difference between an intentional and a non-intentional interpretation of a sentence is relevant in a variety of cases, such as where the event, process, or state of a sentence specifies some kind perceptual quality (as with *aku* "sight, vision" or *ide* "hearing, audioception"), emotional quality (such as *tura* "fear, cowardice" or *kura* "anger, rage"), movement (*ivo* "linkage, transit"), and other semantic categories. In other cases, the distinction does not make much of a difference. Various additional examples are provided below:

(6)   *ide ya* "to hear"

        a. *Boreas **(za)** ide ya* "Boreas hears"

        b. *Boreas **ta** ide ya* "Boreas listens"

(7)   *kura ya* "to rage, be angry"

        a. *Lesovikk **(za)** kura ya* "Lesovikk rages ('blind rage, overcome by anger')"

        b. *Lesovikk **ta** kura ya* "Lesovikk is angry ('controlled anger')"

(8)   *ivo ya* "to move, transit"

        a. *Pekka **(za)** ivo ya* "Pekka moves (from…to)"

        b. *Pekka **ta** ivo ya* "Pekka travels/runs/walks ('controlled movement')"

(9)   *ivo au ya* "to move, transit downward"

        a. *Pekka **(za)** ivo au ya* "Pekka moves downward ('falls')"

        b. *Pekka **ta** ivo au ya* "Pekka descends ('controlled descent')"

5.2 Causative Sentences

Now that the meaning and function of role-markers has been explored in more detail, a new construction incorporating the marker *ta* can be discussed. Up until now, the

role-markers have only been used in verbal sentences with *ya*, but it is also possible to use *ta* in a context similar to equative sentences. There are two related constructions where *ta* is used in this way to indicate the cause of an event or state, each with its own causative marker: *ai* and *yai*.

The first construction has an approximate meaning of "X makes/causes Y". It involves an entity X marked with *ta*, plus another unit Y, followed by the causative marker *ai* (negation: *ru*). The relation between X and Y is interpreted as causative, where X generates Y or brings Y into being.

(10)   X **ta** + Y + **ai**   "X makes/causes Y"

         X **ta** + Y + **ru**   "X does not make/cause Y"

This construction is distinct from a typical equative sentence, which conveys the meaning "X is Y". The two sentences below show the contrast between equative sentences (11) and causative sentences of this kind (12). There is a significant difference!

(11)   a. *Makuta tura **ai***
             "Makuta **is** fearful/afraid"

         b. *Makuta tura **ru***
             "Makuta **is not** fearful/afraid"

(12)   a. *Makuta **ta** tura **ai***
             "Makuta **makes/causes** fear"

         b. *Makuta **ta** tura **ru***
             "Makuta **does not make/cause** fear"

The second construction has an approximate meaning of "X makes Y be/do Z". It also involves an entity X marked with *ta*, but it is now followed by a more complex consisting of two or more units Y and Z, plus the causative marker *yai* (negation: *rai*). The relation between X, Y, and Z is also interpreted as causative, where X causes or brings about the relation between Y and Z. Importantly, the relation between Y and Z can be interpreted either as an equative relation ("Y be Z") or as a verbal relation where Z is the verb.

(13)   a. X **ta** + Y + Z + **yai**   "X **makes** Y (be/do) Z

         b. X **ta** + Y + Z + **rai**   "X **does not make** Y (be/do) Z"

Historically, the marker *yai* is a "fused" form of the word-sequence *ya ai* or *ai ai*. This is because the equations in (13) originate from older structures, shown in (13') below, which reveal some context for the meanings of these constructions:

(13') **Early Matoric Causative Constructions**

a. X **ta** + [Y + Z **ya**] + **ai** = "X **makes** Y **do** Z"

b. X **ta** + [Y + Z + **ai**] + **ai** = "X **makes** Y **be** Z"

As can be seen, these causative constructions are built on the pattern of an equative sentence with *ai*: "X + Y + *ai*", where Y is, in each case, replaced by another sentence. In (13'a), Y is replaced with a verbal sentence "Y + Z **ya**", while in (13'b), Y is replaced by another equative sentence "Y + Z + **ai**". The sentences below provide examples of the causative constructions in (13):

(14)   a. *Makuta **ta** Ahkmou tura **yai***
          "Makuta **makes** Ahkmou fear/be afraid."

        b. *Makuta **ta** Ahkmou tura **rai***
          "Makuta **does not make** Ahkmou fear/be afraid."

One last thing to note is that modifiers may only be positioned *after* the causative markers *ai* (*ru*) and *yai* (*rai*)--not before--and that prefix modification is not available in these constructions.

(15)   a. *Nikila ta aki ai **toa***
          "Nikila **heroically** causes bravery"

        b. *Nikila ta Takua aki yai **toa***
          "Nikila **heroically** makes Takua brave/act bravely"

5.3 Interim Summary

Thus far, the meaning of the role-markers *ta* and *za* have been fleshed out in more detail, going beyond the original concepts of agenthood and patienthood and introducing the notion of *intentionality*, which directly affects the interpretation of sentences when role-markers are overt or absent.

In addition, a new sentence-type--*causative sentences*--has been introduced, with two distinct constructions conveying "X makes/causes Y" and "X makes Y (do/be) Z". Causatives make use of the marker *ta* in the context of a causative marker *ai* (negation: *ru*) or *yai* (negation: *rai*).

5.4 Desentential Causatives

One final Matoric construction that is related to the discussion of causative sentences above is the phenomenon of *desentential causatives* (DCs), which are, in essence, phrases which contain all the elements of causative constructions (a *ta*-marked word, a (form of) the causative markers, etc.), but which have been "de-sentenced"--converted from a full sentence into something that functions like any other word/phrase (typically a noun). The closest English equivalent to this is the nominalization of causative structures shown in () below:

(16)   Midak makes Dosne happy → [Midak's making Dosne happy] annoyed Dosne.

DCs are used in Matoric to identify and preserve causative relations within a larger sentential structure. The following equations show how causative sentences (discussed in Section 4.2) can be converted into DCs:

(17)   **Causative Sentence Constructions**

     a. X ***ta*** + Y + Z + ***yai*** "X **makes** Y (do/be) Z"

     b. X **ta** + Y + Z + **rai**   "X **does not make** Y (be/do) Z"

(18)   **Desentential Causatives**

     a. (***ta***-X) + ***ai***-Y + Z-'***ai*** "X's **making** Y (do/be) Z"

     b. (***ta***-X) + ***ai***-Y + Z-**ru** "X's **not making** Y (do/be) Z"

     A few rules apply in the conversion here: First, the marker *ta* is converted into a prefix, continuing to marker the causer. However, the causer may also be deleted if it is unnecessary or if it is available in the communicative context of the sentence. Second, the causative marker *yai* is "split" into two units, a prefix *ai-* and a suffix *-'ai*. In the negated form, *rai* is split into *ai-* and *-ru*. The prefix attaches to the first unit within the caused relation (Y, in this case), while the suffix attaches to the last unit within the caused relation (Z). The following examples illustrate:

(19)   *Makuta **ta** Ahkmou tura **yai***
     "Makuta **makes** Ahkmou fear/be afraid."

     → ***ta-**Makuta **ai-**Ahkmou tura'**ai***
      "Makuta's **making** Ahkmou afraid"

(20)   *Makuta **ta** Ahkmou tura **rai***
     "Makuta **does not make** Ahkmou fear/be afraid."

→ **ta-***Makuta* **ai-***Ahkmou tura***ru**
　"Makuta's **not making** Ahkmou afraid"

The sentence in (21) shows how a DC may be integrated into a larger sentence (in this case, as a phrase marked as the object of *aku ya* by *za*.

(21)　*Pohatu* **ta-Makuta ai-Ahkmou tura'ai** *za aku ya nu*
　　　"Pohatu saw **Makuta's making Ahkmou afraid**"

　　　It is unclear why other desentential constructions aside from DCs are not found in Matoric, leaving the possibility that DCs were a specific design-feature included in the base of the xenolanguage by the Great Beings.

5.5 Existential Sentences

Turning away from causative constructions and additional uses of role-markers, this section will address one final sentence type: *existential sentences*, which translate as "There is X". In their simplest form, they consist of a single word plus any modifiers, along with a tense marker (optional in the case of present tense). The sentences below illustrate:

(22)　a. *Toa (po)*　　"**There is** a hero."

　　　b. *Toa nu*　　"**There was** a hero."

　　　c. *Toa ko*　　"**There will be** a hero."

　　　The inclusion of modifiers in existential sentences is a point of ambiguity if standard modification is used. Technically, the sentence in (23) below can be interpreted both as an equative sentence ("X is Y") and as an existential sentence ("There is…"):

(23)　*Toa aki nu*　　= **either** "The hero was brave" (equative)
　　　　　　　　　or "There was a brave hero" (existential)

As usual, prefix modification can be used to avoid ambiguity in such cases, as illustrated in (24), which can only be interpreted as an existential sentence--not as an equative sentence. This is also another case where the meaning-difference between standard and prefix modification (i.e. metaphysical/abstract vs. physical/concrete) is not enforced.

(24)　*Aki-toa nu*　　= **only** "There was a brave hero" (existential)
　　　　　　　　　not "The hero was brave" (equative)

Existentials can also be built upon verbal structures with *ya*, as shown in (25) and (26). The possibility of an existential interpretation for this structures was also noted in Chapter 3:

(25)　a. *Iro ya (po)*　"**There is** an event of work."

(26)   a. *Iro **aki** ya*   "**There is** an event of brave work."

         b. *Iro ya **aki***   "**There is** an event of brave work."

         c. ***Aki**-iro ya*   "**There is** an event of brave work."

In general, existential sentences are used to introduce new referents into a communicative situation--new entities, events, states, etc.--so that they can be further referenced in later sentences.

5.6 Recap

At this point, you have the tools to construct and interpret a wider variety of sentences, using the role-markers *ta* and *za* to convey subtle distinctions in intentionality within events and states, employing causative constructions to communicate the causes of states and events (and converting causative sentences into desentential causatives in order to construct even more complex sentences). Finally, you can use existential sentences to present new entities and events within a particular communicative context.

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Chapter 6. Questions and Commands

In all previous chapters, Matoric sentences have been introduced and discussed in the context of a single function: the function of a *statement* or *assertion*. Thus, within a communicative context (a conversation), a sentence like "Midak saw the Rahi" has the function of stating or asserting the reality of the semantic content of the sentence (that there was an event of Midak seeing a Rahi). However, statement/assertion is only one of multiple functions that sentences can have in a given context.

Two additional functions of Matoric sentences are introduced in this chapter: the function of *questions* or *interrogation* whereby a sentence is used to request information about something ("Is Nikila here?", "Who is that Toa?") and the function of *command* or *directive* whereby a sentence is used to invoke a target to perform or bring about the situation expressed in the sentence ("Get to work!", "Attack the monster!").

6.1 Questions

Sentences can be used to request information about a variety of things. They can be used to question the *reality* of the state of affairs--whether something happened or not--or they can be used to target a subpart of a state of affairs--an entity involved in an action, event, process, or state or a modifier these things--in order to query more information about that item. These two types of questions are called "yes/no questions" and "information questions", respectively, and they will be dealt with in the two following sections.

6.1.1 Yes/No Questions

Yes/no questions are, as might be expected, questions that can be answered with either "yes" or "no". Such questions target the "reality" of the state of affairs presented in a sentence: whether or not an action, event, process, or state actually occurred. In English,

yes/no questions are formed by placing an "auxiliary verb" (*do*, *be*, *have*, etc.) at the front of the sentence:

(1)   Midak worked today.   →   **Did** Midak work today? (yes/no)
        Dosne has been brave.   →   **Has** Dosne been brave? (yes/no)
        Nikila is a hero.   →   **Is** Nikila a hero? (yes/no)

To form yes/no questions in Matoric, the marker *i_ki* is used, targeting the entire sentence. This means that sentences functioning as yes/no questions in Matoric always start with *i* and end with *ki*. This is summarized in the equation below:

(2)   ***i*** + Sentence + ***ki*** = "Yes/No question"

The question marker *i_ki* is a circumposition which "wraps around" the full sentence. It is always positioned "outermost" in the context of other markers such as tense, aspect, and mood markers, as well as the negation markers. In other words, additional markers are always contained within the unit defined by *i_ki*, as shown in the example sentences below.

(3)   a. *Midak iro ya*   →   **I** *Midak iro ya* **ki**?
           "Midak works"   "**Does** Midak work?"

        b. *Dosne aki ai nu*   →   **I** *Dosne aki ai nu* **ki**?
           "Dosne was brave"   "**Was** Dosne brave?"

        c. *Orde koro za hau ya cu*   →   **I** *Orde koro za hau ya* **cu ki?**
           "Orde didn't protect the village"   "**Did** Orde **not** protect the village?"

The marker *i_ki* also has an affixal (circumfixal) form *i-_-ki*, with the first component *i-* attaching as a prefix to the first word or marker in the sentence and the second component *-ki* attaching to the final word or marker in the sentence. The prefixal component *i-* inserts a glottal stop (as in "uh-oh"), represented by <'> when attached to another vowel. Importantly, the affixal form *i-_-ki* does not attach to other *markers*, such as the tense/aspect markers or location/direction-markers--it only attaches to full words, regardless of category. Thus, when used as an affix, the question marker "skips over" any non-affixal markers at the beginning or end of a sentence (including the verbal marker *ya*, the equative marker *ai*, and the negative equative marker *ru*) moving right or left until it reaches the first "true" word. It then attaches directly to this word, external to any other affixal markers that are applied. This is illustrated in the sentences below:

(5)   a. **I** *Midak iro ya* **ki**   → **I***Midak iro***ki** *ya*
           "**Does** Midak work?"

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b. **I** *Dosne aki ai nu* **ki**　　　　→ **I'***Dosne aki****ki*** *ai nu*

　"**Was** Dosne brave?"

c. **I** *Orde koro za hau ya cu* **ki**?　　→ **I'***Orde koro za hau****ki*** *ya cu?*

　"**Did** Orde not protect the village?"

d. **I** *Nikila hau ya aki nu* **ki**?　　→ **I***Nikila hau ya aki****ki*** *nu?*

　"**Did** Nikila protect bravely?"

In (5a), (5b), and (5c), the suffixal component of the question marker (*-ki*) "skips over" all of the markers at the end of the sentence until it reaches a "true" word (*iro* in (5a), *aki* in (5b), *hau* in (5c)). In (5d), there is a modifier *aki* following the verb marker *ya* and preceding the tense marker *nu*. In this case, the suffix form of the question marker "skips over" the tense marker and attaches to *aki*, since it is the first "true" word in the sentence.

The same rules apply to the prefixal component of the question marker (*i-*), as shown in (6a) below, where the marker "skips over" the location/direction marker *pa_o* and attaches directly to *koro*. If the marker *pa_o* is itself affixal (*pa-*), as in (6b), then the question marker does not skip over it, but instead attaches to it directly:

(6)　　a. **I** *pa koro o Dosne ai* **ki**?　　→ *Pa* **i***koro o Dosne****ki*** *ai?*

　　b. **I** *pakoro Dosne ai* **ki**?　　→ **I***pakoro'o Dosne****ki*** *ai?*

　　"**Is** Dosne in the village?"

The rules for the placement of the question marker in its independent and affixal forms are summarized as follows:

- When independent, the question marker *i_ki* is always "outermost" in the sentence--outside all other independent markers: **I** *pa koro o Dosne ai* **ki.**

- When affixal, the question marker attaches only to "true" words, ignoring (or "skipping over") any other markers: *Pa* **i***koro o Dosne****ki*** *ai.*

- When affixal, the question marker is always "outermost" in the word that it attaches to--outside all other affixal markers: **I***pakoro Dosne****ki*** *ai.*

6.1.2 Information Questions

Information questions do not target the positive/negative aspect of sentences, but instead target specific subparts of the sentence, including the subject, the object, modifiers of the sentence, and various other components. In English, information questions are formed by the insertion of a question word like *who*, *what*, *where*, *when*, *why*, and *how*. These question

words can be inserted on their own, as in (7), or they may be appended to another word in the sentence, as in (8):

(7)   a. "**Who** are you?"

        b. "**What** did Midak see?"

        c. "**Where** is the temple?"

        d. "**When** did Dosne start working?"

        e. "**Why** is Boreas afraid?"

        f. "**How** did Nikila protect the village?"

(8)   a. "[**What** village] did Nikila protect?"

        b. "[**Which** temple] did you see?"

        c. "[**How** brave] was the warrior?"

To form information questions in Matoric, the question-marker i_ki is once again used, but instead of targeting the entire sentence, as with yes/no questions, the marker targets a single word or phrase internal to the sentence, as shown in (8) above. When i_ki attaches to a noun-like word, it is interpreted as "which" or "what", as in (9a). If it attaches to a word interpreted as an adjective (as in an equative sentence), it may also be interpreted as "how" or "what kind/manner (of)", as in (9b)

(9)   a. *I toa ki aki ai?*

        "**What/which hero** is brave?"

        b. *Midak **i apu ki** ai?*

        "**How friendly** is Midak?" or "**What (kind/manner of) friend/friendly** is Midak?"

The equation for this kind of question-formation is summarized in the following table:

$i + X + ki$	**Subject/Object:** "what/which X?" **Modifier:** "how, what kind/manner of X(-ly)?"

Note that, in the context of equative sentences, if the goal is to actually question the identity of one of the units involved in the sentence--as in a question like "Who/what are you?"--the marker i_ki is applied slightly differently. In order to question an equative structure like X + Y + ai "X is Y", a question marker must actually replace one of the units

entirely: X + Y + *ai* → X + *i_ki ai* "X is **what/who**?". However, since *i_ki* is a circumposition, it must have a host of some kind, and so the solution is to target the other remaining unit in the equative structure: X + *i_ki* + *ai* → *i* + X + *ki* + *ai* "**Who/what** is X?".

Targeting a true modifier with *i_ki* is also possible, expressing that the quality or descriptive property expressed by the modifier is what is being questioned. The translation of these sentences is particularly difficult in English, with the closest translation involving "how" or "what kind/manner (of)":

(10)   a. *Toa **aki** hau ya.*
      "The **brave** hero protects."

      b. *Toa **i aki ki** hau ya?*
      "**How brave (of a)** hero protects?" "**What kind/manner of brave** (describes the) hero that protects?"

(11)   a. *Toa hau ya **aki***
      "The hero protects **bravely**."

      b. *Toa hau ya **i aki ki?***
      "**How bravely** does the hero protect?" "**What kind/manner of brave** (describes the) hero's protecting?"

As with many other types of markers, if a phrase targeted by *i_ki* contains modifiers, those modifiers may optionally be placed before or after the question-marker (or, in this case, "inside" or "outside" of the unit established by the circumposition).

(12)   a. ***I** toa **aki ki** pa koro o ai?*

      b. ***I** toa **ki aki** pa koro o ai?*

      "**Which brave** hero is in the village?"

However, just as with the yes/no question marker, when additional markers, such as the role-markers or location/direction-markers, target the same word, the question-marker is always "outermost".

(13)   a. *Toa **i pa** koro **o ki** ai*
      "**In which** village is the hero?"

The question marker for information questions is, in essence, the same marker as the one used for yes/no questions, and as such, it also has an affixal form *i-_-ki* subject to the exact same rules outlined in the previous section, which are adapted below:

- When independent, the question marker *i_ki* is always "outermost" in the word or phrase that it targets--outside all other independent markers: **i** *pa koro o* **ki.**

- When affixal, the question marker attaches only to "true" words, ignoring (or "skipping over") any other independent markers: *pa* **ikoroki** *o.*

- When affixal, the question marker is always "outermost" in the word that it attaches to--outside all other affixal markers: **i***pakoro***ki***.*

There also exist the equivalent of the independent question words in (7) above (*who, what, where*, etc.). These derive from combinations of *i_ki* with specific markers which have become "fused" over time and may now be used without a target word/phrase to attach to. The forms in the following table represent combinations of *i_ki* with the role-markers *ta* and *za* and may be used to question the subject or object of a sentence:

Marker	Origin	Translation(s)	Examples
ikaki	*i + ta + ki*	"who/what (subject)?"	**Ikaki** *iro ya ga?* "**Who** is working?"
izaki	*i + za + ki*	"who/what (object)?"	*Midak* **izaki** *aku ya nu?* "**Who** did Midak see?"

The final table below contains fused forms for each of the question-marker in combination with the Location/Direction-markers, which may be used to question the location, time, or direction of an action, event, or entity:

ipoki	"in/on/at what? during what?"	**Ipoki** *Midak iro ya ga?* "**Where** is Midak working? ('**in/on/at what**')"
ipa'oki	"to/toward what? To where?"	**Ipa'oki** *Midak ivo ya nu?* "**To where** did Midak go?"
inuki	"before/behind what? before/preceding what?"	**Inuki** *kanohi ai?* "**Before/behind what** is the mask? **What** is the mask **before/behind**?"
i'onuki	"inside of what?"	**I'onuki** *kanohi ai?* "**Inside of what** is the mask? **What** is the mask **inside of**?"
iroki	"after/in front of what? after/following what?"	**Iroki** *kanohi ai?* "**In front of what** is the mask? **What**

		is the mask **in front of**?”
ireki	“outside of what?”	***Ireki** kanohi ai?* “**Outside of what** is the mask? **What** is the mask **outside of**?”
iaki	“below/under what?”	***Iaki** kanohi ai?* “**Below what** is the mask? **What** is the mask **below/under**?”
ihuki	“above/over what?”	***Ihuki** kanohi ai?* “**Above what** is the mask? **What** is the mask **above/over**?”
otuki	“(away) from what? far from what?”	***Otuki** Midak ivo ya?* “**Away from what** did Midak go? **What** did Midak go **away from**?”
ileki	“(extending) from what? along what?”	***Ileki** ru ai?* “**What** is the darkness **extending from**?”
iangaki	“beside/next to what?”	*Iangaki kini ai?* “**Beside what** is the temple? **What** is the temple **beside**?”

6.2 Commands

The final sentence function, which will round out this chapter, is the function of a sentence as a command or directive, also called an *imperative*. Commands come in a positive form, shown in (14), and a negative (or prohibitive) form, shown in (15):

(14)   a. Go away!

       b. Come here!

       c. Attack the monster!

       d. Protect the village!

(15)   a. Do not leave!

       b. Don’t eat that!

       c. Don’t follow the lights!

In some ways, the command function of sentences is the most basic in form, since it does not have a specific marker. Instead, it requires a small change in the expression of other sentential markers.

In order to convey a bare command in Matoric, the sentential markers *ya*, *ai* or *ru* are switched to their affixal forms, which manifest as suffixes, attaching to the end of the word immediately preceding them. This process can be described with the following equations:

(16) **Verbal Sentence:**

    a. X + *ya*   →   X-*ya* "Do Y!"

    b. X + **ya** cu   →   X-**ya** cu "**Do** not Y!"

(17) **Equative Sentence:**

    a. X + Y + ***ai***   →   (X) + Y-***ai*** "(Let X) **be** Y!"

    b. X + Y + ***ru***   →   (X) + Y-***ru*** "(Let X) **not be** Y!", "**Don't be** Y!"

One special property of commands is that they are always addressed to a "hearer" or recipient. This means that, in verbal sentences, there is no overt subject because the subject of a command is, by default, the one who is receiving the message--typically represented by the 2nd Person "you": "(You) get out of here!"

In verbal sentences, this means that all that remains is a word marked with a suffixal form of the verb marker *ya* and potentially an object, optionally marked by *za*, along with any modifiers. When suffixed, the marker *ya* tends to delete any single vowel that immediately precedes it. More specifically, the vowels /a/, /i/, and /u/ are obligatorily deleted, while the vowels /e/ and /o/ are only optionally deleted.

(18)   a. *Hau **ya***   →   *Ha**ya**!*
          "(to) protect   "Protect!"

    b. *Nikila ta Sarda za hau **ya*** →   *Sarda (za) ha**ya**!*
          "Nikila protects Takua"   "Protect Takua!"

    c. *Matoran lego **ya***   →   *Lego**ya**!*
          "(The) Matoran play well"   "Play well!"

In equative sentences, a similar pattern applies: the marker *ai* and its negative form *ru* become suffixal--also sometimes deleting single vowels that immediately precede them

as described above[4]--and the first part of the equative relation may be omitted. If it is not omitted, the sentence takes on the character of an invocation "Let/May Midak be happy!"

(19) *Nikila aki **ai***   →   *Ak**ai**!*   or   *Nikila ak**ai**!*
      "Nikila is brave"   "Be brave!"   "May/Let Nikila be brave!"

An ancient, but very basic, form of command dispenses with the presence of a verb-word in general. It may be interpreted as an invocation to action of some kind requiring the hearer to act or do something that affects the object of the sentence (frequently interpreted as "attack", "target", or "act upon"). The object in these cases is always marked by *za*, and, in the absence of a true verb-word, *-ya* suffixes onto *za*, deleting its vowel and yielding *zya*:

(20) *Manas **za ya***   →   *Manas **zya***
      "Attack/Target (the) monster!" or "Do/act with respect to the monster!"

One final thing to note is the interaction of the command form of sentences with tense, aspect, and mood markers. Because of the fact that commands are largely grounded in the present moment (i.e. the moment of speech), some contradictions may arise in the presence of specific markers.

To start, as noted, the command form of a sentence is by default interpreted as being grounded in the present moment. As a result, the present tense marker, marker by *po*, is prohibited in this context. In addition, there is a basic contradiction between a command and the category of past tense, marked by *nu*. Technically, the past tense marker can be used in an imperative, but the meaning of such a sentence would be roughly "Do X in the past!" (or "Did X!") and, as such, a legitimate context for the use of such a command would likely never arise, unless "time travel" were involved. The same is not necessarily true of the future tense marker *ko*, which, when used in a command sentence, expresses that the hearer should perform the commanded action at a time further removed into the future ("You will do X!").

A similar contradiction arises for the mood marker *ba*, which expresses a generic or "universal" concept ("Matoran work (that's what they do)"). A command form in combination with *ba* would likely be interpreted as an invocation for the hearer to change into or take on the generic/universal state expressed by the sentence, but this could just as easily be accomplished with a bare command sentence lacking *ba*.

The mood marker *ce*, which expresses a possible event ("may/might") and *su*, which expresses obligation or necessity ("should/must/have to") also run into some lesser

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[4] When *ru* is suffixed, it optionally deletes single vowels only if the result is one of the following licensed consonant clusters: /br, pr, tr, kr, hr/. In all other cases, the vowel is preserved.

conflicts with imperatives. A *ce*-marked imperative would be interpreted roughly as "Do (a possible version of) X", which could be used as a way to express a "weaker" command like a suggestion ("Maybe do X"). A *su*-marked imperative would be interpreted as "Be obligated to do X", which is very nearly the same thing as a bare command, but subtly different and unlikely to arise in natural contexts.

Aside from these specific cases, commands may be expressed with any of the other aspectual and/or mood markers, either individually or in combination. The example sentences below are adapted from sentences in Chapter 3, Section 3.3:

(21)   a. *Koro za **haya ta**!*
        "**Start to protect** the village!"

        b. ***Iroya fa!***
        "**Finish work(ing)!**"

        c. *Pa koro o **ivoya vo**!*
        "**Be able to go** to the village!"

        d. ***Legoya ga!***
        "**Be playing well! / Continue to play well!**"

6.3 Recap

You now have the tools not only to construct sentences functioning as statements or assertions about the world, but also to construct sentences functioning as questions and commands. These sentences each have different properties and are formed in different ways. Question sentences are formed using the question marker *i_ki* (or its affixal variant *i-_-ki*), targeting various items at the sentence-level to express "yes/no questions" and "information questions. Command sentences are formed by converting one of the sentential markers (*ya*, *ai*, *ru*, etc.) into an affixal form (*-ya*, *-ai*, *-ru*) and attaching it to an adjacent word.

Chapter 7. Coordination and Subordination

Two kinds of structural relations are discussed in this chapter. The first, called *coordination*, enables the linking together of words, phrases, and even full sentences, with specific logical relations, such as conjunction (X **and** Y) and disjunction (X **or** Y). The interpretation of these configurations is relatively straightforward, compared to the interpretation of the second kind of structural relation: *subordination.* In particular, sentential subordination is a specific type of construction in Matoric that approximates (but does not exactly match) the constructions of clausal complementation and relative clauses in human languages. These relations have been organized together in the same chapter because they represent two distinct ways of constructing relations involving sentences--one yielding chains of units that are hierarchically "flat", the other yielding a hierarchically complex unit, where one unit is subordinated to another unit.

7.1 Coordination

Coordination is the linking together of two or more words within a specific logical relation. It bears similarities to the equative meaning used in equative sentences, but does not indicate that the items undergoing coordination share an identity with each other. There are a variety of markers in Matoric that indicate different logical relations between coordinated members. Words and phrases of any category can be coordinated, including nouns, verbs, modifiers, and full sentences, and there is no upper limit on the number of words/phrases/sentences that can be coordinated.

One marker will be introduced first to illustrate how coordination markers function in general, followed by a table containing all of the markers, plus examples. The first coordination marker is also the most common: the marker *no* which expresses conjunction, or X and Y (and Z…etc.). The basic equation for the conjunction marker is illustrated below:

(1)   X + Y + **no** "X **and** Y"

As can be seen, the marker *no* is placed after a sequence of word-units, indicating that those word-units are to be interpreted as relating to each other by conjunction. Although only two items are shown in () (X and Y), the number of items in a sequence coordinated by a coordination marker is potentially unlimited:

(2)   a. X + Y + Z + **no** "X, Y, **and** Z"

        b. X + Y + ... + Z + **no** "X, Y, ..., **and** Z"

Notably, coordination markers always have two forms: a postpositional form which is illustrated above (positioned *after* the sequence of items coordinated) and a circumpositional form consisting of two components, one placed at the *start* of the sequence and one placed at the *end.* The circumpositional form of *no* is *o_n(a)*.

        This version can optionally be used in any of the examples above, as shown in (a) below, but it is typically reserved for instances of coordination involving three or more items, as shown in (3b):

(3)   a. **o** + X + Y **na** "X **and** Y"

        b. **o** + X + Y + ... + Z + **na** "X, Y, ..., **and** Z"

Another context where the circumpositional form is used is when multiple separate instances of coordination occur adjacent to each other. In the second case, the multiple circumpositional forms "link up" in a specific way. In the case of the conjunction marker *no/o_n(a)*, a sequence of two markers *o _ na + o _ na* becomes *o _ no _ na*, as shown in (4).

(4)   **o** X + Y **na-o** Z + W **na** *ai*

                → **o** X + Y **no** Z + W **na** *ai*
                "X **and** Y are Z **and** W"

Marker	Translation	Examples

no
o_n(a)
	"and (conjunction)"	(a) [*Midak Dosne* **no**] *iro ya.*
		    "Midak **and** Dosne work"
		(b) *Toa* [*aki paka* **no**] *ai*
		    "The hero is brave **and** strong"
		(c) *Nikila hau ya* [*aki paka* **no**]
		    "Nikila protected bravely **and** strongly"
		(d) **O** *Pekka Midak* **no** *aki paka* **na** *ai*
		    "Pekka **and** Midak are brave **and** strong"

su
u_s(a)
	su "or (disjunction), either/or"	(a) [*Midak Dosne* **su**] *iro ya.*
		   "Midak **or** Dosne work"
		(b) *Toa* [*aki paka* **su**] *ai*
		   "The hero is brave **or** strong"
		(c) *Nikila hau ya* [*aki paka* **su**]
		   "Nikila protected bravely **or** strongly"
		(d) **U** *Pekka Midak* **su** *aki paka* **sa** *ai*
		   "Pekka **or** Midak is brave **or** strong"

cu
u_c(a)
	"nor (negation+disjunction), neither/nor"	(a) [*Midak Dosne* **cu**] *iro ya.*
		   "**(Neither)** Midak **nor** Dosne work"
		(b) *Toa* [*aki paka* **cu**] *ai*
		   "The hero is **(neither)** brave **nor** strong"
		(c) *Nikila hau ya* [*aki paka* **no**]
		   "Nikila protected **(neither)** bravely **nor** strongly"
		(d) **U** *Pekka Midak* **cu** *aki paka* **ca** *ai*
		   "**(Neither)** Pekka **nor** Midak is **(neither)** brave **nor** strong"

va
a_va
	"but not, and...but not, except (conjunction+exclusion)"	(a) [*Midak Dosne* **va**] *iro ya*
		   "Midak **but not** Dosne work"
		(b) [*Midak Dosne Pekka* **va**] *iro ya*
		   "Midak **and** Dosne, **but not** Pekka work"
		(c) *Toa* [*aki paka* **va**] *ai*
		   "The hero is brave **but not** strong"
		(d) *Nikila hau ya* [*aki paka* **va**]
		   "Nikila protected bravely **but not** strongly"
		(e) **A** *Pekka Midak* **va** *aki paka* **va** *ai*
		   "Pekka **but not** Midak is brave **but not** strong"

Note that the last coordinator in the table above (*va, a_va*) incorporates a form of conjunction plus "exclusion" applied to the last item in the list, so a sequence of items X + Y + Z marked by this marker are interpreted as "X and Y, excluding Z". Multiple items can be excluded if the last item in the list is itself a sequence of coordinated items (see below for an example).

Different coordination markers may be combined to create even more complex structures. The sentence in (5) below shows two instances of conjunction (with *no*) embedded inside one instance of disjunction (with *su*), while (6) shows an instance of conjunction+exclusion with conjunction (6a) and disjunction (6b) embedded within it:

(5)   [*Jaller Takua* **no**] [*Boreas Dosne* **no**] **su** *hau ya.*
        "Jaller **and** Takua **or** Boreas **and** Dosne protect."

(6)   a. [[**A** *Jaller Takua* [**o** *Boreas Dosne* **na**] **va**]
           "[Jaller **and** Takua **but not** [Boreas **and** Dosne]]"

        b. [[**A** *Jaller Takua* **u** *Boreas Dosne* **sa**] **va**]
           "[Jaller **and** Takua **but not** [Boreas **or** Dosne]]"

When the circumpositional forms of multiple coordination markers are used adjacent to each other, as in (7), they "link up" in the same way illustrated above. This results in "hybrid" coordination markers like *nu (...n(a)-u...)* and *co (...c(a)-o...)*.

(7)   a. **O** *Jaller Takua* **nu** *aki paka* **sa** *ai*   (o _ n(a) + u _ s(a))
           "Jaller **and** Takua are brave **or** strong."

        b. **U** *Jaller Takua* **co** *aki paka* **na** *ai*   (u _ c(a) + o _ n(a))
           "**(Neither)** Jaller **nor** Takua are brave **and** strong."

All of the examples so far have involved coordination of single words or phrases, but coordination can also be used to link together full sentences in Matoric. The only special rule that applies for sentence coordination is that the circumpositional form of the coordination markers is always used in this case--never the postpositional form--and that the circumpositional form is altered slightly: the initial component, which always consists of a single vowel, is "doubled" to two vowels, with <'> inserted between: **o'o** _ *n(a)*, **u'u** _ *s(a)*, etc. Other than that, sentences are simply slotted into the same positions that single words and phrases are, with the same interpretations. The examples below will illustrate:

(8)   a. **o'o** *Pekka iro ya Midak iro ya cu* **na**
           "Pekka works **and** Midak does not work"

        b. **u'u** *Takua hau ya nu Jaller hau ya nu* **sa**
           "**(Either)** Takua protected, **or** Jaller protected."

        c. **a'a** *Pekka aki ai* **o'o** *Dosne paka ai Nixie rua ai* **na va**
           "Pekka is brave, **but** Dosne is strong **and** Nixie is wise."

7.2 Subordination

One aspect of sentence structure that is notably missing or limited in Matoric compared with human languages is the phenomenon of multiple recursive sentential subordination. Put more simply, Matoric syntax does not include the possibility of embedding one full sentence inside another full sentence (inside another, inside another...) *ad infinitum.* Although not extremely common in human languages, the construction and interpretation

of such subordination structures is not particularly difficult. The following English examples illustrate:

(9)   This is the muaka...

    → that chased the kuma...

        → that ate the bula...

            → that lay in the hut...

            → that Jaa built.

(10)   Midak heard...

    → that Dosne said...

        → that Zemya thought...

            → that Nixie had claimed...

            → that Takua had arrived.

In each sentence, a new subordinate sentence (in English, marked by the word *that*) is added at each level either as a modifier of the previous word-unit (as in (1)) or as a "complement", equivalent to a verbal object (as in (2)). In principle, these kinds of constructions have no upper limit; they could continue unbounded if the language-user had the will and energy. As noted, however, such constructions do not occur in Matoric. The closest that Matoric gets to this kind of construction--in terms of constructions that have been presented so far--are the causative sentences and desentential causatives in Chapter 5, which involve at least one level of sentence-embedding, with the causative relation being embedded inside the larger *ta*-marked structure (see Sections 5.2 and 5.4).

There is a way to approximate these kinds of subordinated sentences in Matoric, and they both involve converting a sentence from a full sentence into something closer to a noun or modifier--similar to the desentential causatives. These will be referred to generically as "desentential units" (DUs) in the discussion below. The formation of DUs proceeds as follows:

The sentential marker that typically is added at the *end* of a sentence (*ya*, *ai*, *ru*, etc.) is converted into a prefix attached to the first word in the sentence (see (11) below). If there are multiple prefixes on this word, the sentential prefix is placed first in the sequence (see (12)). Any tense, aspect, or mood markers that are present remain in their original position if they are independent, but move as a unit with the sentential marker if they are affixal (see (13)).

(11) a. *Matoran iro* **ya**   → **ya-***Matoran iro*
      "Matoran work"   "Matoran working"

      b. *Matoran apu* **ai**   → **ai-***Matoran apu*
      "Matoran are friendly"   "Matoran being friendly"

      c. *Matoran apu* **ru**   → **ru-***Matoran apu*
      "Matoran are not friend"   "Matoran not being friendly"

(12) *Ta-Matoran iro* **ya**   → **ya**-*Ta-Matoran iro*
      "Ta-Matoran work"   "Ta-Matoran working"

(13) a. *Matoran iro* **ya nu**   → **ya-***Matoran iro nu*

      b. *Matoran iro* **yanu**   → **yanu-***Matoran iro*

      "Matoran worked"   "Matoran working in the past"

DUs can be used to approximate the sentence-types in (10) above, where a fully-formed sentence is embedded as part of another sentence (in (10), as the object of a verb). As such, DUs essentially function as either nouns or modifiers and may be marked with any of the markers entailed by these categories, such as the role-markers *ta* and *za*:

(14) a. **Ya-Matoran iro ta** *Mata Nui hau ya nu*   (used as a *ta*-marked subject)
      "**Matoran working** protected/safeguarded Mata Nui."

      b. *Midak* **ya-Matoran iro za** *aku ya nu*   (used as a *za*-marked object)
      "Midak saw **Matoran working**."

      c. *Koro* **ya-Matoran iro** *os metru u ai nu.*   (used as a modifier)
      "The village **of/related to Matoran working** was far from the city." of "The village **where Matoran work** was far from the city."

The examples in (9) above show sentences embedded as modifiers of nouns ("the muaka that …", "the kuma that …"). In English, these are classified as examples of *relative clauses*, meaning that they are not full sentences--the item modified by the embedded sentence plays a semantic role in that sentence in addition to being modified by it. In (9), the nouns "muaka", "kuma", etc. are all the subjects of the embedded modifying sentences. Constructions of this kind can also be built in Matoric using the pattern introduced above along with the mechanism for the construction of "indefinites", which was introduced in Chapter 3 and is repeated in simplified form below:

The role-markers *ta* and *za* may be used to signify the presence of a subject or object entity in a sentence even if there is no word to represent that entity, translating

roughly to "someone" or "something". In (15) below, *za* is present to indicate that there is some object, but its content is unspecified. When *za* is used in this indefinite manner, it is also typical for the verb (*aku*, in this case), to be prefixed onto *za*:

(15) *Midak ta aku-**za** ya* "Midak sees **someone/something**."

The marker *ta* is also used to convey an indefinite subject. When *ta* is used in this way, it takes on a new form, *aka* (as in (16a)), unless it is adjacent to the verb, in which case the verb prefixes onto it (as in (16b)):

(16) a. **Aka** *Dosne za aku ya*

b. *Dosne za aku-**ta** ya*

"**Someone/something** saw Dosne ."

Returning now to the construction of modificational DUs, in order to indicate that the word modified by a DU plays the role of **object** within that DU, the indefinite construction for objects is used, with the verbal word prefixing onto the object marker *za* (compare (15) above). The content of "something" in the translation of these sentences may then be filled with the meaning of the word modified by the DU ("the beast", in the case of (17c)):

(17) a. *Midak **rahi za** aku ya nu*   "Midak saw **the beast**"

b. *ya-Midak **rahi za** aku nu*   "Midak seeing **the beast** (in the past)"

c. ***rahi** ya-Midak aku-**za** nu*   "**the beast** that Midak saw" or "**the beast** of/related to Midak seeing (something)"

In order to indicate that the word modified by the DU plays the role of **subject** within that DU, there are two options: If the object marker *za* is also present in the sentence, the subject position can simply be left empty. Otherwise, the "indefinite" subject form *aka* may be inserted in the sentence in the place of the modified word. If no object is present and the subject position is adjacent to the verb, the verb prefixes onto *ta* (see (19c) below and compare with (16b) above):

(18) a. **Toa** *rahi za aku ya nu*   "**The hero** saw the beast"

b. *Ya-**toa** rahi za aku nu*   "**The hero** seeing the beast (in the past)"

c. **Toa** *ya-(aka) rahi za aku*   "**The hero** who saw the beast" or "**the hero** of/related to (someone) seeing a beast"

(19) a. **Toa** *ta hau ya nu*   "**The hero** protected"

b. *Ya-**toa** ta hau nu* "**The hero** protecting (in the past)"

c. **Toa** *ya-hau-ta nu* "**The hero** who protected" or "**the hero** of/related to protecting"

Both of these DU constructions can only function in a relation of Standard Modification. They cannot be prefixed to the word they modify.

7.3 Recap

At this point, you now have the tools to construct highly complex sentences in Matoric using either *coordination*, where words, phrases, and sentences are strung together in specific logical relations using coordinate markers like *no* (*o _ na*) and *su* (*o _ sa*) or *subordination* where full sentences are converted into "desentential units" which are then embedded in other sentences as subjects, objects, and/or modifiers.

Further Resources

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