DESIGN FOR A NEW LANGUAGE BASED ON ITHKUIL (Version 0.9.3, October 20, 2019) by John Q.

This document presupposes familiarity on the part of the reader with existing Ithkuil grammar, as well as familiarity with the previous versions of this design document. This version 0.9.3 updates the previous version 0.9.2.2 and reflects the following changes made since that version:

- Series 3 of the Standard Vowel-Form Sequence has been modified; specifically, the alternate disyllabic forms have been replaced. Consequently, diphthongs may now be pronounced disyllabically before -**r** and -**ř** for ease-of-pronunciation. In turn, this now allows roots and $V_X C_S$ affixes of the form **r/ř**+consonant to be reintroduced as well as C_A forms with initial **r**- and **ř**-.

- I have added an "Optional Stress Shift" rule to the structure of Complex Formatives as a way of making antepenultimate and pre-antepenultimate stress productive, thus allowing certain Complex Formatives to be potentially shortened by one syllable.

- The re-introduction of **r/ř**+consonant forms has allowed me to revamp the C_A complex (yet again) to eliminate the multiple series of geminates that could result from the previous version.

- Due to the reintroduction of **r/ř**+consonant roots and affixes, I've had to eliminate the Slot XII combination $C_M + C_C$ affixes used with framed formatives. Instead, I have reintroduced the Slot XI V_{M2} Mood affix, so that framed formatives can show Mood either in Slot X or Slot XI (or via the modular adjunct).

- The initial h- of V_{T2} Slot XI aspect affixes has been changed to **hy**- to better differentiate them from the Slot XII C_M/C_C affix.

- A footnote has been added to the table of V_N values in Sec. 3.10 to clarify when to use the MNO alternate value of -**a**-.

- Added an important note following Sec. 3.12.4 regarding the use of Modular Adjuncts as a preferred alternative to using Slots X, XI, and XII in certain circumstances.

- The carrier adjunct has been drastically simplified —the previous version was really no shorter in length or complexity than the full carrier-root.

- The ability to show the C_M/C_C Mood/Case-Scope affix has been added to the Modular Adjunct. As a consequence, the form of the register adjunct has been changed.

- The case-stacking adjunct has been eliminated. Instead, there is a new case-stacking $V_X C_S$ affix, -**rl**, whose V_X value follows the same exception as the case-assessor affixes in that the V_X value is the same as the Slot XIII V_C value of the particular case.

- I have added Sec. 4.9 regarding a recommendation for using rising-falling or falling-rising tone when pronouncing adjuncts.

- Various minor corrections.

1.0 PHONOLOGY

1.1 Phonemic Inventory

	LABIAL	LABIO-DENTAL	LABIO-VELAR	APICO-DENTAL	INTER-DENTAL	APICO-ALVEOLAR	ALVEOLAR RETROFLEX	ALVEOLO-PALATAL	PALATAL	VELAR	UVULAR	GLOTTAL	LATERAL
STOP	p b			t d						k g		'	
FRICATIVE		f v			ṭ ḍ	s z		š ž		x		h	ḷ
AFFRICATE						c ż		č j					
NASAL	m			n						ň			
LIQUID — FLAP / TRILL							r						
LIQUID — NON-FLAP													l
APPROXIMANT			w						y		ř		

	FRONT		CENTRAL		BACK	
	unrounded	rounded	unrounded	rounded	unrounded	rounded
HIGH	i			ü		u
MID	e	ö			ë	o
LOW	ä			a		

1.2 Pronunciation Notes and Allophonic Distinctions

1.2.1 Vowels:

-**a**- is pronounced [a] or [ɑ], -**ä**- is [æ], -**e**- is [ɛ] or [e] but only as [e] at the beginning of a vocalic conjunct; -**ë**- is [ɤ] or [ə] when stressed but [ɯ] is recommended when unstressed; -**i**- is pronounced either [ɪ] or [i] but only as [i] at the beginning of a vocalic conjunct and only as [ɪ] when preceded by -**y**-; -**o**- is [ɔ] or [o] but only as [o] at the beginning of a vocalic conjunct; -**ö**- is [œ] or [ø] but only [ø] at the beginning of a vocalic conjunct; -**u**- is [ʊ] or [u] but only [u] at the beginning of a vocalic conjunct and only as [ʊ] when preceded by -**w**-; -**ü**- as [ʉ] or [y] but only [ʉ] when preceded by -**y**- or -**w**-). Diphthongs followed by -r or -ř in the same syllable as the diphthong may be pronounced disyllabically for ease-of-pronunciation; when doing so, be sure not to accidentally introduce a glottal-stop between the two vowels.

1.2.2 Consonants:

The dental -**n**- assimilates to velar [ŋ] before -**k**-, -**g**-, and -**x**- (but not before -**ř**-); therefore, phonemic -**ň**- is not permitted before -**k**-, -**g**-, and -**x**-; The fricative -**x**- may be pronounced with either velar or uvular articulation [x ~ χ]; The apico-alveolar-retroflex rhotic -**r**- is a single tap/flap [ɾ], which

becomes a trill [r] when geminated; when followed by a consonant in the same word, it may be pronounced as an apico-alveolar-retroflex approximant [ɻ], similar to (but further forward in the mouth than) the postalveloar [ɻ] of standard English; The uvular -**ř**- is an approximant [ʁ] as in colloquial French or German; when geminated it is either [ʁ:] or can be strengthened to a uvular trill [ʀ]. Care should be taken to ensure the pronunciations of -**př**- and -**tř**- are differentiated from -**px**- and -**tx**-. Word-initial or word-final -**ph**-, -**th**-, -**kh**-, -**ch**-, -**čh**- are pronounced as aspirated stops/affricates [pʰ, tʰ, kʰ, tsʰ, tʃʰ]. Within a word, they are pronounced as in English *haphazard*, *at-hand*, *backhanded*, *it's here*, and *church hall*.

1.3 Orthographic Conventions

The tables on the previous page indicate the romanization system. The following alternatives are available for writing the language in romanized script: The character **ṭ** may be written as **ṭ** or **ț**, the character **ḍ** may be written as **ḍ** or **đ**, the character **ż** may be written as **z̧**, the character **ň** may be written as **ņ** or **ṇ**, the character **ř** may be written as **ŗ** or **ṛ**, and the character **ḷ** may be written as **ł** or **ḻ**.

1.3.1 Indicating Syllabic Stress: Penultimate stress is unmarked; non-penultimate stress is marked by a diacritic on the vowel (or syllabic consonant) carrying the stress, as follows: a vowel with no diacritic takes the acute accent; a vowel with dieresis changes it to a circumflex accent (e.g., **ö → ô**). The grave accent is used over the vowel -**i**- when it is unstressed as the initial member of a vocalic conjunct following a consonant (e.g., -**Cìa**-, -**Cìo**, etc.) — this is to remind the speaker/reader that this -**ì**- is to be pronounced long /i:/ in order to distinguish such syllables from syllables of the form **Cy+V** (e.g., *karesya* vs. *karésìa*, *ávelkyo* vs. *ávelkìo*)

1.4 Phonotactics

A draft version of a detailed phonotaxis document has been released separately.

1.5 The Standard Vowel-Form Sequence

Slots II, IV, VI, VII, IX, X, XI, XII and XIII of the language's main word-form, the formative, carry vocalic affixes. The majority of these Slots either hold nine distinct values, or are a matrix of multiple values where one axis of the matrix carries nine values. As a result, it is convenient as an aid in the memorization of so many vocalic affixes, to have a standard generalized pattern of nine vocalic forms in multiple series, which can then be utilized to populate each of these various Slots. This generalized standard pattern of vocalic forms is shown on the next page.

Despite the number of vowel-forms, the sequence structure is highly systematic. Series 1 starts with -**a**- then modifies it via the dieresis diacritic to make Form 2; Forms 3 and 4 follow the same pattern using -**e**-. Form 5 establishes a vertical "mid-point" in the series with the form -**i**-, then Forms 6 through 9 mirror Forms 1 through 4 in reverse, beginning with -**u**- in Form 9 and -**o**- in Form 7. This **a-e-i-o-u** vertical pattern continues more or less across the various series. In Series 2, the **a-e-i-o-u** pattern is diphthongized, where odd-numbered forms take -**i** offset, while even-numbered dieresis-marked forms take -**u** offset (with -**ë**- substituting for -**i**- in Form 5 to allow for diphthongization).

The Standard Vowel-Form Sequence

	Series 1	Series 2	Series 3*	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9
Form 1	a	ai	ia / üa	ao	aya	aye	ayo	ayë	ayu
Form 2	ä	au	ua / aü	oa	awa	awe	awo	awë	awi
Form 3	e	ei	ie / üe	ae	eya	eye	eyo	eyë	eyu
Form 4	ë	eu	ue / eü	ea	ewa	ewe	ewo	ewë	ewi
Form 5	i	ëi	ië / uë	ëu	iwa	iwe	iwo	iwë	iwi
Form 6	ö	ou	uo / oü	oe	owa	owe	owo	owë	owi
Form 7	o	oi	io / üo	eo	oya	oye	oyo	oyë	oyu
Form 8	ü	iu	uö / öü	öe	öwa	öwe	öwo	öwë	öwi
Form 9	u	ui	iö / üö	eö	uya	uye	uyo	uyë	uyu

* When preceded by **y**-, Series 3 forms beginning with -**i** use their alternate forms instead (e.g., **yüa**, not **yia**), while Series 3 forms beginning with -**u** use their alternate forms if preceded by **w**- (e.g., **waü**, not **wua**).

Series 3 takes the Series 2 diphthongs and reverses the letters to create disyllabic forms (Forms 8 and 9 utilize -**ö**- as the primary vowel to avoid duplication with Series 2 Forms 9 and 8). Series 4 presents novel disyllabic forms (where the even-numbered forms are simply the odd-numbered forms in reverse) while preserving the basic **a-e-i-o-u** pattern, again with -**ë**- substituting for -**i**-, and -**ö**- substituting for -**u**-. Finally, Series 5 through 9 take the **a-e-i-o-u** pattern and add -**w**-based and -**y**- based syllables (patterned after the Series 2 diphthongs), first with final -**a**, then -**e**, then -**o**, then - **ë**, then -**u/-i**.
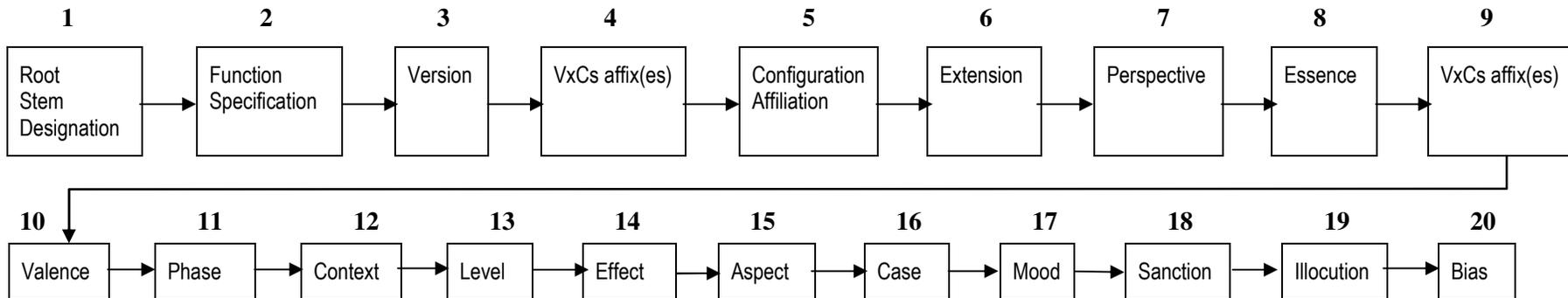
1.6 Rules for Inserting a Glottal-Stop or -h- Into a Vowel-Form

Several of the morpho-phonological "slots" which constitute the structure of a formative in the language call for the infixing of a glottal-stop and/or -**h**- into a vowel-form **V**. To do so, follow the rules below:

1. If **V** is a single vowel or diphthong, the glottal-stop or -**h**- is placed after **V**, e.g., -**a** becomes -**a'**, -**ai** becomes -**ai'**; -**a** becomes -**ah**, -**ai** becomes -**aih**.

2. If **V** is a disyllabic conjunct, place the infix between the two syllables of **V**, e.g., -**ua** becomes -**u'a**; -**ua** becomes -**uha**.

3. When applying Rule 1 above, if the infix results in a phonotactically impermissible or awkward conjunct with the following consonant (e.g., the following consonant-form is a geminated stop such as -**tt**- or a form such as -**lk**- or -**rp**-), then an epenthetic vowel must be added as follows:

   o If **V** is a single vowel, reduplicate this vowel following the infix; e.g., -**a** becomes -**a'a**; -**a** becomes -**aha**.

   o If **V** is a diphthong, then place the infix between the two vowels of the diphthong (as an exception to Rule 1 above); e.g., -**ai** becomes -**a'i** instead of the usual -**ai'**; -**ai** becomes -**ahi** instead of the usual -**aih**.

2.0 MORPHO-PHONOLOGICAL STRUCTURE OF A FORMATIVE

The Slot structure of formatives more or less reflects the hierarchy of morphemes within a formative, i.e., the order in which each morpheme's semantic information has scope over the preceding morphology as the word sequentially unfolds in speech or writing. This scoping order is shown below:

1	2	3	4	5	6	7	8	9
Root Stem Designation	Function Specification	Version	VxCs affix(es)	Configuration Affiliation	Extension	Perspective	Essence	VxCs affix(es)

10	11	12	13	14	15	16	17	18	19	20
Valence	Phase	Context	Level	Effect	Aspect	Case	Mood	Sanction	Illocution	Bias

Slot Structure of a Simple Formative (i.e., No Incorporated Stem Is Present)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
'	V_R	C_R	V_V	—	—	$(C_S V_X...')$	C_A	$(V_X C_S...)$	$V_N / V_{T1} / V_M$	$(V_P / V_L / V_E / V_{T2})$	$C_C C_M$	V_C / V_K	$(('))C_B)$	[stress]
	Specification + Function + Stem of main root	Main Root	Designation + Version			VxCs affix(esj) in reversed form; affix(es) apply to stem but not to C_A.	Config. + Affiliation + Extension + Perspective + Essence + Context	VxCs affixes	Valence or Aspect or Mood	Phase **or** Level **or** Effect **or** Aspect	Case Scope and/or Mood	Case **or** Illocution + Sanction	Bias Preceded by a glottal stop unless Slot XI is filled or the Slot XIII affix contains a -w- or -y-	Penultimate or Ultimate = default (depending on Slot XIII V_C / V_K value)
glottal stop pronounced but not written	vocalic affix		Vocalic infix used only with simple formatives	(Slots not used in simple formatives)		The last V_X in the series requires a glottal stop to indicate end of Slot.	consonantal form	Apply to main stem + C_A	Modular Slot Aspect or Mood forms appear only if V_N Valence = MNO	Modular Slot	conso-nantal affix	vocalic affix plus penulti-mate or ultimate stress		

"Short-Form" Slot Structure For Simple Formative
(No Incorporated Stem Present and C_R-Form Is Phonotactically Permissible in Word-Initial Position)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
—	—	C_R	V_R (') (h)*	Slots V through XV are the same as for Simple Formatives										
		Root	Same as V_R from Slot II above Specification + Function + Stem Add glottal stop to show FML Designation Add -**h**- to show CPT Version											

* See Sec. 3.4.3 for phonological details on adding a glottal-stop and/or -**h**- to Slot IV.

In this specialized "short-form" structure, Slots II and IV of a Simple Formative are combined into Slot IV alone.

Slot Structure of a Complex Formative (i.e., Incorporated Stem Is Present)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
C_d	V_R	C_R	incorporated stem			$(C_SV_X...'/h)$ [2]								[stress]
			V_I (') [1]	C_I	V_F									
Designation + Version of main & incorp. stem	Specification + Function + Stem of main root	Main Root	Specification + Function + Stem of incorporated root + incorp. type	Incorp. Root	Format of incorp. stem	V_XC_S affix(esj) in reversed form; affix(es) apply to stem but not to C_A.	Slots VIII through XIV are the same as Simple Formatives, except for Slot IX which can add an -**h**- to show Delineation. [2]							See Footnote 3 on Optional Stress Shift
Consonant form beginning with **h**-, **w**- or **y**-	vocalic affix		same as Slot II V_R glottal stop = Type 1 incorp., no glottal stop =Type 2 incorp.		same as Slot XIII V_C	The last V_X in the series requires a glottal stop to indicate end of Slot. This glottal stop changes to -**h**- based on Delineation. [2]								

[1] See Section 3.4.2 for phonological details on adding a glottal stop to Slot IV.

[2] -**h**- shows positive Delineation (indicating that Slot VII affix(es) and/or slot IX affix(es) apply to an incorporated stem); see Sections 3.7.2 and 3.9 for details.

[3] If Slot I C_d = **h**-, Slot II = -**a**-, and the Slot III C_R consonant-form can appear in word-initial position, then Slots I and II may be elided and their information instead shown by shifting the word's penultimate stress to antepenultimate, or by shifting the word's ultimate stress to pre-antepenultimate (if there are a sufficient number of syllables).

2.1 A Self-Segregating Morphology

The language employs a pitch accent system as the means by which word boundaries may be parsed. The details of this pitch accent system are given below:

1. All unstressed syllables of a word prior to the stressed syllable carry neutral (MID-toned) pitch. Beginning with the stressed syllable, the remainder of the word must carry a single non-MID pitch contour, as described in Rule 2 below.

2. Beginning with the stressed syllable of the word, a word may carry ANY of the following pitch contours at the speaker's discretion: FALLING, HIGH, RISING-FALLING, FALLING-RISING. Additional pitch contours may be used in the following circumstances:

    - If the sentence carries INTERROGATIVE Illocution, the speaker may optionally utilize RISING pitch on the last word of the interrogative clause.

    - For clauses with non-NARRATIVE Register, the first and last word of the register clause may optionally be marked by LOW tone (in which case it is not necessary to utilize the end-register adjunct).

    In general, the choice of pitch may match what the speaker is naturally comfortable with using from their own native language, subject to these rules.

3. Once a pitch has been chosen for the stressed syllable, it must be pronounced continuously through to the end of the word without change to a different contour (i.e., each word will have only one non-MID pitch contour).

4. If a word carries word-initial stress (i.e., it does not begin with neutral MID pitch) or is monosyllabic, and is not at the beginning of a breath group, then it must carry a pitch whose initial tone is different than the final tone of the previous word, so that two identical tones are not juxtaposed at the boundary between two words. In practice, this means the following rules apply between two adjacent words within the same breath group (i.e., they are not separated from each other by a pause in speech), where the second word carries word-initial stress or is monosyllabic:

    - When preceded by a word with either FALLING, RISING-FALLING, or LOW pitch, a monosyllabic word or word with word-initial stress must have either FALLING, FALLING-RISING, or HIGH pitch.

    - When preceded by a word with either HIGH, RISING, or FALLING-RISING pitch, a monosyllabic word or word with word-initial stress must have either RISING, RISING-FALLING, or LOW pitch.

5. In unusual situations (e.g., singing a song) when pitch-accent is unavailable or undesirable as a means of parsing word boundaries and the placement of pauses between words is unrealistic, then a special parsing adjunct of the form 'V' may be placed before any word to be parsed, where 'V' represents a single vowel between two glottal stops, the particular vowel indicating the syllabic stress of the following word, as follows:

'a'	indicates the following word is monosyllabic
'e'	indicates the word bears ultimate stress
'o'	indicates the following word bears penultimate stress
'u'	indicates the following word bears antepenultimate stress
'i'	indicates the following word bears pre-antepenultimate stress

3.0 ANALYSIS OF FORMATIVE SLOTS

3.1 SLOT I: C_d — Designation and Version of Main Stem and Incorporated Stem

This slot is used only with Complex formatives. It shows Designation and Version values for both the main stem and the incorporated stem.

C_d — Designation/Version		Incorp. Stem is IFL/PRC	Incorp. Stem is FML/PRC	Incorp. Stem is IFL/CPT	Incorp. Stem is FML/CPT	PRONUNCIATION
Designation & Version of Main Stem	IFL/PRC	h	hh	hr	hrr	-**hl**- is [ɬ]; -**hh**- is [h:]
	FML/PRC	w	hw	hm	hmm	-**hw**- is [w̥, ʍ]; -**hy**- is [ç] ; -**hr**- is [ɾ̥]
	IFL/CPT	y	hy	hn	hnn	-**hll**- is either [ɬl] or [ɬ:]; -**hrr**- is [ɾ̥]
	FML/CPT	hl	hll	hlw	hly	-**hm**- is [m̥], -**hn**- is [n̥] -**hmm**- is [m̥:]; -**hnn**- is [n̥:] -**hlw**- is [ɬw]; -**hly**- is [ɬj]

3.2 SLOT II: V_R — Function x Stem x Specification

Each root has eight associated stems (four for each of the two Designations), four Specifications, and two Functions.

	STEM 1		STEM 2		STEM 3		"STEM 0"		
	STA	DYN	STA	DYN	STA	DYN	STA	DYN	**"Stem Zero":** These forms are available when necessary to refer to the "stemless" overall conceptual meaning of the raw root, irrespective of a particular stem. For many stems, this will be unnecessary, as the basic overall meaning of the root corresponds to the meaning of Stem One.
BASIC	a	ai	ä	au	ia / üa	ua / aü	ao	oa	
CONTENTIAL	e	ei	ë	eu	ie / üe	ue / eü	ae	ea	
CONSTITUTIVE	o	oi	ö	ou	io / üo	uo / oü	eo	oe	
OBJECTIVE	u	ui	i	iu	ië / uë	uö / öü	ëi	ëu	

Specifications (NOTE: the descriptions below are illustrated using the example stems "ARTISTIC ENDEAVOR", "BELIEF/BELIEVE", and "MEASURE(MENT)")

BSC	**BASIC**: A holistic instantiation of a root, prior to the application of one of the other eight Specifications, essentially encompassing the meanings of the CTE, CSV, OBJ specifications below. For roots representing naturally "activized", "time-unstable", dynamic, or psychologically verb-like notions, the BASIC nominal formative would mean "an instance/occurrence of X", while the BASIC verbal formative would mean "(an instance/occurrence of) X(-ing) happens". For roots representing naturally "reified", "time-stable", stative, or psychologically noun-like notions, the BASIC nominal formative would mean "an X (being present)" or for "non-count" entities, "an (unspecified/certain) amount/volume of X", whereas the BASIC verbal formative would carry a STATIVE interpretation meaning "(an) X be present" / "[there] be (an) X"; the expansion of this meaning verbally would be accomplished using other Specifications and/or DYN Function.
CTE	**CONTENTIAL**: This specification complements the CSV specification below. The physical or non-physical "content" or essence or purposeful function or idealized/abstract/platonic form thereof, as opposed to its mere physical form/shape, e.g., the *content of a piece of art* [what it represents or is an image/statue of]; *the water within a river* [regardless of its channel or course]; *the communicative content of a message* [regardless of the means/medium by which it is conveyed]; *something (made of/in) iron* [its form/shape as opposed to merely being an example of the substance]*; a room as a functional/habitable space, established by its socially communicated purpose or discernible by its design, furnishings, decor, etc*.
CSV	**CONSTITUTIVE**: The form (physical or non-physical) in which an entity/state/act actually expresses itself, is shaped, or is realized, as opposed to its functional/purposeful content, i.e., "what constitutes X", e.g., *a work of art* [as constituted by it being a painted canvas, sculpted marble, etc., irrespective of what the image is or what/who the statue is of]; *the course of a river; the form/medium (written, spoken, recorded, etc.) of a message* [irrespective of what it communicates]*, something iron (focus on it being of a particular material/substance regardless of its form/shape), a room as a contained volume of space established by conjoined walls and ceiling* [regardless of its purpose, dimensions, layout, design, furnishings, or decor].
OBJ	**OBJECTIVE**: Target or "object" or product associated with the act/state/event, , e.g., *what an artist creates*, *a work of art*, *the entity/person/institution that forms the object/source of one's belief, what one measures* (the object, span, gap, etc. to be measured)

The INTENTIVE Specification from v.0.8.7 of this document has been eliminated. It's functionality can instead be expressed by the following new affix:

-zř	**ROC Result / Outcome / Consequences**
1	the unforeseen/unexpected outcome/result of X
2	dreaded/unwanted result/outcome of X
3	desired/hoped-for result/outcome of X
4	expected/anticipated result/outcome of X
5	the actual outcome/result of X
6	the expected/anticipated consequences of (the outcome/result of) X
7	the desired/hoped-for consequences of (the result/outcome of) X
8	the dreaded/unwanted consequences of (the outcome/result of) X
9	the unforeseen/unexpected consequences of (the outcome/result of) X

3.3   SLOT III: C_R — The Root

The root is a single consonantal form, from one to six consonants in length. Any multi-consonant root must be phonotactically permissible (e.g., none of the following could be roots: *-**kg**-, *-**nč**-, *-**zrb**-, *-**tpk**-, *-**fmst**-). No root may contain a glottal-stop, nor can the single consonants -**ḷ**-, -**h**-, -**w**- or -**y**- be roots (however, multi-consonant roots ending in -**h**-, -**w**- or -**y**- are permissible (e.g., -**vh**-, -**gw**-, -**mpy**-), as are combinations containing -**ḷ**- (e.g., -**pḷ**-, -**ḷtr**-, etc.).

3.4   SLOT IV

3.4. 1   Slot IV for Simple Formatives: Designation and Version

For simple formatives (those with no incorporated stem), Slot IV contains a vocalic affix indicating Designation and Version, as follows:

	PRC Version	CPT Version
IFL Designation	a	e
FML Designation	i / u	o

3.4. 2   Slot IV for Complex Formatives: V_I — Function x Stem x Specification of Incorporated Root plus Incorporation Type

V_I infix values are the same values as for the V_R infix in Slot II. They show Function, Stem, and Specification for the C_I incorporated root in Slot V following. Additionally, Slot IV shows Incorporation Type discussed below.

Incorporation Type: There are two types of stem incorporation. Type-1 incorporation implies a circumstantial relationship between the incorporated stem and the main stem (equivalent to placing the incorporated stem into a case-frame instead). Type-2 incorporation is derivational (i.e., lexicalizing), creating a new lexico-semantic gestalt usually requiring a different English translation. This is analogous to English forms like *polar bear*, where the form names a new animal rather than stating where a particular bear originates or is situated. Likewise, English *elephant seal* establishes a whole new lexico-semantic gestalt rather than merely describing some sort of metaphorical relationship between elephants and seals.

Type-2 stem incorporation is unmarked. Type-1 stem incorporation infixes a glottal stop to V_I as per the infixation rules in Sec. 1.6 (page 4).

3.4.3 Slot IV for "Short-Form" Formatives: Add a glottal-stop to V_R in Slot IV of a "short-form" formative to show FML Designation. Add -**h**- to show CPT version. Follow the infixation rules shown in Sec. 1.6 (page 4). If adding both, the glottal-stop immediately precedes the -**h**-.

3.5 SLOT V: C_I — the Incorporated Root

The incorporated root, C_I, is the same as any standard C_R root. For formatives with no incorporated stem, this slot and Slot VI will be empty.

3.6 SLOT VI: V_F — Format of Incorporated Stem

Format signifies the incorporated stem's semantic relationship to the main stem. The V_F affix values are the same as the V_C vocalic Case affixes in Slot XIII.

3.7 SLOT VII: $C_S V_X$ Affixes plus "Delineation"

This optional slot holds one or more standard -$V_X C_S$ affixes **in reversed form**: -$C_S V_X$-. **NOTE**: Slot VII affixes apply only to the main stem (or the incorporated stem as per Delineation described in Sec. 3.7.2 below). They do not have scope over the C_A information in Slot VIII or any subsequent slots.

degree	Type 1	Type 2	Type 3
1	a	ai	ia / üa
2	ä	au	ua / aü
3	e	ei	ie / üe
4	ë	eu	ue / eü
5	i	ëi	ië / uë
6	ö	ou	uo / oü
7	o	oi	io / üo
8	ü	iu	uö / öü
9	u	ui	iö / üö
0	ae	ea	öa

Type 1: circumstantial

Type 2: derivational

Type 3: applies to previous $C_S V_X$ affix only (or the following affix if it is the first in the slot).

Degree 0: unspecified degree; refers to the affix's semantic general concept as a whole.

C_A stacking: There are two specialized -V_X values, **-eë** and **-oë**, used to indicate that the following -C_S consonant-form is to be interpreted as a C_A complex (see next page) whose info is stacked or layered on the formative's primary C_A complex; **-eë** indicates the C_A complex applies to the main stem, while **-oë** means it applies to the incorporated stem.

NOTE: The last $C_S V_X$ affix in Slot VII must carry a glottal stop, so the audience will know where Slot VIII begins. See Sec. 1.6 (page 4) for details on adding a glottal stop to an affix.

Note: There are several constraints on the form of a $V_X C_S$ affix beyond standard phonotactic constraints. To avoid being confused with consonant-forms used in other Slots, no C_S form can contain a glottal-stop or begin with **h**-. Additionally, the following lone consonants cannot occur as $V_X C_S$ affixes: the glottal stop, -**h**-, -**ļ**-, -**w**-, or -**y**-.

3.7.1 Glottal Stop To Indicate the End of Slot VII: The last -$C_S V_X$- affix in Slot VII must carry a glottal stop so that the listener knows where Slot VII ends and Slot VIII begins. See Sec. 1.6 (page 4) on how to add this glottal stop to the affix.

3.7.2 Delineation: "Delineation" refers to whether the affix(es) in Slot VII is/are applied to the main stem or to the incorporated stem. If they apply to the main stem (or there is no incorporated stem), then delineation is unmarked. However, if they apply to the incorporated stem, this is indicated by changing Slot VII's required final glottal-stop (see Sec. 3.7.1 immediately above) to an -**h**-. (The rules for adding this -**h**- are described in Sec. 1.6 on page 4.)

3.8 SLOT VIII: The C$_A$ complex — 4 Affiliations + 9 Configurations + 6 Extensions + 4 Perspectives + 2 Essences + 4 Contexts

C$_A$ (forms in parentheses are the stand-alone form if all other C$_A$ forms are zero)									
C$_{A1}$ AFFILIATION		**C$_{A2}$** CONFIGURATION		**C$_{A3}$** EXTENSION		**C$_{A4}$** PERSPECTIVE		**C$_{A5}$** ESSENCE + CONTEXT	
CSL	[zero] (1)	UNI	[zero] / ž [1]	DEL	[zero]	M	[zero]		
								EXS	**FNC**	**RPS**	**AMG**
ASO	l (ḷ)	DPX	p / b [1]	PRX	[voicing of C$_{A2}$] [1]	P	p / b [4] (mm) [5]	NRM	[zero]	l (tḷ)	r (x)	ř (xx)
VAR	ř	DCT	k / g [1]	ICP	f (mv) [3]	N	t / d [4] (nn) [5]	RPV	w (ḷw)	y (ḷy)	h/ z [6] (lx)	hw / ž [6] (lxw)
COA	r	AGG	t / d [1]	ATV	ṭ (nḍ) [3]	A	k / g [4] (ňň) [5]					
		SEG	m / mz [1]	GRA	s (ňz) [3]							
		CPN	n [2] / nz [1]	DPL	š			**Allomorphic substitutions:**			
		COH	ṭ / ḍ [1]					t+s ➡ c	f+ṭ ➡ vz	d+z ➡ ż	r+ř ➡ rx
		CST	s / z [1]					t+š ➡ č	t+ṭ ➡ ḍḍ	d+ž ➡ j	ř+r ➡ řx
		MLT	f / v [1]					s+š ➡ šš	ṭ+f ➡ vv		

[1] PRX Extension is shown by voicing the **C$_{A2}$** Configuration consonant, or in the case of UNI, SEG, and CPN Configurations, changing them to -**ž**-, -**mz**-, and -**nz**- respectively.

[2] CPN -**n**- becomes -**ň**- when followed by -**f**- or -**p**-.

[3] The standalone forms of ICP, ATV, and GRA Extensions (-**mv**-, -**nḍ**-, and -**ňz**-) are also used if **C$_{A2}$** Configuration is zero (to prevent them being mistaken for Configuration forms).

[4] The voiced Perspective forms -**b**-, -**d**-, and -**g**- are used ONLY if immediately preceded by voiced Configuration forms DPX -**b**-, AGG -**d**-, and DCT -**g**-, resulting in geminate forms -**bb**-, -**dd**-, and -**gg**-. After any other voiced consonant, only unvoiced Perspective forms -**p**-, -**t**-, or -**k**- are used.

[5] Perspective P, N, and A stand-alone forms (-**mm**-, -**nn**-, and -**ňň**-) are also used if both Configuration and Extension are zero but Essence+Context is **non-zero** (to prevent them from being mistaken for Configuration forms).

[6] When immediately preceded by -**b**-, -**d**-, or -**g**- or their geminated counterparts -**bb**-, -**dd**-, and -**gg**-, RPS -**h**- becomes -**z**-, and AMG -**hw**- becomes -**ž**-.

NOTE: Because consonant gemination is not a feature in the above design, the individual members of any geminate-looking pairs resulting from the design represent separate morphological elements. For example, -**pp**- represents DPX+DEL+P, -**dd**- represents AGG+PRX+N, -**ll**- represents ASO+UNI+DEL+M+NRM+FNC, -**lggw**- represents ASO+DCT+PRX+A+RPV+EXS, etc.

3.9   SLOT IX: V_XC_S Affixes (plus Delineation)

This optional slot holds one or more standard -V_XC_S affixes. The format of the affix is not reversed as in Slot VII. The V_X values and types are the same as those of Slot VII, however, the last affix in Slot IX does not take any glottal stop. Unlike Slot VII affixes, Slot IX -V_XC_S affixes have scope over the C_A information in Slot VIII. Slot IX affixes may add an -**h**- infix to the last V_XC_S affix to show positive Delineation, i.e., the Slot applies to an incorporated stem rather than the main stem. (The rules for adding this -**h**- are described in Sec. 1.6 on page 4.)

3.10   SLOT X: V_N or V_{T1} or V_{M1} — Valence or Aspect or Mood

This slot primarily shows Valence. However, if Valence is default MNO, the slot may instead show Aspect or (in certain circumstances) Mood.

	MNO	PRL	CRO	RCP	CPL	DUP	DEM	CNG	PTI	IDC
V_N Valence infixes	[zero] / a*	ä	e	ë	i	ö	o	ü	u	ae

* The alternate MNO value of -**a**- is used ONLY if either Slot XI or XII is filled.

NOTE: Both the IMITATIVE Valence and the MUTUAL Valence have been eliminated. For the IMITATIVE use DUPLICATIVE valence instead plus an appropriate SCS affix if necessary. For the MUTUAL, use PARTICIPATORY valence instead plus the new SQP Sequential Participation affix below:

-ct	SQP SEQUENTIAL PARTICIPATION
1	first one, then the other, and so on / alternating between each party / back and forth
2	first one, then the one next to or alongside the first, and so on
3	first one, then the one across/opposite/facing the first
4	first the primary party, then the secondary party, then the tertiary party, and so on
5	alternating between the parties in an agreed-upon/conventionalized/discernible/regular pattern
6	alternating between the parties in a complex pattern (apparently) known to the participating parties
7	alternating between the parties in what seems a random pattern but is actually non-random
8	alternating between the parties in what starts as a random pattern but develops to be non-random
9	alternating randomly between the participating parties

When showing Aspect in Slot X, the vocalic forms used are different than those used in Slot XI (which is why Slot X forms are designated V_{T1} vs. their Slot XI counterparts designated V_{T2}). See the charts for Slot XI below to see the Slot X forms. See Sec. 3.12.1 as to showing Mood in Slot X via the V_{M1} affix.

NOTE: If either Slot XI or XII is filled, Slot X must also be filled (i.e., MNO valence must be marked with its alternate value -**a**-).

3.11   SLOT XI: V_P / V_L / V_E / V_{T2} / V_{M2} — **Phase** or **Level** or **Effect** or **Aspect** or **Mood**

This is a modular slot showing either Phase, Level, Effect Aspect or Mood. Effect conveys whether the speaker considers the utterance to be beneficial, neutral or detrimental to some party or parties. Effect may also be indicated using a -V_XC_S suffix, an affixual adjunct, or via a personal-reference adjunct.

PHASE V_P	
CTX	(wa)
PCT	wä
ITR	we
REP	wë
ITM	wi
RCT	wö
FRE	wo
FRG	wü
FLC	wu

EFFECT V_E	
neutral	[zero]
1 / BEN	ya
2 / BEN	yä
3 / BEN	ye
all / BEN	yë
UNK [unknown]	yi
all / DET	yö
3 / DET	yo
2 / DET	yü
1 / DET	yu

LEVEL V_L	Relative	Absolute
(none)	[zero]	[zero]
MIN	wai	yai
SBE	wau	yau
IFR	wei	yei
DFC	weu	yeu
EQU	wëi	yëi
SUR	wou	you
SPL	woi	yoi
SPQ	wiu	yiu
MAX	wui	yui

Normally, only one affix appears in Slot XI. However, it is possible to allow V_P, V_L, V_E , or V_{M2} to be followed by one V_{T2} Aspectual affix. This renders Slot XI forms such as -*wehye* or -*yihyau* or -*wouhyia*.

To stack multiple V_P, V_L, V_E, or V_{T2} affixes beyond the limited combinations described above, use a Modular Adjunct (see Sec. 4.0) and/or -V_XC_S suffixes.

See Sec. 3.12.1 for the Slot XI V_{M2} Mood affix values.

V_T Infixes — Aspect (absence of aspect on a formative is zero-marked). The Slot X V_{T1} form may be used only if Valence = MNO.

		Slot X V_{T1}	Slot XI V_{T2}
RTR	RETROSPECTIVE	a'	hya
PRS	PROSPECTIVE	ä'	hyä
HAB	HABITUAL	e'	hye
PRG	PROGRESSIVE	ë'	hyë
IMM	IMMINENT	i'	hyi
PCS	PRECESSIVE	ö'	hyö
REG	REGULATIVE	o'	hyo
ATC	ANTECEDENT	ü'	hyü
ATP	ANTICIPATORY	u'	hyu

		Slot X V_{T1}	Slot XI V_{T2}
RSM	RESUMPTIVE	ai'	hyai
CSS	CESSATIVE	au'	hyau
PAU	PAUSAL	ei'	hyei
RGR	REGRESSIVE	eu'	hyeu
PCL	PRECLUSIVE	ëi'	hyëi
CNT	CONTINUATIVE	ou'	hyou
ICS	INCESSATIVE	oi'	hyoi
SMM	SUMMATIVE	iu'	hyiu
IRP	INTERRUPTIVE	ui'	hyui

		Slot X Form V_{T1}	Slot XI V_{T2}
PMP	PREEMPTIVE	ia' / üa'	hyia
CLM	CLIMACTIC	ua' / aü'	hyua
DLT	DILATORY	ie' / üe'	hyie
TMP	TEMPORARY	ue' / eü'	hyue
MTV	MOTIVE	ië' / uë'	hyië
SQN	SEQUENTIAL	uo' / oü'	hyuo
EPD	EXPEDITIVE	io' / üo'	hyio
PTC	PROTRACTIVE	uö' / öü'	hyuö
PPR	PREPARATORY	iö' / üö'	hyiö

		Slot X Form V_{T1}	Slot XI V_{T2}
DCL	DISCLUSIVE	ao'	hyao
CCL	CONCLUSIVE	oa'	hyoa
CUL	CULMINATIVE	ae'	hyae
IMD	INTERMEDIATIVE	ea'	hyea
TRD	TARDATIVE	ëu'	hyëu
TNS	TRANSITIONAL	oe'	hyoe
ITC	INTERCOMMUTATIVE	eo'	hyeo
XPD	EXPENDITIVE	öe'	hyöe
LIM	LIMITATIVE	eö'	hyeö

3.12   SLOT XII: C_C /C_M — Case-Scope and/or Mood

UNFRAMED verbal formatives take the C_M affix to show Mood, whereas nominal formatives take the C_C Case-Scope affix in this slot. FRAMED verbal formatives take both C_M and C_C affixes. The presence of a C_C/C_M affix in slot XII requires a non-zero value in Slot X. We will first analyze the Mood affixes.

3.12.1 Mood: The C_M affix is shown below. The V_M affixes used in Slots X and XII are also shown (see footnote 2 for limitations on using the V_{M1} affix).

	FAC	SUB	ASM	SPC	COU	HYP
C_M	(h) *	hl	hr	hw	hm	hn
(Slot X) V_{M1}	ai / au	ei / eu	ëi / ëu	oi / ou	ui / iu	ea
(Slot XI) V_{M2}	wia	wie	wië	wio	wiö	wea

See Sec. 3.12.4 for an explanation of how the C_M affix moves to Slot VIII under certain conditions.

* **FAC** **-h-** is elided if Slot X is MNO valence and Slot XI is empty/zero. If C_M moves to Slot VIII (see Sec. 3.12.4) the **-h-** form must be used.

3.12.2 Case-Scope: Case is shown in Slot XIII. Formatives showing Case take the C_C affix in Slot XII to indicate the scope of the case-marked formative over adjacent formatives or the entire clause containing the case-marked formative. This is useful when there is a string of cases modifying another "head" formative; C_C specifies which formative has scope over which other formative. Like C_M, the presence of a C_C affix requires a non-zero value in Slot X.

C_C **Infix values**

CCh	(h)*	X's is governed by the noun-case of the formative marked C_c = **-hl**-; in the absence of such, X's case is associated with the main verb (or framed verb if within a case-frame).
CCl	hl	X is the "head" whose case governs all C_c-unmarked nouns in the clause (or nouns marked with C_c = **-h**-)
CCr	hr	X is the formative to which formatives in the clause marked with C_c = -**hw**- are associated
CCw	hw	X is associated by noun-case to the formative marked by C_c = **-hr**-
CCm	hm	X's noun-case associates only with the immediately following formative
CCn	hn	X's noun-case associates only with the immediately preceding formative

* **CCh** is elided if Slot X is MNO valence and Slot XI is empty/zero. However, if C_c moves to Slot VIII (see Sec. 3.12.4) the **-h**- form must be used.

As can be seen, the forms of the C_C and C_M affixes are identical. However, they are usually distinguishable based on the word's syllabic stress, in that C_M only appears on verbal formatives, which will have word-final or pre-antepenultimate stress, whereas C_C appears on nominal formatives, which have penultimate or antepenultimate stress. In the case of FRAMED verbs which must show both Mood and Case-Scope, see Sec. 3.12.3 below.

3.12.3 **FRAMED Relation and showing both C_C and C_M affixes in FRAMED verbs:** FRAMED verbs must show Mood in order to distinguish them from a nominal formative since they both take Case markers in Slot XIII. Therefore, FRAMED verbs in default FAC mood do not have the option to zero-mark FAC mood and must show both Mood and Case-Scope simultaneously. To do so, use the C_C affix in Slot XII to show Case-Scope, while using either the V_{M1} affix in Slot X or the V_{M2} affix in Slot XI to show Mood; alternately, Mood may be shown by moving the C_M affix to Slot VIII (if possible) per the procedure described below in Sec. 3.12.4. As an additional alternative, a modular adjunct (see Sec. 4.1) may be used to show either Mood or Case-Scope or both.

3.12.4 **Moving the C_C/C_M affix to the Slot VIII C_A Slot:** Both the C_C affix and the C_M affix may optionally move to Slot VIII (the C_A Slot) in the following circumstance: If Slots X and XI are zero-marked and C_A in Slot VIII is default -**l**- (UNI-CSL-DEL-M-NRM-EXS), then the C_A is replaced by either C_C or C_M affix in Slot VIII, thus leaving Slot XII empty. (This rule allows the word to be one syllable shorter than usual). Since no C_M or C_C consonant-form matches any C_A form, there is no confusion as to whether Slot VIII contains a C_A form or a C_C/C_M affix.

Note also that the Slot X-XI-XI complex can never be mistaken for a -$V_X C_S$ affix, because no C_M or C_C consonant-form occurs as a C_S form.

IMPORTANT NOTE REGARDING SLOTS X, XI, AND XII

As described in the sections above, Slots X, XI and XII operate in a complex interdependent manner, in that there are many rules and restrictions determining what values can appear in a particular slot based on what values are in the adjacent slot. These rules and restrictions are necessary to allow so many different morphological categories to be displayed in a flexible manner while avoiding ambiguity. However, there is a drawback to having such rules and restrictions, in that use of these slots often requires extra syllables to be displayed that might otherwise be elided, the primary example being the requirement that Slot X be filled (even with the otherwise elidable MNO default valence) if either Slot XI or XII is filled. Another example would be the inability to take advantage of the rule in Sec. 3.12.4 above to move the C_M or C_C affix to Slot VIII simply because there is a non-zero Phase or Effect affix in Slot XI.

Consequently, the reader should be aware that showing Phase, Effect, Level, Aspect, Mood or Case-Scope via a Modular Adjunct (see Sec. 4.1 below) rather than in a Formative, will often be the more phonologically efficient way of conveying these categories. For example, compare the following two ways of saying the same thing:

ukčalawihá   **wi ukčál**

STA/OBJ-'be.tall'-PRC/IFL-[default C_A]-MNO-ITM-FAC-CNF/PPS   ITM   STA/OBJ-'be.tall'-PRC/IFL-[default C_A]-CNF/PPS(ult.stress)

'being something intermittently tall'   *'being something intermittently tall'*

3.13 SLOT XIII: V_C or V_K— Case or Illocution+Sanction

Nominal formatives and FRAMED verbal formatives take Case. UNFRAMED verbal formatives take Illocution + Sanction instead (see Sec. 3.13.2 below).

3.13.1 Case: The following are the 68 noun cases with their V_C case marker. Case-accessor and inverse-accessor V_XC_S affixes are also given. Note that the V_X value of these accessor affixes is the same as the corresponding V_C case marker, this being an exception to the standard V_XC_S format.

	TRANSRELATIVE CASES		V_C	DESCRIPTION	case-accessor affix Type-1 = -ll; Type-2 = -rr	inverse accessor affix Type-1 = -lw; Type-2 = -ly
1	THM	THEMATIC	(a)[1]	The (usually inanimate) party which is a participant to the verbal predicate which does not undergo any tangible change of state. Semantic role: CONTENT.	party acting as the THEME/CONTENT of X	that of/for which X functions as the THEME/CONTENT
2	INS	INSTRUMENTAL	ä	The entity acting as means utilized by an explicit or implicit agent to implement/carry out the effect/impact of an act/event. Semantic role: INSTRUMENT.	the INSTRUMENT/MEANS by/via which X occurs	that by/via which X is the INSTRUMENT/MEANS
3	ABS	ABSOLUTIVE	e	The party that/who is the target of, and/or undergoes, the effect/impact or change of state as a result of a tangible act/event. Semantic role: PATIENT.	the PATIENT to which/whom X happens	that which happens/is done to the PATIENT X
4	STM	STIMULATIVE [2]	ë	The party/entity/idea/thought/memory/situation or mental state which triggers an unwilled, affective response in another party. Semantic role: STIMULUS.	that which is the affective STIMULUS of X	that of/for which X is the affective STIMULUS
5	AFF	AFFECTIVE	i	The party who undergoes an unwilled, affective experience, e.g., coughing, sneezing, feeling hot/cold, trembling, experiencing sensory input (tactile, olfactory, visual, aural, gustatory), proprioceptive states, psychological/emotional states, reflex reactions such as cringing, yawning, ducking, screaming in fright, etc. Semantic role: EXPERIENCER.	the EXPERIENCER or undergoer of X (as an affective experience)	that which the X undergoes as an affective experience
6	EFF	EFFECTUATIVE	ö	The party who initiates a chain of causal events or who induces another party to act as an agent (specifiable via the ENB affix). Semantic role: ENABLER.	the ENABLER initiating an event chain leading to X	the event (chain) that the ENABLER X initiates
7	ERG	ERGATIVE	o	The animate party or inanimate force which initiates/causes an act/event which creates a tangible effect or change of state in a patient. Semantic role: AGENT or FORCE.	the AGENT who/that X's	that which the AGENT or FORCE X does/initiates
8	DAT	DATIVE	ü	The party which is the (intended) recipient of a verb of transference, transmission, or communication; the party at/to which a physically transferred entity, transmitted information, or a communicable entity is directed. Semantic role: RECIPIENT.	the RECIPIENT of X or of the act of X	that which the RECIPIENT X receives
9	IND	INDUCIVE	u	The party who is the patient who undergoes the tangible effect, impact, or change of state of an act/event initiated/caused by that self-same party. Semantic role: AGENT+PATIENT.	the AGENT who/that X's him-/her-/itself	that which the AGENT X initiates/does to him-/her-/itself

[1] The THEMATIC **-a** affix can be elided as long as the resulting word is not monosyllabic (which would be interpreted as a verbal formative with CNF/PPS Illocution/Sanction).

[2] Ithkuil's DERIVATIVE case is renamed the STIMULATIVE and now only shows the STIMULUS of an affective response; inanimate agential FORCES now take the ERGATIVE or EFFECTUATIVE cases (the inanimate status of the agent is sufficient to distinguish its semantic role as FORCE rather than AGENT).

		APPOSITIVE CASES	V_c	DESCRIPTION	case-accessor affix Type-1 = **-ll**; Type-2 = **-rr**	inverse accessor affix Type-1 = **-lw**; Type-2 = **-ly**
10	POS	POSSESSIVE	ai	The party which has alienable (i.e., removable or severable) possession of another noun in the sense of having physical control or oversight of that noun, whether by chance circumstance or deliberate manipulation.	the alienable/circumstantial possessor of X	that which X alienably or circumstantially possesses
11	PRP	PROPRIETIVE	au	The party having alienable possession of another noun in the sense of quasi-permanent contextual control, ownership or oversight, whether by societal recognition, social convention, law, purchase or decree, which mere physical separation does not sever.	the owner of X; that to which/whom X belongs	that to whom/which X belongs; that which X owns
12	GEN	GENITIVE	ei	The party which has inalienable (i.e., irremovable, non-severable) possession of or association with another noun in the sense of having that noun as an inherent or intrinsic attribute, characteristic, physical part, or genetic (i.e., familial) bond.	the inalienable possessor of X	that which X inalienably possesses
13	ATT	ATTRIBUTIVE	eu	The party which inalienably experiences the effects of, or otherwise has an affective (see the affective case above) relationship with another noun, either as a temporary or permanent attribute, characteristic, or experience, whether physical or psychological, objective or subjective in nature.	that to which/whom X is an attribute/characteristic	that which X has as an attribute/characteristic
14	PDC	PRODUCTIVE	ëi	The party which is the creator, author or originator of another noun.	the originator/author/creator of X	that which X authored/created or originated
15	ITP	INTERPRETIVE	ou	The party acting as the subjective interpretational context of another noun, that is the noun by or through which another noun is subjectively considered, interpreted or described, e.g., **Monet's** Paris, **my** baseball team (as spoken by a fan).	the party X by / thru which / whom something is subjectively interpreted / considered	that which is subjectively considered, described or interpreted by/thru X
16	OGN	ORIGINATIVE	oi	The party which is the literal or figurative source of another, or which is the native location, origin, or usual locative context for another.	the original or inherent location/source of X	that of which X is the original or inherent source/location
17	IDP	INTERDEPENDENT	iu	The party which has a coordinated, tandem, complementary or mutually dependent relationship with another. The relationship between the two nouns can be thought of as reciprocal in nature, i.e., each noun implies the other or needs the other to exist within its natural context	that with which, or to which, X has a complementary relationship	that which is the complementary relationship shared with X
18	PAR	PARTITIVE *	ui	Indicates a quantitative or content-to-container relationship between the two nouns, e.g., a cup **of coffee**, a box(ful) **of books**, a train(load) **of refugees**, twelve **chairs**.	that of which X is its apportioned or enumerated contents	that which is X's apportioned or enumerated contents

* The PARTITIVE will now only appear in apposition to another noun; it will no longer operate independently to mean "some/a portion of X". For this latter meaning, one must utilize the DGR, PTW, PTT, EXN, SUF, EXD, CNM, FEA/3 or similar affix, or incorporate X in PARTITIVE Format into a noun referring to the container, amount, or degree of X.

	ASSOCIATIVE CASES		V_c	DESCRIPTION	case-accessor affix Type-1 = **-ll**; Type-2 = **-rr**	inverse accessor affix Type-1 = **-lw**; Type-2 = **-ly**
19	APL	APPLICATIVE	ia / üa	The entity/act/event which constitutes the circumstantial, potentially one-time, temporary purpose of another entity/act/event. 'for the (circumstantial/temporary/one-time) purpose of X', 'being used (temporarily/circumstantially) as X'	the purpose/function/use to which X is circumstantially put	that which has X as its circumstantial, temporary use/function/purpose
20	PUR	PURPOSIVE	ua / aü	The entity/act/event which constitutes the inherent/innate/intrinsic purpose of another entity/act/event. 'for the (dedicated) purpose/function of X'	the intrinsic/inherent/innate purpose of X	that which has X as its intrinsic, inherent, innate purpose
21	TRA	TRANSMISSIVE	ie / üe	Renamed from the BENEFACTIVE in Ithkuil, this case indicates the party for which/whom an entity/act/event occurs or is transmitted, with the intention that the entity/act/event be beneficial/detrimental to the named party. 'for (the benefit/detriment of) X'	that which/whom the intended benefit/detriment from X is for	that which is the intended benefit or detriment of (receiving/being impacted by) X
22	DFR	DEFERENTIAL	ue / eü	The entity for whose sake, or out of deference/respect to whom, an act/event occurs. 'for X's sake', 'out of deference for X', 'out of respect for X'	the one for whose sake, or out of deference/respect to whom, X occurs	that which occurs or is done out of respect/deference, or for the sake of, X
23	CRS	CONTRASTIVE	ië / uë	The party for which something is substituted, or of which another party/entity takes its place; 'instead of X', 'as a substitute for X', 'in place of X'	that which substitutes for X or takes X's place	that for which X is substituted or whose place X takes
24	TSP	TRANSPOSITIVE	uo / oü	The party on whose behalf something is/occurs.	that on whose behalf X occurs/is	that which is (done) on X's behalf
25	CMM	COMMUTATIVE	io / üo	The party in exchange for which, a reciprocal or complementary act/event occurs; e.g., *He paid 100 dollars **in exchange for the tickets***.	that which is received in an act of exchange	that which is relinquished in an act of exchange
26	CMP	COMPARATIVE	uö / öü	The party being compared to another, translatable as 'as compared to', 'as opposed to,' 'versus'; with verbs it translates as 'whereas' or 'while' (in its synonymous usage to 'whereas'). Examples: *She chose the red one **as opposed to the others***, *Sam drives a van **versus Joe**, who prefers a truck, At the party, she danced **while/whereas I ate***.	that which is according to or pursuant to X; that which occurs as per, or in conformance to X	that, according to or pursuant to which, or as per or in conformance to which, X is/occurs
27	CSD	CONSIDERATIVE	iö / üö	The entity according to which, another entity is, or an act/event occurs.	that which is according to X	that which X is according to

	ADVERBIAL CASES		V_c	DESCRIPTION	case-accessor affix Type-1 = -ll; Type-2 = -rr	inverse accessor affix Type-1 = -lw; Type-2 = -ly
28	CON	CONCESSIVE	ao	identifies a noun or phrase which gives rise to an implicitly expected result which does not occur. This translates in many ways such as 'despite,' 'in spite of,' 'notwithstanding,' 'although,' 'regardless of,' 'no matter what,' etc. Examples: ***In spite of his stupidity**, he passed the test;* ***The law notwithstanding**, I will stand my ground;* ***No matter how ignorant** (they may be), they are welcome,* ***Although a foreigner**, we will let him in.*	that, in spite of or regardless of which, X occurs/is	that which is/occurs in spite of or regardless of X
29	AVR	AVERSIVE	oa	Identifies a source or object of fear and/or avoidance. With nouns, it translates expressions such as 'for fear of,' 'in order to avoid,' or 'in avoidance of.' With verbs, it would translate English 'lest.' Examples: *She finished her plate **for fear of my wrath**, I traveled by night **to avoid the sun**. Hide the children, **lest the clowns find them**.*	that, in aversion to which, X occurs/is	that which is/occurs in avoidance or fear of X
30	CVS	CONVERSIVE	ae	Identifies an exception. When the exception is to a hypothetical situation, it translates as 'unless' in verbal phrases, and 'without' for nouns, e.g., ***Without peace**, this society is doomed; We'll be safe **unless the clowns find us**.* If applied to a real or actual situation, it translates as 'except (for)', 'but for,' 'but (not),' 'excluding', 'if not for,' 'if it wasn't for,' 'if it wasn't on account of.' ***If not for the rain**, we would have had a good time; She loves everybody **except clowns**; All pets are vermin, **excluding dogs**; He eats almost anything **but (not) spinach**.*	that, if not for which, or but for which, or except for which, X (would) occur(s)	that which would be/occur but for, or if not for, or except for X
31	SIT	SITUATIVE	ea	Identifies a noun as the background context for a clause without implying any direct causative relationship between the background context and the associated or consequent act/state/event. It translates in many ways, e.g., ***Because of war**, our planet will never be able to join the Federation;* ***Given the presence of clowns**, we must accept the corruption of our children;* ***With my plan**, we will defeat the enemy.* Other translations include: 'inasmuch as / insofar as / to the extent that / taking X into account / in view of the fact that / given that / considering'.	that, because of which, or given which, X occurs/is	that which is/occurs because of, on account of, or given, X
32	FUN	FUNCTIVE	ëu	Identifies a noun used to describe/characterize the manner in which an act/event/state occurs or exists, e.g., *She dances **gracefully**; The boys ate **with gusto**; That clown is speaking **nonsense**; Father speaks **with such fortitude**.*	the manner in which X is/occurs	that which is/occurs in a manner described or characterized by X
33	TFM	TRANSFORMATIVE	oe	Identifies the outcome or final state of a process, often translatable by 'to,' 'until,' or 'into' in the sense of reaching a final state after undergoing some transformation. Examples: *The house burned **to ashes**, Mother reached a state **of tranquility**, The clowns will turn our children **into slaves**, Her father drank himself **to death**.*	that into which, X transforms/changes	that which is/occurs as a result of the transformation of X
34	CLA	CLASSIFICATIVE	eo	identifies a noun as a basis for arranging, sorting, classifying, or counting, e.g., *Place them **in groups of three**, The workers arranged the tables **in rows**, He lay down **lengthwise**, Can you count **by fives**?, I will sort them **by color**.* Also identifies the basis for recurring increments, e.g., *month by month; day in, day out; box upon box, clown after clown.*	the basis by which X is arranged, sorted, patterned or counted	that which is arranged, sorted, patterned, or counted by/via X
35	CSM	CONSUMPTIVE	öe	Identifies the entity consumed or used as a resource as a result of, or as a concurrent part of a process, e.g., *She cooks **with tomatoes**, The clown fed her **an apple**, He reads **by candle(light)**.*	that by which X is consumed or used up	that which is consumed in the process of X
36	RSL	RESULTATIVE	eö	Identifies a result/consequence, translatable as 'resulting in X', 'with X as a consequence', etc.	the result/consequence of which, X occurs/is	that which results from or is a consequence of X

SPATIO-TEMPORAL I			V$_c$	DESCRIPTION	case-accessor affix Type-1 = **-ll**; Type-2 = **-rr**	inverse accessor affix Type-1 = **-lw**; Type-2 = **-ly**
37	LOC	LOCATIVE	aya	entity identified as the location of X or where X occurs; 'at / in / on / by X'	where X occurs/is (situated); X's location	that which is located, situated, or occurring at X
38	ATD	ATTENDANT	awa	entity in whose presence something is/occurs	that in whose presence which, X is/occurs	that which is situated or occurring in X's presence
39	ALL	ALLATIVE	eya	entity toward which another entity is moving/approaching	where X is headed/going toward	that which is headed toward X
40	ABL	ABLATIVE	ewa	entity away from which another entity is moving/receding	where X is coming from or moving away from	that which is coming from or moving away from X
41	ORI	ORIENTATIVE	iwa	entity (often a body part or sub-component) which serves as the "face" or surface or "front" or "head" of an entity in terms of external communication or interaction, or which serves as the forward "end" of a spatially orientated axis aligned to a vector of motion in terms of directional movement.	that which serves as X's orientational interface	that which is oriented, facing in the direction designated by X
42	IRL	INTERRELATIVE	owa	signifies the directional/temporal orientation or position of an entity relative to another, i.e., a noun relative to whose position in space or time another noun is being described for purposes of spatial/temporal orientation, e.g., *He turned his back **on me**, It lies just west **of the house**, Tell me when the parade starts **relative to my arrival**.*	the place/time relative to which, X is/occurs	that which occurs relative to the place/time designated by X
43	INV	INTRATIVE	oya	Identifies a noun as being the spatio-temporal boundary point of a span or volume of space or a period of time, i.e, either the starting point or the ending point of a span of time or space. English translations include: 'as of X' / 'since X' /'until X'; for spatial contexts, translates as "between there and here" / "between here and there")	the place/time since/until/between which, X is/occurs	that which occurs since, until, or between the place(s)/time(s) designated by X
44	NAV	NAVIGATIVE	uya *	entity whose literal or metaphorically inferred long axis serves as the direction of another entity's path, course, arc, or trajectory of translative motion	that which serves as X's directional trajectory, path or way	that which is traveling along the directional trajectory, path or way designated by X

* Note that the last four groups of cases, Spatio-Temporal I, Spatio-Temporal II, Relational I, and Relational II, each contain only eight rather than nine cases. As a result, vowel-form No. 8 of the nine forms of the generalized standard vowel-sequence is not used in these four groups of cases.

SPATIO-TEMPORAL II			V_c	DESCRIPTION	case-accessor affix Type-1 = -ll; Type-2 = -rr	inverse accessor affix Type-1 = -lw; Type-2 = -ly
45	ASS	ASSESSIVE	aye	Specifies the increment of space or time or unit by which a contextual ratio of mesurement is created, e.g., *He charges **by the minute**. It travels at 90 kilometers **per hour**. He earns $25 **per book***.	the spatiial, temporal, or unit basis for the ratio by which X is measured, alloted, etc.	that which is measured via a ratio based on a spatial, temporal, or unit increment X.
46	CNR	CONCURSIVE	awe	indicates a "temporal locative" meaning 'at or during the time of X', i.e., the point or stretch in time at or during which an entity or an act/event exists or occurs.	when X is/occurs	that which is/occurs at a certain time X
47	PER	PERIODIC	eye	identifies the span of time / time frame at some point(s) during which, separate events, repetitions, or durationally segmented acts or states take place. Examples would be *He wrote the novel **in six months**, These clowns can corrupt your child **within a few days**, The woman has been ill a lot **this year**, **For the last several concerts**, my voice has been deteriorating*.	the time period or event during which X occurs	that which is/occurs during or within a time period X
48	PRO	PROLAPSIVE	ewe	signifies the duration of an act, condition, or event, i.e., how long it takes or lasts, e.g., *He prayed **through lunch**, It rained **all night**, It took **three days** for the fever to break, She sang **for an hour***.	(the time period or event constituting) the duration of X	that which lasts, endures, or takes up an amount of time X
49	PCV	PRECURSIVE	iwe	Identifies an entity acting as a point in time prior to which an act, condition, or event occurs, e.g., *'this city **before the war**', 'a presentation **preceding the banquet**'*.	the act/event or point in time, prior to which, X occurs	the act/event or point in time which is/occurs prior to X
50	PCR	POSTCURSIVE	owe	Identifies an entity acting as a point in time after which, following which, subsequent to which, an act, state, or event occurs, e.g., *'this city **after the war**', 'a presentation **following the banquet**'*.	the act/event or time, after/following which or subsequent to which, X occurs	the act/event or time which is/occurs after or following or subsequent to X
51	ELP	ELAPSIVE	oye	identifies the amount of time that has passed or is expected to pass between the contextual present and the time of the act, condition, or event being spoken of. It corresponds to English '…ago' or '...from now'. Examples would be ***Four years ago** I was a student; **Going back three generations**, women could not even vote; **Four years from now**, I will be a student; **Looking ahead three generations**, clowns will rule the world; I will be home **in three days**; Little did he know that **two months later** he'd be a rich man*. The past vs. future distinction is determined from context, any aspectual morphology, or may be specified with the new TPL affix.	the amount of elapsed time between X and a past or future act/event/time	the act/event/state which occurs X amount of elapsed time between then and the contextual present.
52	PLM	PROLIMITIVE	uye	Signifies the spatio-temporal boundary point of a span of time or space during which or within which something is expected to or must occur or be situated. Equivalent to English phrases: by the end of X / within the period ending in X / within the period ending with X / before X is over / before X is up / inside of (the period signified by) X	the time/event by which time X is/occurs	the act/event or point in time which is/occurs by the time of X

RELATIONAL CASES I			V_C	DESCRIPTION	case-accessor affix Type-1 = -ll; Type-2 = -rr	inverse accessor affix Type-1 = -lw; Type-2 = -ly
53	REF	REFERENTIAL	ayo	Identifies the general referent of another formative, translating such English terms as 'about,' 'regarding,' 'concerning,' 'in regard to,' 'in reference to,' 'pertaining to,' or 'as for.'	that which X is about or to which X pertains/is in regard	that which pertains to X or which is about or in regard to X
54	COR	CORRELATIVE	awo	Indicates an abstract general relationship, association, or conjunction between one formative and another, including subjective, contextual, metaphorical, or symbolic associations. It translates general phrases such as 'relative to,' 'in relation to,' 'in correlation with,' 'in association with,' e.g., *career goals, the soup of **the day**, the direction **of that road**, The elapsed time **relative to the distance** determines the winner, Our next topic is sex **and/in art*** (i.e., the relationship between art and sex).	that which X is associated/relative to or in relation to	that which is associated with or relative to X
55	CPS	COMPOSITIVE	eyo	identifies a noun as being the literal or figurative substance or component(s) of which another is made, composed, formed, built or comprised. Example of usage would be *That statue was carved **out of marble**, She owns three **gold(en)** coins, We were caught in a web **of lies**, I use a **wooden** ladder, It was a house **of cards**, **Three suits** comprise his wardrobe, Joe detests **styrofoam** cups.*	that of which X is made/composed or consists of	that which consists of, is made of, or is composed of X
56	DEP	DEPENDENT	ewo	identifies as formative as being the basis of a dependency phrase on which another formative or phrase acts as the contingency, translatable as **'...if the circumstances regarding X are such to allow/warrant it'** where the final "it" refers to the original contingency noun/phrase whose existence/occurrence is (at least in part) determined by or contingent upon the dependency phrase. The exact nature of the dependency can be specified using the new DPC affix.	that upon which the existence/occurrence of X depends	that whose existence or occurrence depends on X
57	PRD	PREDICATIVE	iwo	Identifies the non-causal basis, foundation, sustenance (literally or figuratively), or required existential condition for another noun or clause, translatable by the phrases 'based (up)on,' 'dependent (up)on' or 'relying on.' Examples of use are *a book **dependent on a publisher**, a man **relying on charity**, laws **based in reason**, success **supported by corruption**.*	that upon which X relies or is based upon	that which relies on or is based upon X
58	ESS	ESSIVE	owo	Identifies the role or name by which an entity is known or contextually identified. It translates English 'as/like' in the sense of naming or reference to the an entity's functional identity, e.g., *They called him **a clown**, The woman entered the club **as an equal** of any man, We consider you **our only hope**, Treat her **as/like a princess** (because she is one), He talks **like a child** (because he is a child)..*	that whose role is X, or what/who is named (as) X	that, in whose role/name, X is/occurs
59	ASI	ASSIMILATIVE	oyo	Identifies a formative used as a context for analogy or metaphorical comparison to another formative; translatable as 'as/like' meaning 'as if (it were) X' in the sense of comparison or analogy between one thing and another that it is not, e.g., *She sings **like a bird**, ; Treat her **as/like a princess** (= as if she were a princess), He talks **like a child** (even though he's an adult).*	that which/who is/does like or as (it were) X	that, as if it were which, X is/ occurs
60	CFM	CONFORMATIVE	uyo	The entity pursuant to which, as per which, or in conformance with which, another entity is, or an act/event occurs.	that which is pursuant to, as per, or in conform-ance with X	that which X is pursuant to or in conformance with

RELATIONAL CASES II			V_C	DESCRIPTION	case-accessor affix Type-1 = -ll; Type-2 = -rr	inverse accessor affix Type-1 = -lw; Type-2 = -ly
61	ACT	ACTIVATIVE	ayë	Identifies the EXPERIENCER of a modal state, such as obligation, necessity, desire, hope, expectation, wishing, being able to, etc. functioning as the "subject" of a modal(ized) verb governing a hypothetical state (i.e., what is wanted, needed, expected, able to be done, etc.)	the one who experiences a modal state of X	The modal state which X experiences
62	SEL	SELECTIVE	awë	Identifies a contextually recurring time-period, as well as a string of recurring entities, e.g., *I visit him **every three days**; **Each year**, I travel to the Clown Planet; He works **nights**; **By day**, she is an artisan; The clowns visit us **on Sundays**; ...**every third book**; ...**every green one.***	the recurring entity/period on/for/with which X occurs	that which is/occurs on a recurrent schedule or iteration X
63	COM	COMITATIVE *	eyë	Identifies a formative that accompanies another, translatable as '(along) with'. When used with PARALLEL or COMPLEMENTARY valence, signifies that the formative is being used in the same (or a complementary) way or is undergoing the same (or a complementary) activity as the other formative it is associated with (i.e., the meaning of the CONJUNCTIVE case in Ithkuil).	that which accompanies X	that which X accompanies
64	UTL	UTILITATIVE	ewë	Identifies a formative in the process of being used while some other activity or state is in progress. It does not imply the INSTRUMENT of an act as does the instrumental case. Examples: *the **gun-wielding** man, the **umbrella-toting** pedestrian, a girl **with backpack (on)***.	that which circumstantially uses/utilizes X	that which is used/utilized circumstantially by X
65	DSC	DESCRIPTIVE	iwë	Identifies a formative as describing another formative in an adjectival manner, translatable as 'characterized/describable as being like X; characterized/describable as having the quality/qualities of X'	that which is characterized or describable by/as X	that which characterizes or functions as a description for X
66	RLT	RELATIVE	owë	Identifies a formative (or case-frame) as constituting a relative clause associated with the preceding formative (or whatever formative is indicated by the DCD affix as being the head of the relative clause).	that which identifies or distinguishes X from other parties	the party identified by or distinguishable by X
67	TRM	TERMINATIVE	oyë	Identifies a noun as being the goal of an act/event, e.g., *We seek **a new planet**; a desire **to see his homeland**; an academy **for (making) champions***	X's goal; what X pursues as a goal	the goal X;
68	VOC	VOCATIVE	uyë	Signifies a noun being used in direct address.	—	—

* The CONJUNCTIVE case has been eliminated. Use the COMITATIVE case + PARALLEL or COMPLEMENTARY valence instead.

3.13.2 V$_K$ — Illocution and Sanction

Illocution and Sanction appear on UNFRAMED verbal formatives (nominal formatives or FRAMED verbal formatives take a V$_C$ case affix in this slot instead). The V$_K$ vowel-forms follow the Standard Vocalic Sequence with the addition of ultimate syllabic stress (which is what differentiates them from V$_C$ case affixes). Additionally, a tenth series of vowel-forms ending in -**ô** signifies "null" (i.e., unspecified) Sanction.

V$_K$ Illocution & Sanction infixes — 9 Illocutions x 9 Sanctions

	PPS	EPI	ALG	IPU	RFU	REB	CJT [5]	EXV	AXM	[null] [6]
CNF	(á) [1]	ái	iá / üá	aó	ayá	ayé	ayó	ayê	ayú	ayô
INF	â	áu	uá / aû	oá	awá	awé	awó	awê	awí	awô
ITU	é	éi	ié / üé	aé	eyá	eyé	eyó	eyê	eyú	eyô
REV [2]	ê	éu	ué / eû	eá	ewá	ewé	ewó	ewê	ewí	ewô
HSY	í	êi	iê / uê	êu	iwá	iwé	iwó	iwê	iwí	iwô
USP [3]	ô	óu	uó / oû	oé	owá	owé	owó	owê	owí	owô
DIR	ó	ói	ió / üó	eó	oyá	oyé	oyó	oyê	oyú	oyô
IRG [4]	û	íu	uô / öû	öé	öwá	öwé	öwó	öwê	öwí	öwô
DEC	ú	úi	iô / üô	eô	uyá	uyé	uyó	uyê	uyú	uyô

[1] The CNF/PPS affix -**a** is elided if phonotactically permissible, in which case the word still receives ultimate syllabic stress (unless the word becomes monosyllabic).

[2] REV = a new REVELATORY illocution; an assertion based on a dream, vision, altered mental state, or strong emotional or cognitive bias not based in reality.

[3] USP = UNSPECIFIED illocution is new to this language; used to deliberately omit specifying the provenance of an assertion.

[4] INTERROGATIVE illocution may alternately be shown by rising pitch accent on the final word of an interrogative clause (in which case a CNF illocution form is used).

[5] Ithkuil's THEORETICAL sanction is renamed the CONJECTURAL in this language.

[6] Null sanction is used if the speaker wishes to leave Sanction unspecified. **NOTE:** if Sanction is shown via -**V$_X$C$_S$** affix, Slot XIII displays default CNF/PPS value (-á).

NOTE: The POTENTIATIVE illocution introduced in a previous version of this document has been eliminated; instead use USP illocution in conjunction with an appropriate modality affix or formative indicating a hope/wish/desire/hortative, etc.

Hortatives ("if only.../were it so that...") are expressed by the combination of DIRECTIVE Illocution + COUNTERFACTUAL Mood.

3.14 Slot XIV: C_B — Bias

A word-final C_B consonantal Bias suffix is optional. If present, Slot XIII must be filled. To prevent the Slot XIII+XIV form from being mistaken for a $V_X C_S$ affix it must be immediately preceded a glottal stop unless Slot XI is filled or Slot XIII contains a Vc/V_K form which contains a -**w**- or -**y**-.

Bias suffixes in this language will be the same consonant-form as an associated lexico-semantic root. For example, the root -**XXC**- 'CONTEMPT', will have an associated Bias suffix -**xxc**. All Bias roots and suffixes will be phonologically structured to contain continuant and sonorant consonants, so that they may be pronounced in an artificially prolonged fashion. Additionally, any stop or affricate consonants they contain may be artificially emphasized via aspirated or even glottalicized (i.e., ejectivized) secondary pronunciation.

Bias affixes will be separable into autonomous consonantal adjuncts, which function much like English "supra-segmental" interjections such as "Phew!", "Damn!", "tsk-tsk", "Pssshhh", "huh?", "meh", "hmmm", etc.

A list of the Bias affixes and their associated roots/stems is forthcoming.

4.0 ADJUNCTS

The language provides for several types of adjuncts: a modular adjunct corresponding to formative slots X and XI, an affixual scoping adjunct by which to give detailed information about $V_X C_S$ affixes, a case-stacking adjunct, a single-affix adjunct, a carrier adjunct, a register adjunct, and two kinds of personal-reference adjuncts.

4.1 Modular Adjunct (Primary purpose: to show Valence, Phase, Level, Effect, Aspects, Mood and Designation plus Version.

This adjunct has three modular slots for any combination of Phase, Level, Effect, Aspect, or Mood, including multiple Effects or multiple Aspects. It can be applied to the main stem or the incorporated stem and can optionally show Valence as well.

The tell-tale sign of this adjunct is the absence of any full consonant forms; only -**w**-, -**y**-, the glottal stop or a form beginning with -**h**- will be present.

If Slot 3 is filled, Slots 1 and 2 may be elided. The presence of Slot 4 requires Slot 3 be filled. If Slot 2 contains V_N or V_M then Slot 3 may be elided, but not if Slot 2 contains V_{T1} (since words cannot end in a glottal stop, except parsing adjuncts). Examples: *o, hui, hye, hlai'wi, yu, uhyo'yó, áwoi'yi, hnoihye'wéi.*

Modular Adjunct

1	2	3	4	5
' or C_M / C_C	$(V_N$ / V_{T1} / V_{M1})	$(V_P$/ V_L/ V_E/ V_{T2}/ V_{M2}	$('V_P$/ $'V_L$/ $'V_E$/ $'V_{T2}$/ $'V_{M2}$))	**Stress** [if word is multisyllabic] [2]
Mood or Case-Scope from formative Slot XII [1]	Valence or Aspect or Mood from formative Slot X	Phase **or** Level **or** Effect **or** Aspect **or** Mood from formative Slot XI	Phase **or** Level **or** Effect **or** Aspect **or** Mood from formative Slot XI (must be preceded by glottal stop)	penult. stress = default or IFL ult. stress = FML antepenult. = CPT pre-antepenult. = FML+CPT

[1] Whether Slot 1 is **C_M** or **C_C** depends on whether the adjacent formative is a noun or unframed verb. For framed verbs, either Slots 2 thru 4 (or the adjacent formative itself) will already show the category of Mood or the formative will show the category of Case-Scope (in which case Slot 1 represents the other category). **NOTE:** Slot 1 cannot be -**h**- (default FAC mood or CCh case-scope). If necessary to show FAC mood, use Slots 2 thru 4; if necessary to show CCh case-scope, it must be shown in Formative Slot XII.

[2] Optionally showing Designation & Version via syllabic stress potentially allows Slots I and II of an adjacent Complex Formative to be elided if Slot II **V_R** is default -**a**-; it also allows for the elimination of any infixed glottal-stop or -**h**- within Slot IV **V_R** of a short-form simple formative.

4.2   Case-Stacking Adjunct

The case-stacking adjunct from previous versions has been eliminated. Instead, use the new case-stacking **$V_X C_S$** affix, -**rl**, whose **V_X** value, like case-assessor affixes, is the same as the Slot XIII **V_C** value of the particular case. This affix can in turn become an adjunct via the Single-Affixual Adjunct in Sec. 4.4 below.

4.3   Single-Affixual Adjunct

1	2
h	**$V_X C_S$ (a)**

This affix applies a single **$V_X C_S$** affix to a stem only, not including its **C_A** complex. If the affix applies to both stem and **C_A**, infix a glottal-stop to the **V_X** portion (per the rules in Sec. 1.6). If **C_S** cannot phonotactically occur in word-final position, add an epenthetic final -**a**. If the affix applies to an incorporated stem, add a stressed word-final -**á**.

The tell-tale sign of this adjunct is the initial **h**- followed by only one additional consonant-form. Examples: *hač, hiaks, he'etra, ha'iltá*

4.4   Affixual Scoping Adjunct (Primary purpose: detailed application of **$V_X C_S$** affixes, including scoping over other morphological elements)

This adjunct provides slots for **$V_X C_S$** affixes for both a stem only and a stem plus its **C_A**, and, unlike formatives, allows each **$V_X C_S$** affix to individually indicate whether it applies to the main or incorporated stem. It also details the scope of the **$V_X C_S$** affix slots over the formative's other morphological slots. The adjunct's tell-tale sign is the initial **hhy**- (pronounced [ç:]) or **hyw**- (pronounced [çw]). If Slot 2 is present, only Slots 1 and 2 are mandatory. If Slot 2 is empty, Slots 1, 3, 4, and 5 are mandatory. Examples: *hhyas, hywosté, hhyextáwai'kra, hywi'aplogvehaičôm.*

Affixual Scoping Adjunct

1	2	3	4	5	6
hhy- / **hyw-**	(**V$_X$C$_S$...**)	(**V$_S$**	(**w / y / h / 'w / 'y / 'h**	**V$_X$C$_S$...(a)))**	**Stress**
Slot 2 vs. Slot 5 switch		Scope of Slot 2	Scope of Slot 5		
hhy [ç:] = Slot 2 applies to stem only, not to C$_A$ (like formative Slot VII); Slot 5 applies to stem and C$_A$ (like formative Slot IX). **hyw** [çw] = reverse of above: Slot 2 applies to stem and C$_A$ and Slot 5 applies to stem only and not to C$_A$.	add glottal stop to **V$_X$** if affix applies to incorp. stem (see Sec. 1.6)	**(a)** = Slot 2 has scope over equivalent Slot (i.e., VII or IX) affixes within the formative **e** = Slot 2 is subordinate to equivalent Slot (i.e., VII or IX) affixes (as if it were at the beginning of the equivalent formative Slot) **o** = Slot 2 has scope over the entire formative as a whole (used only with **hhy-** in Slot 1) **i/u** = Slot 2 has scope over the entire formative as a whole as well as other adjacent adjuncts (used only with **hyw-** in Slot 1)	**w/y** = Slot 5 has scope over equivalent Slot (i.e., VII or IX) affixes within the formative **h** = Slot 5 is subordinate to equivalent Slot (i.e., VII or IX) affixes (as if it were at the beginning of the equivalent formative Slot) **'w/'y** = Slot 5 has scope over the entire formative as a whole (used only with **hyw-** in Slot 1) **'h** = Slot 5 has scope over the entire formative as a whole as well as other adjacent adjuncts (used only with **hyw-** in Slot 1)	add glottal stop to **V$_X$** if affix applies to incorp. stem (see Sec. 1.6)	penult. stress = default or IFL ult. stress = FML antepenult. = CPT pre-antepenult. = FML+CPT

4.5 Carrier Adjunct

This is a "shortcut" for a full carrier stem which provides Case or Illocution/Sanction information only. It is to be used when the identity/nature of the foreign word(s) or proper name following the adjunct are already known to the audience. The tell-tale sign of the adjunct is the initial **h-/hh-** with no subsequent consonant forms. The end of the proper noun or foreign phrase can be indicated by the adjunct form **hyu**, if necessary.

h / hh	**V$_C$ / V$_K$**
h = following vowel is **V$_C$** **hh** = following vowel is **V$_K$**	Same as Formative Slot XIII (ultimate stress on **V$_K$** instead shown by preceding **h-/hh-** distinction)

NOTE: There is no **C$_C$ /C$_C$** Case-scoping/Mood infix for this adjunct (i.e., it is default **CCh/FAC**). For non-default case-scoping or Mood, use a full carrier-stem.

Examples: *ha, hei, hhoa*

4.6 Register Adjunct

These adjuncts are marked by a word-initial vowel-form followed by -**h**. A non-NARRATIVE register clause may be pronounced with low pitch on the last word of the clause, in which case the register clause does not require the end-register final adjunct listed below.

Register Adjunct

Register		Initial Adjunct	Final Adjunct
DSV	**DISCURSIVE** (direct speech)	ah	(iah)
PNT	**PARENTHETICAL** (parenthetical aside)	eh	(ieh)
COG	**COGITANT** (silent thoughts)	oh	(ioh)
EXM	**EXEMPLIFICATIVE** ('for example, …')	öh	(iöh)

Register		Initial Adjunct	Final Adjunct
IPR	**IMPRESSIONISTIC** (subjective impression)	ih	(eah)
MTH	expression in the mathematical sub-language	uh	(oah)
CAR	end of term/phrase governed by carrier stem/adjunct	—	(ëh)

4.7 Personal Reference Adjuncts

There are thirteen personal reference categories. Each personal-referent affix distinguishes three Effects, NEUTRAL, BENEFICIAL and DETRIMENTAL, indicating whether the speaker considers the subjective context of the utterance to be beneficial, detrimental, or of neutral/unknown/unspecified impact to the referent.

		EFFECT			
		NEUTRAL	BENEFICIAL	DETRIMENTAL	
1m	monadic speaker	**l**	**r**	**ř**	"I"
2m	monadic addressee	**s**	**š**	**ž**	"you (sg.)"
2p	polyadic addressee	**n**	**t**	**d**	"you (pl.)"
ma	monadic animate 3rd party	**m**	**p**	**b**	"he" / "she" / "they (sg.)"
pa	polyadic animate 3rd party	**ň**	**k**	**g**	"they (pl.)"
mi	monadic inanimate 3rd party	**z**	**ţ**	**ḍ**	"it"
pi	polyadic inanimate 3rd party	**ļ**	**f**	**v**	"they (inanimate)"
Mx	mixed animate/inanimate 3rd party	**ż**	**c**	**č**	mixed animate+inanimate, e.g., "s/he+it", "they+those", "it+they", "those+s/he", etc.
Obv	Obviative/Resumptive	**x**	**ss**	**zz**	3rd-party other than most recently referenced (used with SWR affix)
IPa	impersonal animate	**j**	**šš**	**žž**	"one" "you" "people" "a person" (French "on"; German "man")
IPi	impersonal inanimate	**nn**	**rr**	**ļļ**	"something" "a thing" "things"
Nai	Nomic animate or inanimate	**mm**	**ff**	**vv**	NOMIC 3rd-party, e.g., a referent as a generic concept; all examples of X through time
Aai	Abstract animate or inanimate	**ňň**	**řř**	**xx**	ABSTRACT 3rd-party, e.g., an idea, a concept, a situation

Note that the OBVIATIVE includes use as a "resumptive" personal referent. This allows the OBVIATIVE personal referent to refer back to a party named earlier in a complex sentence. Use the SWR switch-reference affix or the new DCD affix to specify which party in the sentence is being referenced.

4.7.1 Single-referent or Dual-referent personal reference adjunct

’	V_C	C_1	(ë)	(C_2	V_{C2}) / (V_K)
	Case of Personal Referent A; same affixes as formative Slot XIII	Personal Referent A	epenthetic vowel if necessary	Personal Referent B (if present)	Case of Personal Referent B, or in absence of a Referent B, an Illocution+Sanction affix to give a verbal meaning. Same affixes as formative Slot XIII

Examples: *ot, airt, uaz, ilkui, ismeá, eapneó.*

The tell-tale sign of this adjunct is its **V-C(-V), C-V**, or **V-C-ë-C-V** structure which is unlike any other word-form (the V_V value in Simple Formative Slot IV cannot be -**ë**-). A single referent and its case marker may be placed in either the A Slots or the B slots (e.g., either *ut* or *tu* is valid for 2m-IND). Combinations are permissible in the C_1 slot of a single-referent adjunct, e.g., *olms* 'I, (s)he, and you'-ERGATIVE. For dual-referent adjuncts, the C_1+C_2 conjunct can consist of up to 3 individual referents per slot, where the epenthetic -**ë**- vowel is used to separate C_1 from C_2 conjunct if necessary.

For example, *olši* '1m/NEU/ERG-2m/BEN/ABS, or compare *ilsmëkţü* '[1m/NEU+2m/NEU+ma/NEU]/ABS - [pa/BEN+mi/BEN]/DAT with *ilsëmkţü* '[1m/NEU+2m/NEU]/ABS - [ma/NEU+pa/BEN+mi/BEN]/DAT. Note that this adjunct allows a single-referent personal referent, if placed in the A slots, to show Illocution+Sanction information, thus creating a verbalized adjunct (whose meaning is the same as the verbal meaning of a personal-reference stem as shown in Sec. 4.7.3 below).

4.7.2 Combination Personal-Referent Adjunct with Case-Stacking:
This adjunct is available when needed to add Designation, Specification, -V_XC_S suffix information or a second case (case-stacking) to one of the combination Personal Reference forms (e.g., for non-combination single-referent forms, one may use this adjunct or the new Personal-Reference root explained in Sec. 4.7.3).

1	2	3	4	5	6	7
(’V_V)	C_1 + C_2 (+ C_3)	V_C	**zz / žž / zd / žd**	(V_XC_S …)	(V_{C2} or V_K or epenthetic -**a**)	**Stress**
Designation + Version from Simple Formative Slot IV	Combination Personal Referent	Case of Combination Personal Referent	Specification		2nd case of Combination Personal Referent or an Illocution+Sanction affix to give a verbal meaning	Default = penultimate or ultimate if Slot 6 = V_K. Antepenult. stress means Slot 6 is epenthetic -**a**- (to distinguish it from V_C = THM.
(**a**) = IFL/PRC **e** = IFL/CPT **i/u** = FML/PRC **o** = FML/CPT		same V_C affixes as formative Slot XIII	**zz** = BSC **žž**= CTE **zd** = CSV **žd** = OBJ	V_XC_S suffix 1 (2, 3, …)	same affixes as formative Slot XIII	

The tell-tale signs of this adjunct are the consonant-forms appearing **zz**, **žž**, **zd**, or **žd** in what looks like the C_A slot of a Simple Formative (these four forms are not possible C_A forms). Examples: *slezz, étkezda, alsuoxpéžž, ibneiždalmúi.*

4.7.3 The Two Personal Reference Roots: -B- and -D-

There are two personal-reference roots, for use when it is necessary to express the concept of a particular personal referent as a full formative. The first of these roots, -B-, refers to animate referents, while the second root, -D-, refers to inanimate or mixed (animate plus inanimate) referents. Note that the stems themselves refer to personal referent categories irrespective of number, therefore the meaning of each stem changes depending on its Perspective. Consequently, I have delineated the meaning of each stem for each of the four Perspectives in the tables below.

-B- 'ANIMATE PERSONAL REFERENT'		
STEM 1	STEM 2	STEM 3
MONADIC 1m — "I" = monadic speaker	2m — "you (sg.)" = monadic addressee	ma — "he/she/'they(sg.)' = monadic animate 3rd party
POLYADIC 1p — "we" = polyadic speaker (i.e., party speaking for oneself and others -- whether inclusive or exclusive of addressee)	2p — "you (pl.)" = polyadic addressee	pa — "they(pl.)" = polyadic animate 3rd party
NOMIC "I" as a timeless manifestation, i.e., speaking of oneself in a hypothetical or timeless context	"you" as a timeless manifestation, i.e., speaking of the addressee in a hypothetical or timeless context [whether monadic or polyadic]	IPa — "one" = impersonal animate (e.g., French *on*, German *man*)
ABSTRACT "all that I am", "all that makes me *me*", "everything about me"	"all that you are", "all that makes you *you*", "everything about you" [whether monadic or polyadic]	"all that (s)he/they are", "everything about him/her/them" [whether monadic or polyadic]

-D- 'INANIMATE or MIXED ANIMATE + INANIMATE PERSONAL REFERENT'		
STEM 1	STEM 2	STEM 3
MONADIC mi — "it" = monadic inanimate 3rd party	mObv — Obviative/monadic, referring to a previously mentioned monadic party (use SWR affix to specify if necessary)	mMx — mixed monadic animate+ monadic inanimate , e.g., "I and it", "you(sg.) and it", "s/he and it",
POLYADIC pi — "them/those" = polyadic inanimate 3rd party	pObv — Obviative/polyadic, referring to a previously mentioned polyadic party (use SWR affix to specify if necessary)	pMx — mixed polyadic animate+inanimate, e.g., "we+it", "I+those", "you(sg.)+those", "you(pl.)+it", "they+those", "it+they", "those+s/he", etc.
NOMIC IPi — "something", "a thing", "things" = impersonal inanimate referent	Nai — "it" as a nomic referent, e.g., a referent as a generic concept; all examples of X throughout time	IPx — impersonal animate+inanimate "one+something", "people and things"
ABSTRACT "all that it/they are", "everything about it/them" [inanimate, whether monadic or polyadic]	Aai — "it" as an abstract referent, e.g., an idea, a concept, a situation	"everything and everyone", "all that is", "everything about the world"

The Specifications of the two roots above are illustrated below for Stem 1 of -**B**-:

-**B-** INFORMAL**:** [generic personal referent]; FORMAL: '[the personal referent's] identity'	
STEM 1 Nominal meaning	STEM 1 Verbal meaning
BASIC 'I (myself)'	'to be me/to be myself', 'to do/act what/how I do [because it's me]'
CONTENTIAL 'I (myself)' (as being my personality, mind, psyche, sentient thoughts, psychological sense of individuality, or "essence"; irrespective of my physical body)'	[same as above applied to Content meaning at left]
CONSTITUTIVE 'I (myself)' (as my physical body/embodiment/person, irrespective of personality, mind, psyche, sentient thoughts, psychological sense of individuality, or "essence")'	[same as above applied to Constitutive meaning at left]
OBJECTIVE 'entity with/on which I act or with which I associate (i.e., place, thing, person, etc. with/in/on which/whom I [inter-]acts)'; 'something/someone from/in my life/niche/environment'	'to be an entity in my life/niche/environment; to be something/someone that/who is in my life/niche/environment'

The INFORMAL designation of the above stems refers to the referent in a temporary, incidental, or "situation-at-hand" context. The FORMAL counterparts refer to the party in an iconic, archetypal, quasi-permanent context; for the above stem this would translate as '*my identity*'.

4.8   The Parsing Adjunct

See Section 2.1, paragraph No. 5 (on Page 7) for a description of this specialized adjunct.

4.9 Recommendation on the Pronunciation of Adjuncts .

Certain short monosyllabic or two-syllable adjuncts are likely to be identical in form to the initial syllables of many formatives. Typically these would be words such as single-referent personal reference adjuncts, the carrier adjunct, and a short monosyllabic modular adjunct. While adherence to the parsing rules in Sec. 2.1 are theoretically sufficient to distinguish these short words from the initial syllables of a subsequent formative, the author nevertheless recommends that such adjuncts be pronounced either with falling-rising or rising-falling tone, to maximally distinguish them phonetically from the initial tone (likely to be mid-tone) of a following formative.

5.0 MISCELLANEOUS DESIGN NOTES

5.1 Rethinking the use of RECIPROCAL Valence

The translation of sentences where the two parties in the reciprocal relationship are named by one referent, will now require use of the SBS suffix on the referent to indicate that separate parties within the named referent are participating in the reciprocal relationship, otherwise, the party named will be assumed as a whole to constitute one "side" of the reciprocal activity. The following examples illustrate how this use of RCP valence and the SBS suffix will function:

> Write-RCP they-IND.
> TRANSLATION: '*They write* (to an unnamed party and that other party presumably writes back).'

> Write-RCP they-IND-SBS/1.
> TRANSLATION: '*They write to each other.*' [i.e. , one member of the 'they'-referent writes to another member of the 'they'-referent and vice-versa]

If it is necessary to specify a specific case-relationship for one or both parties in the reciprocal relationship, it will be necessary to name the parties separately so that appropriate cases can be assigned. For example:

> write-RCP (S)he-IND you(sg.)-TSP
> TRANSLATION: *You (two) write on behalf of each other.* (LITERALLY: *(S)he writes on behalf of you and vice-versa.*)

> talk-RCP man-IND child-DAT clown-REF
> TRANSLATION: *The man and the child talk to each other about the clown.* OR *The man and the child discuss the clown.*

> talk-RCP they-IND clown-REF
> TRANSLATION: *They talk about the clown (with somebody else).* OR *They discuss the clown(with somebody).*

> talk-RCP they-IND-SBS/1 clown-REF
> TRANSLATION: *They talk to each other about the clown.* OR *They discuss the clown.*

If necessary to specify that the reciprocity is of a "back (and forth)" nature, where first one party initiates an action which is subsequently paralleled back to the first party, one should utilize ITC aspect. Furthermore, one can use the ITN affix and/or Phase to provide additional detail if necessary. Additionally, the SWR affix can be utilized to specify that a referenced formative is the same as one of the reciprocal parties, e.g.,

> talk-RCP man-IND child-DAT man-REF-SWR/5
> TRANSLATION: *The man and the child talk to each other about the man* [i.e., the man being talked about is the same man who is talking with the child].

5.2 "Tense"-Like Connotations of Various Aspect/Extension Combinations

The following Aspect + Extension or Aspect 1 + Aspect 2 combinations are now formalized to indicate "tense"-like information on a verb:

RTR Aspect + DEL Extension = 'has been/done'   PRS Aspect + DEL Extension = simple future tense
RTR Aspect + PRX Extension = 'has been (doing) [and may still be (doing)]'   PRS Aspect + PRX Estension = 'will be/do & may already be (doing)'
RTR Aspect + ICP Extension = 'began to be' / 'began doing'   PRS Aspect + ICP Extension = 'will begin to be' / 'will start doing'
RTR Aspect + ATV Extension = 'finished being/doing'   PRS Aspect + ATV Extension = 'will finish being/doing'
RTR Aspect + GRA Extension = 'gradually developed into being/doing' PRS Aspect + GRA Extension = 'will develop into being/doing'
RTR Aspect + DPL Extension = 'gradually stopped being/doing & is/does no longer   PRS Aspect + DPL Extension = 'will gradually stop being/doing'
RTR Aspect + PCS Aspect = 'just now finished being/doing'   PRS Aspect + PCS Aspect = 'just about to be/do'
RTR + HAB Aspects + DEL Extension = 'used to be/do but no longer'   PRS + RTR Aspects = 'will have' (e.g., *By then he will have done it*.)
RTR + HAB Aspects + PRX Extension = 'used to be/do and may still be (doing)'   PRS + HAB Aspects + DEL Extension = 'will now be (doing) but not yet'

There is also a new suffix for specifying when an event occurs relative to another event or relative to the contextual "present" of an utterance. This new affix may used on its own or in conjunction with the existing TPP affix to provide specific tense-like information.

-lt	RTI — Relative Timeline Indicator
1	X is/occurs after the relative/contextual present of a statement (as may be defined by TPP affix) but is considered completed or no longer applicable after-the-fact from the speaker's present viewpoint, e.g., • *Flowering plants **had not yet developed / were yet to develop** during the Cambrian geological period* (but they have developed since). • *The enemy's code **will still be unbroken / will have yet to be broken** by the time they attack us* (but it will be eventually broken) • *The boy **later realized / had not yet realized** the clown was lying about the Clown Planet* (but he realizes it now). (TPP/3) (Note how English translations of this affix may require use of a negative not present in the original.)
2	X is/occurs after the relative/contextual present of a statement (as may be defined by TPP affix) and its occurrence is still outstanding/impacting the speaker's present viewpoint, e.g., • *Hurry! The bus **is yet to depart / has not yet departed***. (lack of TPP affix implies present context) • *By leaving your seat just now to get a soda, you've **missed (seeing) / have not seen** the magician do his disappearing act*. (TPP/4) • *The boy **hasn't (yet) realized** the clown was lying about the Clown Planet.* (TPP/3) (Note how English translations of this affix may require use of a negative not present in the original.)
3	X continues to occur or have an effect in the relative/contextual present or has begun during or prior to the relative/contextual present and will continue into the future of that same relative/contextual present, e.g., • *She **was (still) sleeping** when I left the apartment.* (TPP/3 or TPP/4) • *She**'ll (still) be sleeping** when I arrive.* (TPP/6 or TPP/7) • *Civilizations rise and fall but the Euphrates River **keeps rolling along**.* (NOMIC or TPP/5) • *I've been watching TV all day.* (lack of TPP affix implies present context) • *We'll be watching the apartment all night.* (TPP/7)

4	X continues to occur or have an effect in the relative/contextual present or has begun during or prior to the relative/contextual present and will continue into the future of that same relative/contextual present, but does not continue into, or have a retrograde effect/impact on the speaker's contextual present, e.g., • *She **was (still) sleeping** when I left the apartment.* (TPP/3 or TPP/4) (but she's no longer sleeping now) • *She**'ll (still) be sleeping** when I arrive.* (TPP/6 or TPP/7) (but she's not sleeping yet) • ***I've been watching** TV all day.* (lack of TPP affix implies present context) (but I'm not doing so now) • ***We'll be watching** the apartment all night.* (TPP/7) (but we're not doing so yet)
5	X has been/done so in the past and will again in the future, but not being/doing so at present, e.g., • *the **once-and-future** king* • *I **did it before** and I **will do** it **again**.*
6	X begins to be/occur before the relative/contextual present of a statement (as may be defined by TPP affix) and continues to be/occur during that same relative/contextual present but does not impact the speaker's contextual present, e.g., • *The band **had started playing** / The band **was now playing*** (then, but no longer). • ***The war will have begun**.* (TPP/6 or TPP/7) (then, but not now). • *Doby the (one-and-only) sentient dinosaur (due to a freak mutation), **had watched** the giant meteor approach his home, whose name 65 million years later would be Chicxulub, with a sense of dread.* (TPP/1)
7	X begins to be/occur before the relative/contextual present of a statement (as may be defined by TPP affix) and continues to be/occur during that same relative/contextual present, e.g., • *The band **has started playing** / The band **is now playing**.* • ***The war will have begun**.* (TPP/6 or TPP/7) • *Dody the (one-and-only) sentient dinosaur (due to a freak mutation), **watched** the giant meteor approach her home, whose name 65 million years later would be Chicxulub, with a sense of dread.* (TPP/1)
8	X is/occurs before the relative/contextual present of a statement (as may be defined by TPP affix) and the consequences of its occurrence are still outstanding/impacting the speaker's present viewpoint, e.g., • *The bus **had (already) departed** when/by the time I arrived.* (TPP/3) • *The bus **will have (already) departed** by the time I arrive.* (TPP/7)
9	X is/occurs before the relative/contextual present of a statement (as may be defined by TPP affix) but is considered completed or no longer applicable after-the-fact from the speaker's present viewpoint, e.g., • *The river **had (already) dried up** when/by the time the settlers arrived.* (TPP/2 or TPP/3) • *The Sun **will have (already) gone nova** when/by the time we develop interstellar ships.* (TPP/8)